



CONFERENCE PROGRAM BOOK

Sponsored By:



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Conference Link: [POMS Conference 2022](#)



Worldwide Search for Talent

City University of Hong Kong (CityU) is a dynamic, fast-growing university that is pursuing excellence in research and professional education. CityU's College of Business is one of the premier business schools in Greater China to secure accreditation from AACSB International and EQUIS. The College of Business is ranked **41st in the world** and **4th in Asia** in the latest UTD Top 100 Business School Rankings 2017–2021; **22nd in the world** and **3rd in Asia** in Management by 2021 Global Ranking of Academic Subjects; and **70th in the world** and **10th in Asia** in Economics & Business, according to the Best Global Universities 2022 by *US News & World Report*.

The Department of Management Sciences within the College of Business invites applications for multiple tenure-track or tenured faculty positions in analytics and business statistics. A PhD, completed or near completion, and strong potential for quality research and teaching is expected. Preference will be given to those candidates with research and teaching interests in applied statistics, business analytics, optimization, machine learning or a closely related field. Successful candidates are expected to develop a vigorous research program and to teach courses in business statistics, operations analytics and related courses, first at the undergraduate level and then the graduate level (including MBA). For senior positions, they are also expected to provide contribution/leadership in research, plan curriculum of studies and supervise postgraduate/PhD students. Salary will be commensurate with qualifications and experience. Fringe benefits include annual leave, medical/dental benefits.

We are now recruiting

Professor/Associate Professor/Assistant Professor Department of Management Sciences

Duties :

Conduct high quality research for scholarly publications, teach courses at undergraduate and postgraduate levels, and supervise PhD students. Most undergraduate classes are conducted in the day time, with evening teaching for the taught postgraduate programmes.

Information and Application

To apply, please submit an online application at <http://jobs.cityu.edu.hk>, and include a current curriculum vitae. Nominations can be sent directly to Professor Alan Wan, Head of Department (email: msrecruit2@cityu.edu.hk).

To learn more about our department and faculty, please visit: <https://www.cb.cityu.edu.hk/ms/>

City University of Hong Kong is an equal opportunity employer, and we are committed to the principle of diversity. Personal data provided by applicants will be used for recruitment and other employment-related purposes.

Worldwide recognition ranking #53 (QS survey 2022), and #4 among top 50 universities under age 50 (QS survey 2021); #1 in the World's Most International Universities (THE survey 2020); #1 in Engineering/Technology/Computer Sciences in Hong Kong (ARWU survey 2016); and #1 Business School in Asia-Pacific region (UT Dallas survey 2019).

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POMS 2022 SPONSORS AND EXHIBITORS

Platinum Level Sponsors

City University of Hong Kong (Ad after the Cover Page)

- Co-sponsor of Plenary Sessions
- Sponsor for Program Book
- Co-sponsor for eDebate
- Co-Sponsor Department Editors and Senior Editors Meeting
- Sponsor Manufacturing Operations track
- Sponsor POM in Practice track
- Sponsor Logistics Management track
- Sponsor Mini-Conference on Humanitarian Operations and Crisis Management

Tenex Software Solutions

- Co-sponsor of Plenary Sessions

Hyatt Regency Orlando

- Co-sponsor of Plenary Sessions

Silver Level Sponsors

Indian School of Business (Ad on page 24)

- Sponsor Service Operations track
- Co-Sponsor Emerging Scholars Program
- Sponsor Teaching/Pedagogy in POM track

VinUniversity (Ad on page 26)

- Sponsor Operations Excellence Track
- Co-Sponsor Sustainable Operations Track
- Co-Sponsor Operations Excellence Mini-Conference
- Co-Sponsor Public Sector Operations Management (PSOM) track
- Co-Sponsor Disruptive Technologies and Operations Management Track

Fox School of Business, Temple University (Ad on page 28)

- Sponsor Marketing and Operations Management Track
- Co-Sponsor Information Systems and Operations Management Track
- Co-Sponsor Healthcare Operations Management Mini-Conference
- Co-Sponsor Dept. Editors and Senior Editors Meeting

Warrington College of Business, University of Florida (Ad on page 30)

- Co-Sponsor Emerging Scholars Program (ESCH)
- Co-Sponsor Dept. Editors and Senior Editors Meeting

- Co-Sponsor Mini-Conference on Healthcare Operations Management
- Sponsor Finance and Operations Management track
- Co-sponsor Information Systems and Operations Management track

Bronze Level Sponsors

W. P. Carey Business School, Arizona State University (Ad on page 32)

- Sponsor Emerging Topics in Operations Management (ETOM) track
- Sponsor Crisis/Disaster Management and Covid-19 Pandemic track
- Sponsor Social Media Analytics and Internet of Things (SMA) track

Dongbei University of Finance and Economics (Ad on page 34)

- Sponsor for Healthcare Analytics (HCA) track
- Sponsor for Revenue Management and Pricing (RMP) track

McDonough School of Business, Georgetown University (Ad on page 36)

- Co-Sponsor Public Sector Operations Management track
- Co-Sponsor Sustainable Operations track
- Sponsor Product Innovation and Technology Management track

Naveen Jindal School of Management, University of Texas at Dallas (Ad on page 38)

- Sponsor Doctoral Consortium
- Sponsor Supply Chain Risk Management track
- Sponsor Behavioral Operations Management track

Tianjin University, College of Management and Economics (Ad on page 41)

- Sponsor Economic Models and Operations Management track
- Sponsor Procurement and Supplier Management track

Track Sponsors

Memorial University St Johns (Ad on page 44)

- Sponsor Global Supply Chain Management track

Darla Moore School of Business, University of South Carolina (Ad on page 46)

- Sponsor Supply Chain Management track

Exhibitors

McGraw Hill (Ad on page 49)

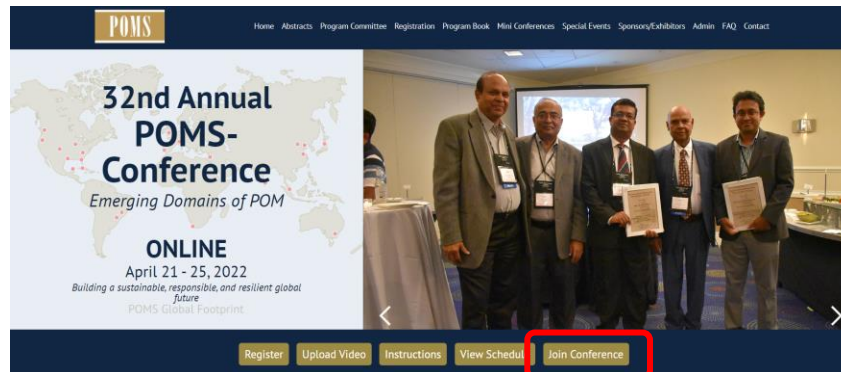
Processim Labs (Ad on page 52)

POMS 2022

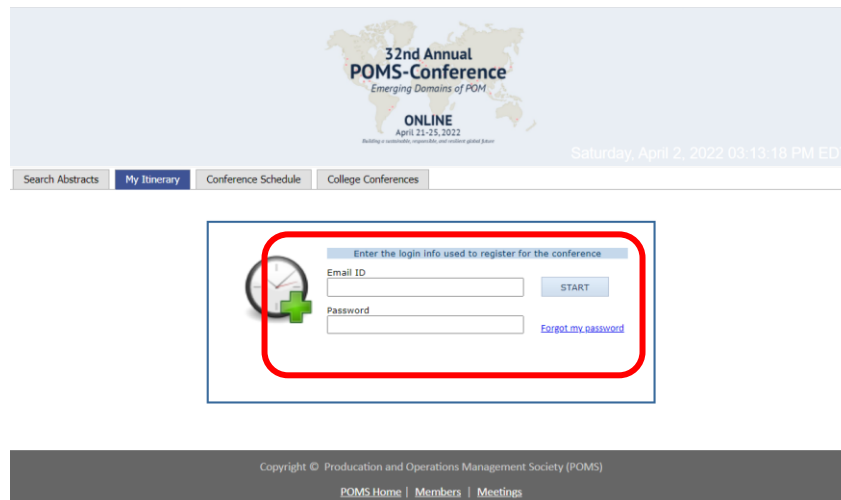
INSTRUCTIONS TO JOIN CONFERENCE AND MAKE A PRESENTATION

INSTRUCTIONS TO JOIN CONFERENCE

1. Login to conference system.
 - a. Go to <https://pomsmeetings.org/conf-2022/>
 - b. Click on **Join Conference** button.



- c. Login using your POMS credentials



- d. After logging in, click on **Conference Schedule** tab to attend presentations. To search abstracts by author name, use the **Search Abstracts** tab and come back to the Conference schedule tab to join the conference.



2. In the conference schedule, can search by date and/or track. (if you want to search for an author, go to Search Abstracts).

To join the current session in a track, click on the blue box – **“CLICK HERE TO JOIN PRESENTATIONS IN THIS TRACK”**. This will take you to the zoom meeting room for the current session.

INSTRUCTIONS TO PRESENTERS

3. If you are the presenter, you will have a choice to either present your research live during the session or play the recorded video. To play the recorded video from your computer, follow the below instructions.

- a. First step is to click on **share screen**. A pop-up window opens see below:

- b. Select the correct screen (if presenter has more than one monitor) and enable **“Share sound”** and click on **Share**. You can now play the video.

It is important to click on “share sound” to allow the audience to listen to the sound on the video. Failure to do so will result in the attendees watching the video without audio.

NOTE:

The session chair will start the session on time. In case the session chair is not present in the session, one of presenters is asked to take over the role of the session chair. There will be a track technical manager to assist the session chair and speakers with zoom related questions.

Each session is 1hr long with 3 presentations. Each presentation is 15 minutes plus 5 minutes for Q&A).

Every session will also have a track technical manager to assist you with zoom related questions.

NEED HELP:

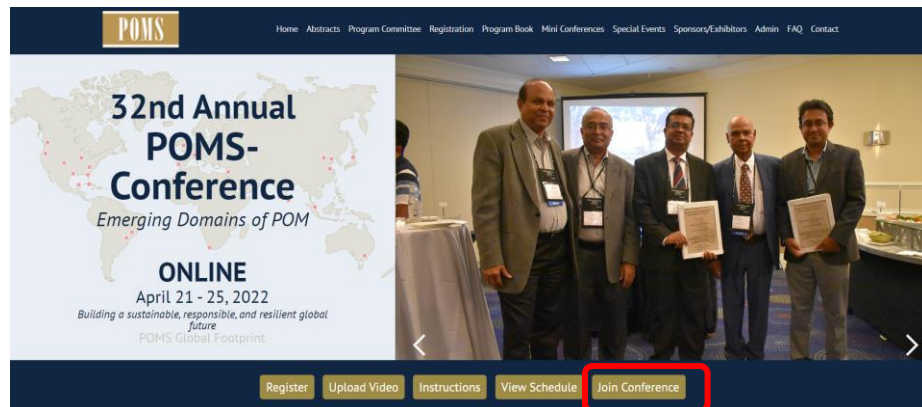
Please report your problem here:

<https://docs.google.com/spreadsheets/d/1SiX1VQ5ctcYoVxdmbFbp8IaOV-2Gueyam4Axih8sOao/edit?usp=sharing>

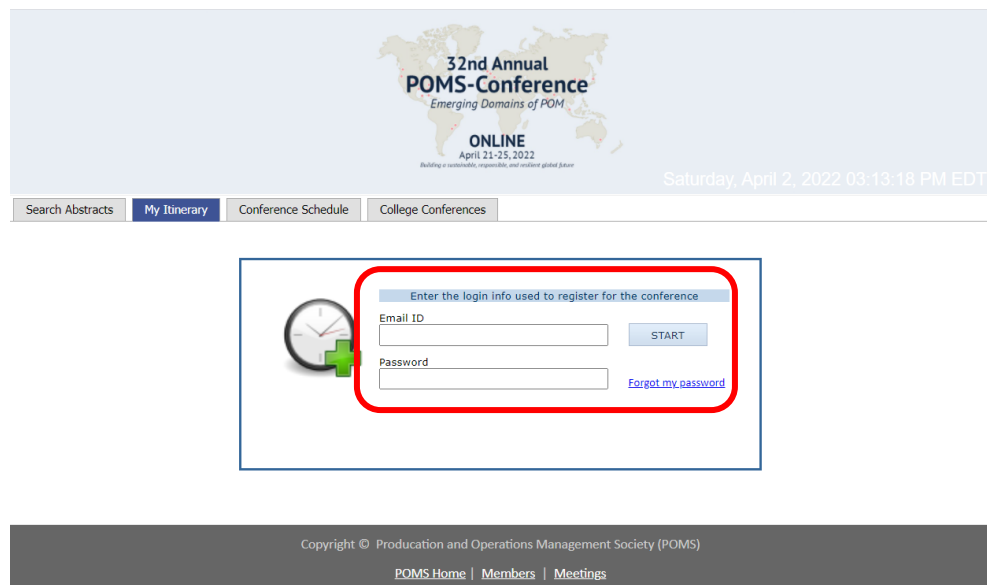
POMS 2022

INSTRUCTIONS TO JOIN POMS CONFERENCE

1. Login to conference system.
 - a. Go to <https://pomsmeetings.org/conf-2022/>
 - b. Click on **Join Conference** button.




- c. Login using your POMS credentials



- d. After logging in, click on **College Conference** tab to attend college conference.



2. In the College Conference page, click on the blue box – **“JOIN THIS CONFERENCE”**. This will take you to the zoom meeting room for the mini-conference.



32nd Annual POMS-Conference
Emerging Domains of POM
ONLINE
April 21-25, 2022
Building a sustainable, responsible, and resilient global future

Saturday, April 2, 2022 03:38:45 PM EDT

Search Abstracts
My Itinerary
Conference Schedule
College Conferences

<p>POMS 2022 - Humanitarian Operations and Crisis Management (HOCM) Mini Conference Thursday, April 21, 2022, 10:00 AM to 4:45 PM</p> <div style="display: flex; justify-content: center; align-items: center;"> → JOIN THIS CONFERENCE </div>
<p>POMS 2022 - Operational Excellence Conference Thursday, April 21, 2022, 9:00 AM to 12:30 PM</p> <div style="display: flex; justify-content: center; align-items: center;"> → JOIN THIS CONFERENCE </div>
<p>POMS 2022 - Healthcare Operations Management Mini Conference Friday, April 15, 2022, 11:00 AM to 2:00 PM</p> <div style="display: flex; justify-content: center; align-items: center;"> → JOIN THIS CONFERENCE </div>

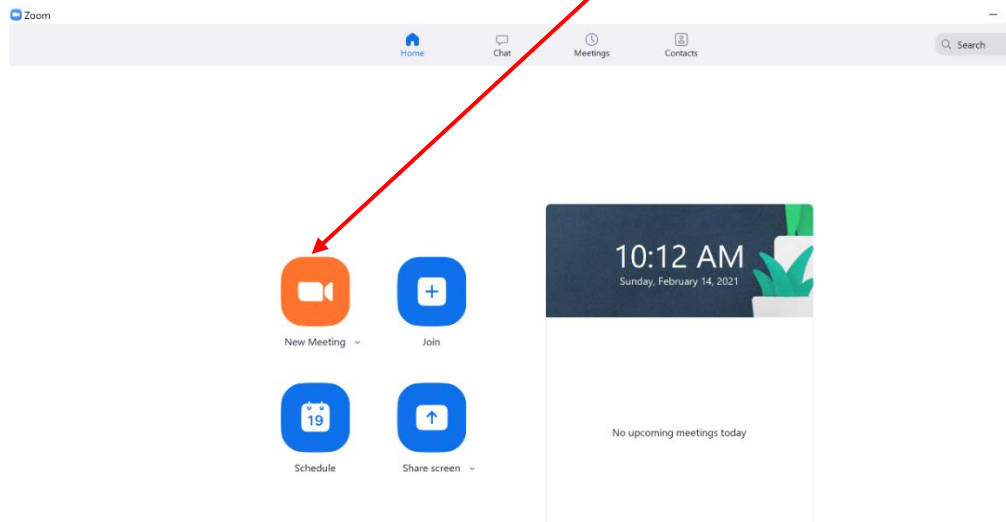
INSTRUCTIONS FOR RECORDING AND UPLOADING VIDEOS

Uploading a video recording is not mandatory.

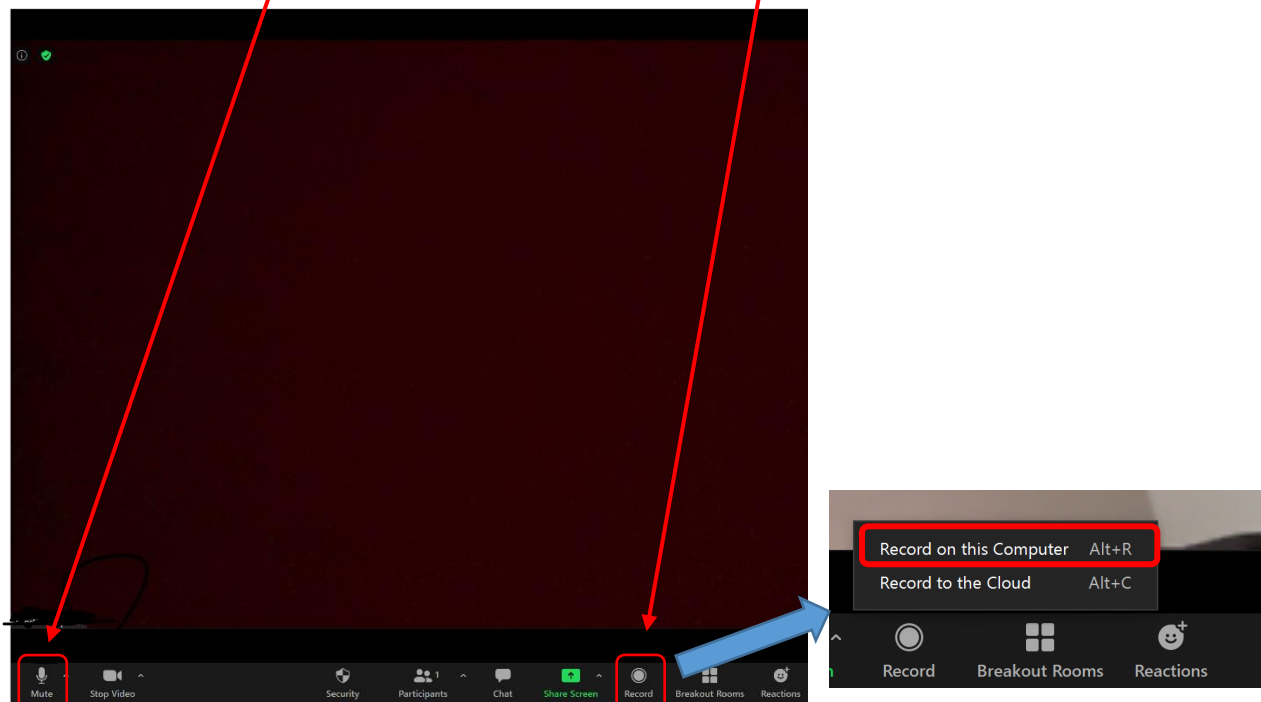
INSTRUCTIONS FOR RECORDING PRESENTATION USING ZOOM

Step 1: Create a free account on Zoom at <https://zoom.us/> and download zoom application onto your computer. If you already have a zoom account go to Step 2.

Step 2: Open zoom app on your computer and click on new meeting.

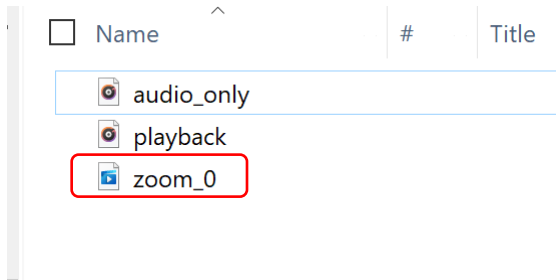


Step 3: Make sure to unmute the microphone. Click on “Record” and select “Record on this computer.” If you are using zoom through your university account, Record to cloud is the default option. IF you have recorded using cloud, see instructions on Page 3 of this document.



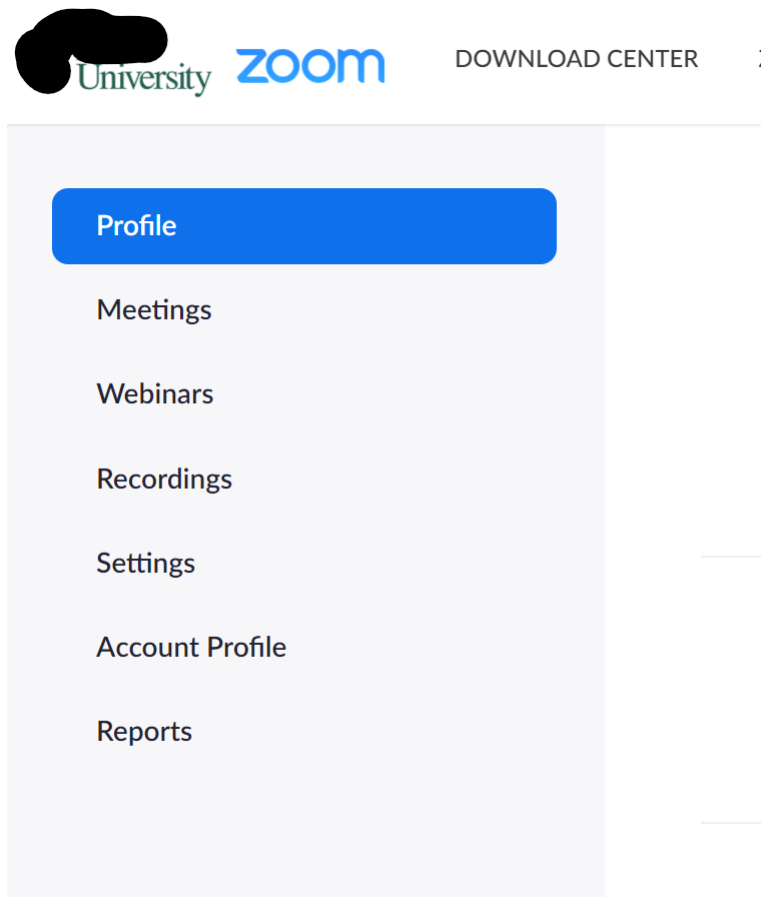
Step 4: Click on share screen to share your power point and start recording your presentation. After the presentation is complete, click on End Meeting. Once the meeting is ended, the recorded video presentation will be downloaded on to your desktop (check zoom folder in your documents). **The length of the recording should be no more than 15 minutes.**

Step 5: Zoom will create three files as shown in the screenshot below. The file named “zoom_0” is the video that you need to upload onto the POMS conference website. For instructions on how to upload to POMS systems, see “INSTRUCTIONS FOR PRESENTERS TO UPLOAD RECORDED VIDEO PRESENTATION” document.



INSTRUCTIONS FOR DOWNLOADING VIDEO PRESENTATION FROM ZOOM CLOUD

Step 1: Log into zoom using your university login. Click on “Recordings.”



Step 2: Under Cloud Recordings tab, click on the recording that you want to download.

Step 3: Click on Download files.

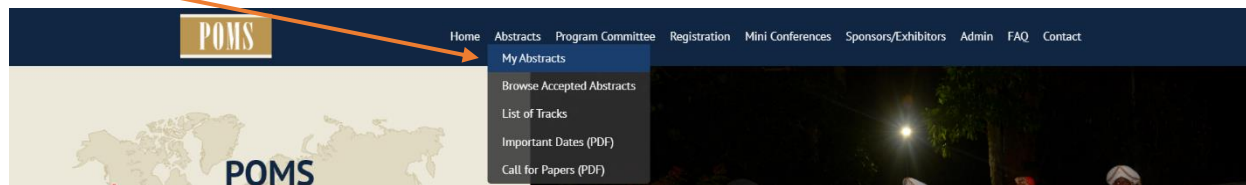
This will download 3-4 files on to your computer. The video presentation will be the file in MP4 file format. To find this file, open the folder where you downloaded your files (by default it will be Downloads folder). Open the MP4 file to view your recording.

You will need to upload the MP4 on to the POMS conference website. For details on how to upload see: “INSTRUCTIONS FOR PRESENTERS TO UPLOAD RECORDED VIDEO PRESENTATION” below:

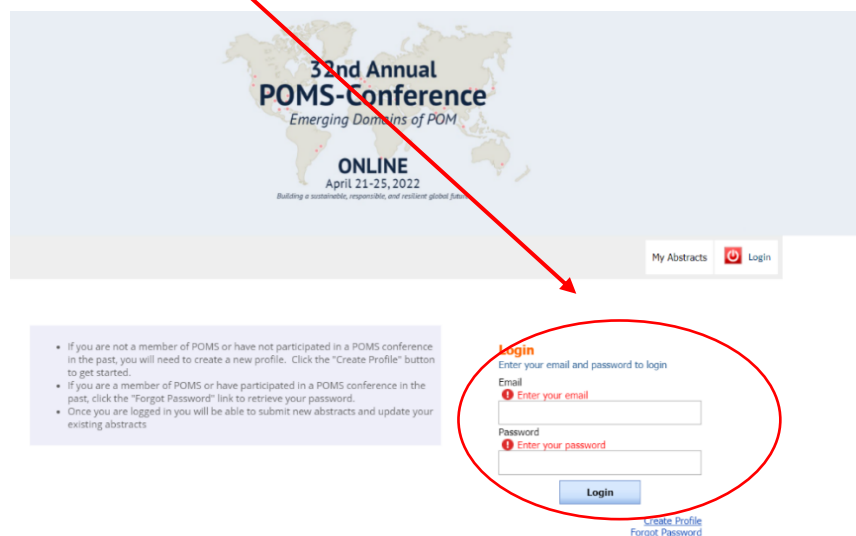
INSTRUCTIONS FOR PRESENTERS TO UPLOAD RECORDED VIDEO – PRESENTATION

The system will allow only those who are listed as presenters to upload the recording. You will have the option to present live (on zoom) in the session during the conference. It is necessary that at least one of the authors is present in the session, otherwise the abstract will be removed from the database and the authors will not get any credit.

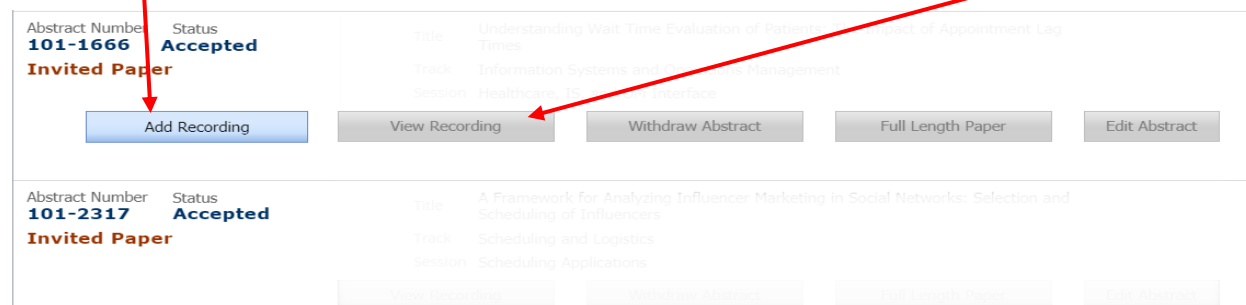
Step 1: Go to POMS conference website: <https://pomsmeetings.org/conf-2022/>. Click on *My Abstracts* under *Abstracts* tab.



Step 2: Login to the conference management system.



Step 3: After logging into the system, you will see your submitted abstracts. Click on **“Add Recording”** to upload your presentation videos. The videos should be in either .mp4 or .mov formats. After the video is uploaded, they can be viewed by clicking on **“View Recording.”**



The Add Recording button will be visible only to the person who is listed as a presenter.

POMS 2022 INSTRUCTIONS FOR SESSION CHAIRS

Responsibilities for Session Chairs:

- Each session is 1hr long with a maximum of 3 presentations (15mins each) + 15 mins of Q&A.
- Enter your session at least 5 mins before the session start time (see instructions below) and start it on time.
- A track tech manager will be in the zoom session to help with the technology. S/he will give co-host permissions to the session chair and the presenters so that they can share the screen.
 - If the tech manager is not present, report this in the following google sheet:
 - <https://docs.google.com/spreadsheets/d/1SiX1VQ5ctcYoVxdmbFbp8laOV-2Gueyam4Axih8sOao/edit?usp=sharing>
- Verify if the presenters are present. If the presenters are present in your session, the presenter has the option to play the recorded video or present live.
- If the presenter is not present, the session chair will automatically play the recorded video, if available, in the system (see instructions below). Please note that uploading the video is not mandatory.
- Ensure that the session ends on time. Overflow of 5 minutes is acceptable. (Attendees may want to chat informally after the session, and that's OK until about 5 minutes before the next session starts.)
- Provide any help to the presenters and participants with zoom during the session.

Frequently Asked Questions

Q. What if the track tech manager is not present?

A. Please report your problem here:

<https://docs.google.com/spreadsheets/d/1SiX1VQ5ctcYoVxdmbFbp8laOV-2Gueyam4Axih8sOao/edit?usp=sharing>

Q. The length of the recorded video is more than 15 mins, what do I do?

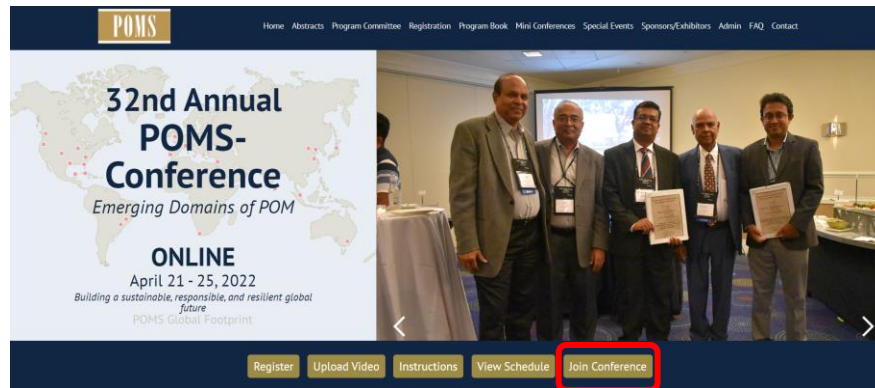
A. As the session chair, use your discretion to either stop the video at 15mins or play it till the end.

Q. Can the session go beyond the finish time?

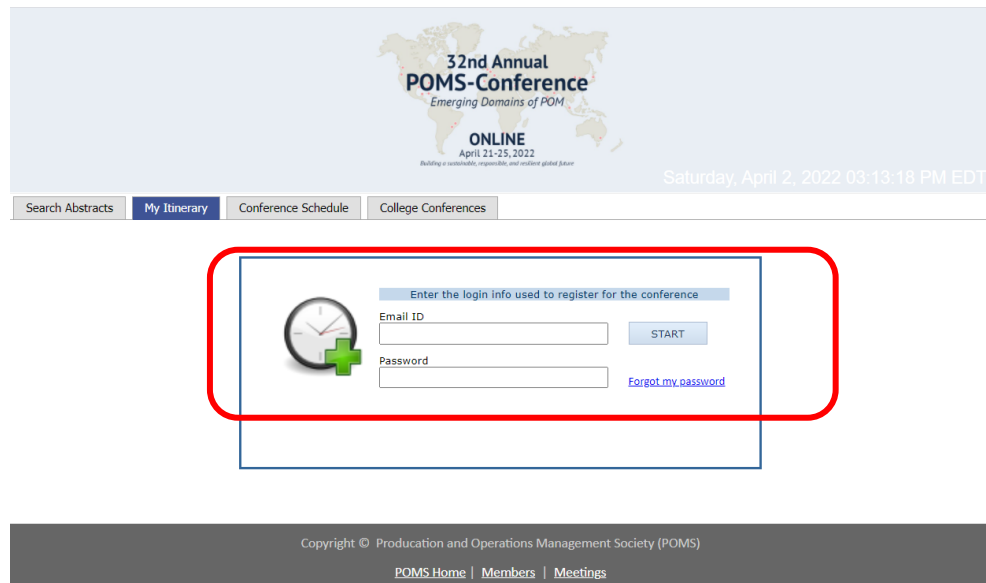
A. An overflow of up to 5 minutes is acceptable.

Instructions to the Session Chairs:

1. Login to conference system.
 - a. Go to <https://pomsmeetings.org/conf-2022/>
 - b. Click on **Join Conference** button.



- c. Login using your POMS credentials



- d. After logging in, click on **Conference Schedule** tab to attend presentations.



2. In the conference schedule, presentations can be searched by date and/or track (if you want to search for an author, go to Search Abstracts).

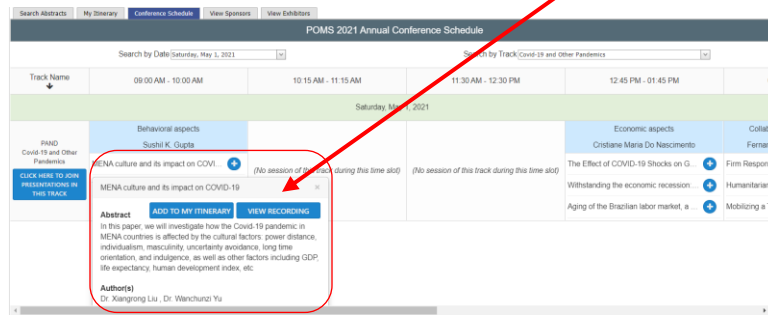
Track Name	09:00 AM - 10:00 AM	10:15 AM - 11:15 AM	11:30 AM - 12:30 PM	12:45 PM - 01:45 PM	02:00 PM - 03:00 PM
Saturday					
PAND Covid-19 and Other Pandemics	Behavioral aspects Sushil K. Gupta MENAs culture and its impact on COVI... The impact of Covid-19 on Global Ret... Modelling the factors affecting mode c...	(No session of this track during this time slot)	(No session of this track during this time slot)	Economic aspects Cristiane Maria Do Nascimento The Effect of COVID-19 Shocks on G... Withstanding the economic recession... Aging of the Brazilian labor market, a ...	Collaboration against pandemics Fernando Coelho Martins Ferreira Firm Responses to the COVID-19 Pa... Humanitarian Supply Amid the COVI... Mobilizing a Task Force to Save Lives...
Sunday, May 2, 2021					
Monday, May 3, 2021					
PAND Covid-19 and Other Pandemics	Non-Pharmaceutical intervention ANA CLAUDIA DIAS Homebound by COVID19: The Benefi... Designing Pandemic Response Polic... The elderly and the COVID-19 pande...	Delivery and distribution Vipul Shahdeo Impact of the COVID-19 Pandemic on... Delivering Sales: Pre-Pandemic and ... Spatial agent-based modelling to acc...	Forecasting Dian Huang A Framework for Applying Demand F... Calibrating Sales Forecast In a Pande... Forecasting Automobile Consumer D...	(No session of this track during this time slot)	Healthcare Capacity/ Supply chain 1 Reza Zanjirani Farahani Resilience of the healthcare supply ch... The Impact of the Covid-19 Pandemic... Optimal Configuration of Patient Tran...
Tuesday, May 4, 2021					

To join the current session in a track, click on the blue box – **“CLICK HERE TO JOIN PRESENTATIONS IN THIS TRACK”**. This will take you to the zoom meeting room for the current session.

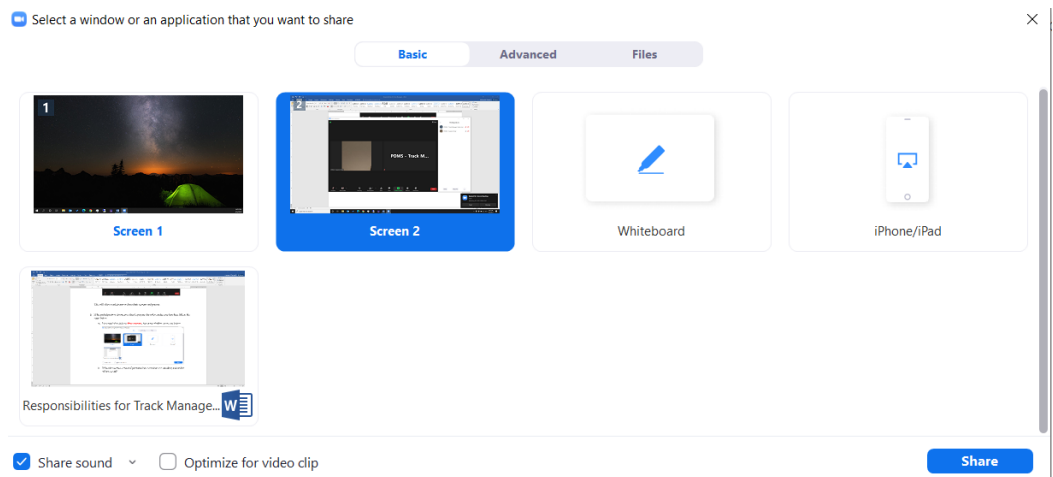
3. The presenter will have a choice to either present their research live during the session or play the recorded video. Ask them to carefully, read the document: *“Instructions to Join the Conference”* on how to play the recorded video from their computer correctly. This document is available on conference website at: <https://pomsmeetings.org/conf-2022/documents/Instructions-to-Join-Conference.pdf>
4. If the presenter is not in the session, the session chair will play the uploaded recording.
- a. First step is to find the recorded video. Go to your session in the conference schedule page, and click on the title of the paper.

Track Name	09:00 AM - 10:00 AM	10:15 AM - 11:15 AM	11:30 AM - 12:30 PM	12:45 PM - 01:45 PM	02:00 PM - 03:00 PM
Saturday, May 1, 2021					
PAND Covid-19 and Other Pandemics	Behavioral aspects Sushil K. Gupta MENAs culture and its impact on COVI... The impact of Covid-19 on Global Ret... Modelling the factors affecting mode c...	(No session of this track during this time slot)	(No session of this track during this time slot)	Economic aspects Cristiane Maria Do Nascimento The Effect of COVID-19 Shocks on G... Withstanding the economic recession... Aging of the Brazilian labor market, a ...	Collaboration against pandemics Fernando Coelho Martins Ferreira Firm Responses to the COVID-19 Pa... Humanitarian Supply Amid the COVI... Mobilizing a Task Force to Save Lives...

- b. A pop-up window will appear. Click on View Recording to play the video.



- c. Pause the video and then go to zoom window and click on **share screen** to share the recording with the attendees. A pop-up window opens see below:



- d. Select the correct screen (if you have more than one monitor) and enable **“Share sound”**. It is important to click on “share sound” to allow the audience to listen to the sound on the video. Failure to do so will result in the attendees watching the video without audio.

POMS 2022

INSTRUCTIONS FOR TRACK TECHNICAL MANAGERS

Responsibilities for Track Tech. Managers:

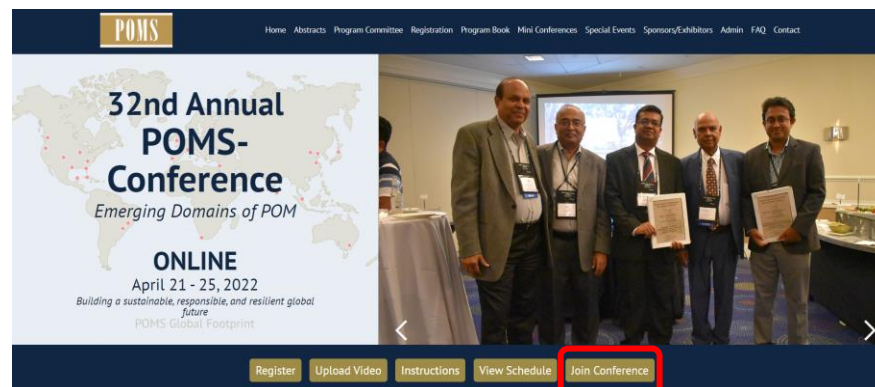
- For the first session of the day, please start the zoom session at 8:45 AM (**EDT or current NEW YORK time**). Leave the zoom session open for the rest of the day. For all sessions other than the 1st of the day, please arrive at the zoom meeting 10 minutes before the session is to start. If you are leaving the zoom room, please make sure to assign host privileges to another tech. manager before you leave the room.
- There may be a few times during the day that the zoom session may need to be restarted if it stops working.
- Give co-host permissions to the session chair and the presenters at the start of each session.
- Provide any help with zoom during the session.
- In case of emergency, *open the google sheet here and enter your issue. Someone will help you right away*

<https://docs.google.com/spreadsheets/d/1SiX1VQ5ctcYoVxdmbFbp8laOV-2Gueyam4Axih8sOao/edit?usp=sharing>

Instructions to start the session are provided in Page 2 of this document. Also on the last page of the document, I have answers to the questions that you may have.

Instructions to Track Tech. Managers on How to Start the Session:

1. Login to conference system.
 - a. Go to <https://pomsmeetings.org/conf-2022/>
 - b. Click on **Join Conference** button.



c. Login using your POMS credentials

d. After logging in, click on **Conference Schedule** tab to attend presentations.

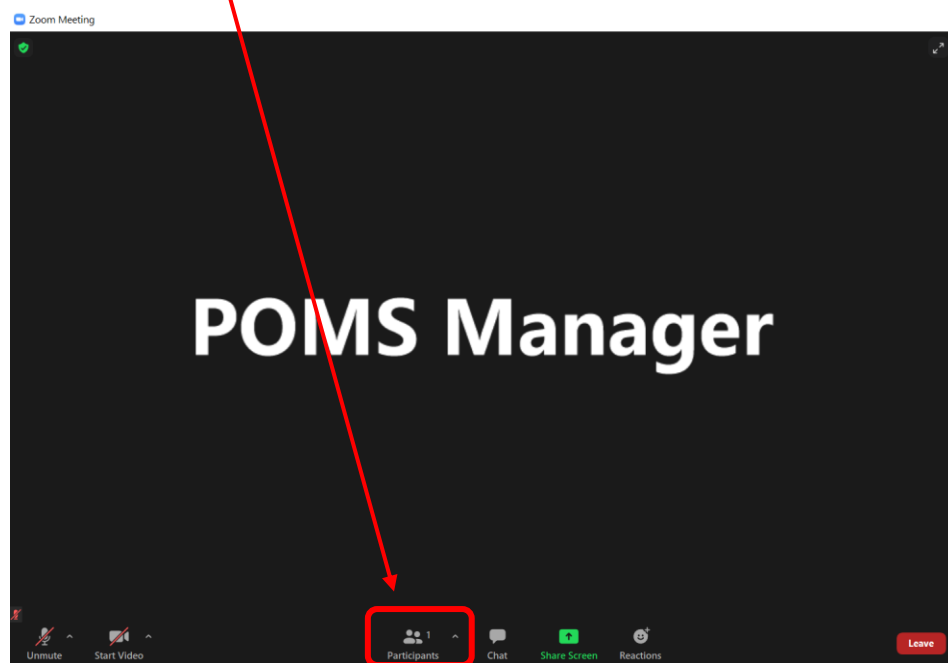
2. In the conference schedule, presentations can be searched by date and/or track (if you want to search for an author, go to Search Abstracts).

Search by Date: Search by Track:

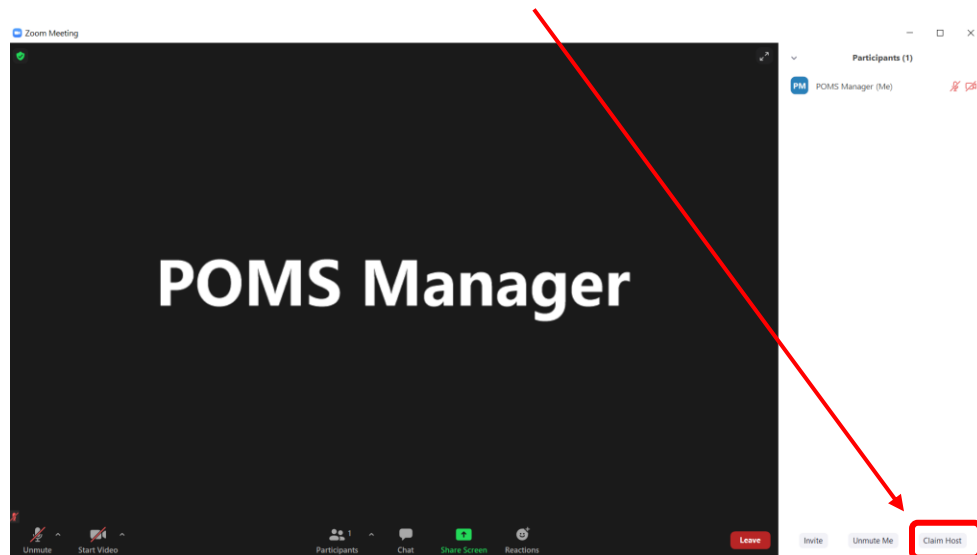
Track Name	09:00 AM - 10:00 AM	10:15 AM - 11:15 AM	11:30 AM - 12:30 PM	12:45 PM - 01:45 PM	02:00 PM - 03:00 PM
Saturday					
PAND Covid-19 and Other Pandemics CLICK HERE TO JOIN PRESENTATIONS IN THIS TRACK	Behavioral aspects Sushil K. Gupta	(No session of this track during this time slot)	(No session of this track during this time slot)	Economic aspects Cristiane Maria Do Nascimento	Collaboration against pandemics Fernando Coelho Martins Ferreira
	MENA culture and its impact on COVI...			The Effect of COVID-19 Shocks on G...	Firm Responses to the COVID-19 Pa...
	The impact of Covid-19 on Global Ret...			Withstanding the economic recession:...	Humanitarian Supply Amid the COVI...
	Modelling the factors affecting mode c...			Aging of the Brazilian labor market, a ...	Mobilizing a Task Force to Save Lives...
Sunday, April 24, 2022					
Monday, April 25, 2022					
PAND Covid-19 and Other Pandemics CLICK HERE TO JOIN PRESENTATIONS IN THIS TRACK	Non-Pharmaceutical Intervention ANA CLAUDIA DIAS	Delivery and distribution Vipulesh Shardeo	Forecasting Dian Huang	(No session of this track during this time slot)	Healthcare Capacity/ Supply chain 1 Reza Zanjirani Farahani
	Homebound by COVID19: The Benefi...	Impact of the COVID-19 Pandemic on...	A Framework for Applying Demand F...		Resilience of the healthcare supply ch...
	Designing Pandemic Response Polic...	Delivering Sales: Pre-Pandemic and ...	Calibrating Sales Forecast in a Pande...		The Impact of the Covid-19 Pandemic...
	The elderly and the COVID-19 pande...	Spatial agent-based modelling to acc...	Forecasting Automobile Consumer D...		Optimal Configuration of Patient Tran...
Tuesday, May 4, 2021					

To join the current session in a track, click on the blue box – **“CLICK HERE TO JOIN PRESENTATIONS IN THIS TRACK”**. This will take you to the zoom meeting room for the current session.

3. You can now claim the host of the zoom meeting. By following the below steps:
- a. Click on **Participants** in the zoom window.

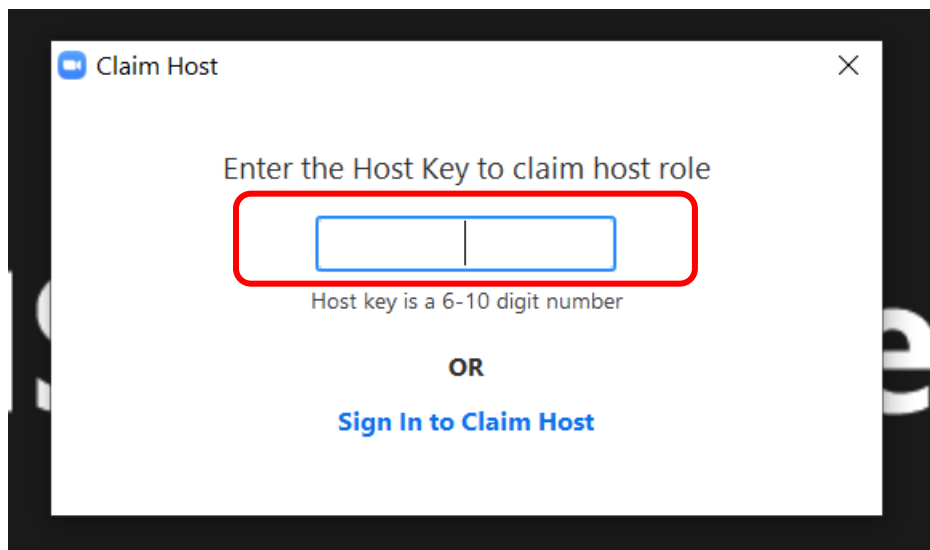


- b. Under participants console, click on **Claim Host** button.

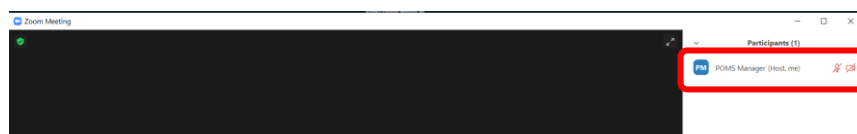


Continued on next page

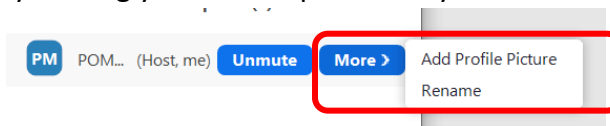
- c. Enter your **Host Key**. This will be provided to you. **You cannot share this key with anyone.**



- d. Check if you are the host. Host should appear beside your name.

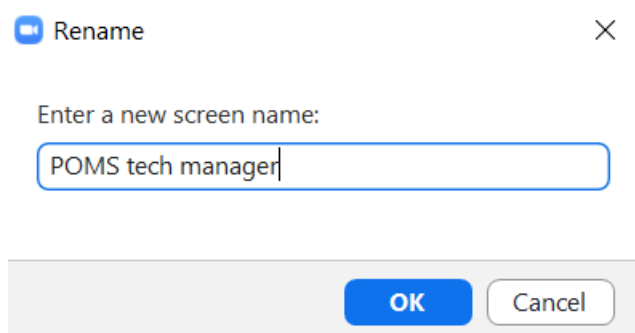


- e. Change your name by moving your mouse pointer to your name and clicking on



More and **Rename**.

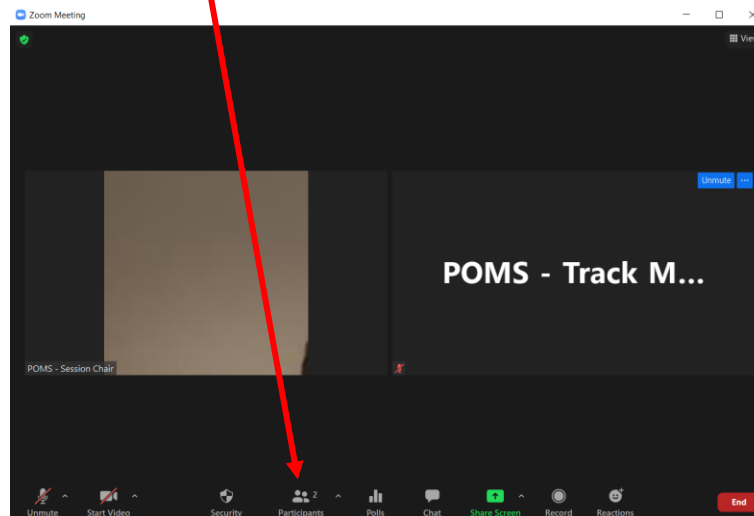
- f. Rename yourself as “POMS tech manager”.



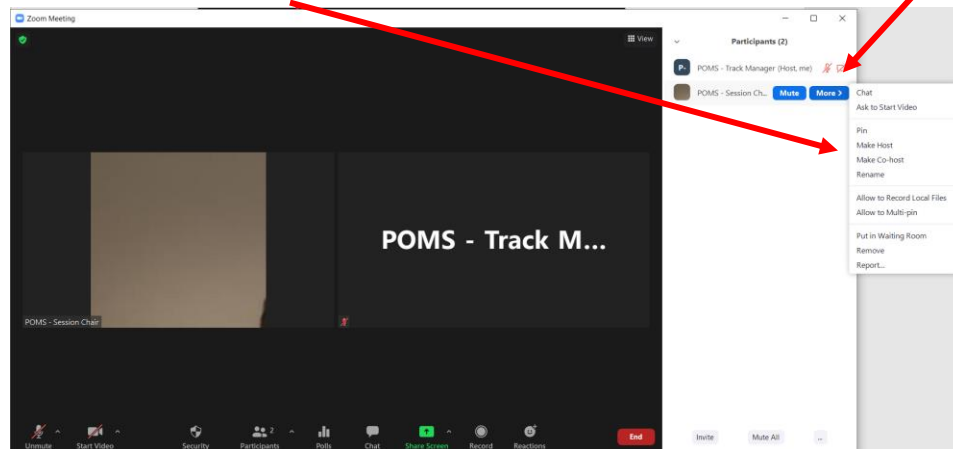
Continued on Next Page

4. Assign co-host permissions to session chairs and presenters. To assign participants as co-hosts, follow the following steps.

- a. Click on **Participants** in the zoom window:



- b. Hover your mouse pointer over the session chair's name and click on **"More"**. Next click on **"Make Co-host"**

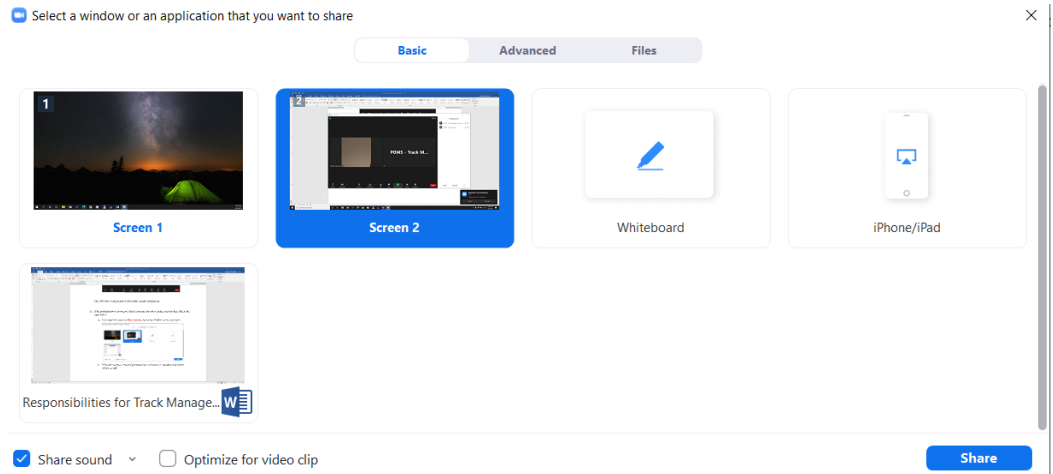


- c. Follow the above steps to assign all the presenters in the session as co-host.

This will allow participants to share their screens and present.

5. If the presenter or the session chair is playing the video, make sure that they follow the steps below:

- a. First step is to click on **share screen**. A pop-up window opens see below:



- b. Select the correct screen (if presenter has more than one monitor) and enable **“Share sound”**. If the person sharing their video does not click on share sound then the audience will not be able to listen to the sound on the video.
- c. If the presenter ignores the above steps, then tell them to stop share and do the above steps.

FREQUENTLY ASKED QUESTIONS

Q. What to do if you accidentally logged out of the meeting.?

In case you logged out of the zoom meeting, one of the co-host will automatically become the host. You will need to go back to that zoom meeting and ask the host to make you the host for the meeting.

Q. How to become a host when you are logging into the evening sessions?

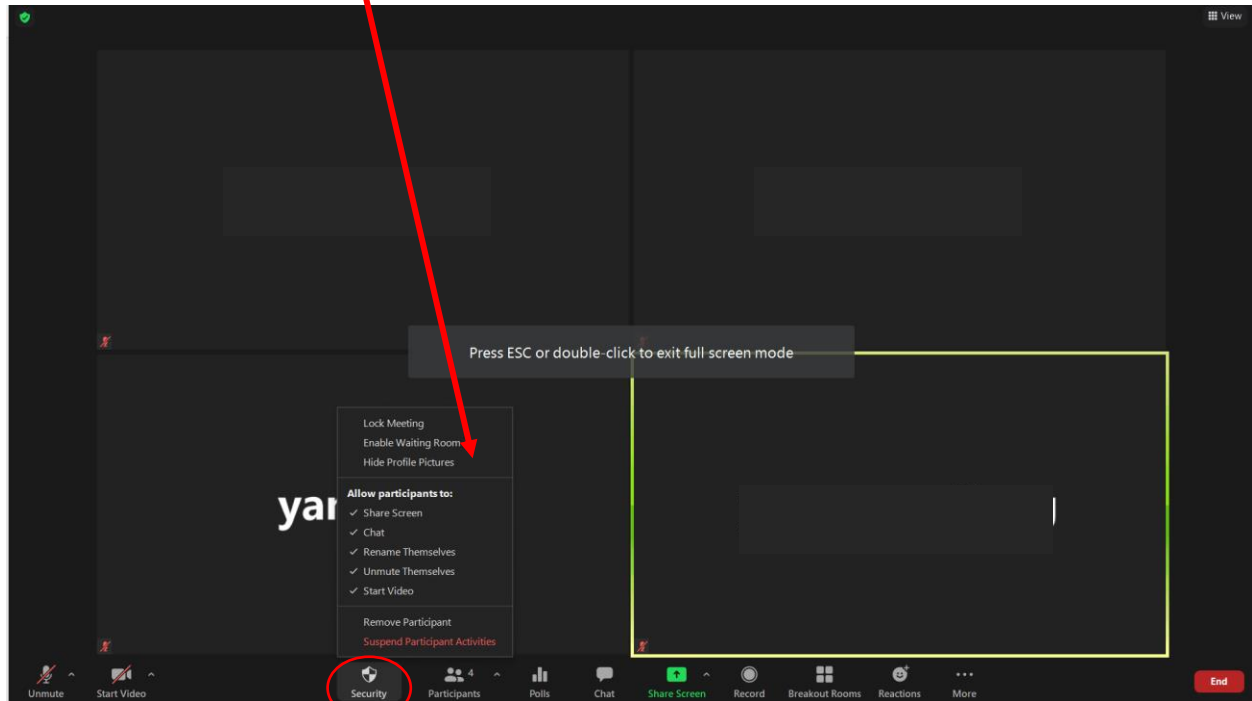
If there is a tech manager from the pervious session, ask him/her to make you the host. If you do not find any host for this meeting, you can claim host using the host key.

Continued on next page

Q. What to do in case a participant is causing trouble.

“In case of any “zoom-bombing” incidents, please talk to the session chair and do the following to stop screen sharing.

- Click on Security and then select “Suspend Participant Activities”
- Click on Security and then select remove participant and select that participant.



INSTRUCTIONS

to find INFORMATION about

the session you have a

PRESENTATION

or are the

SESSION CHAIR

1. Go to the Author Index and the Session Chair Index (please check both to ensure none are missed).
2. Find your name.
3. Note the Session Number(s), Date and Time.
4. Go to the Date and Time in the Presentation Schedule*. The Presentation Schedule is arranged in chronological order.
5. When you find the Date and Time, go to your Session Number. The session numbers are arranged in ascending order.
6. When you find the session number, look up your name and the session information.

*If you are looking for a Panel, Workshop or Tutorial, go to Panels, Workshops and Tutorials Schedule.

OR

Please click on the following link for online schedule:

[Conference Schedule](#)

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- ISB ranked #1 in India and #44 globally in The Economist Full-time MBA Ranking 2021
- ISB ranks #1 in India and #5 in the Asia Pacific in the Bloomberg Best B-schools Ranking 2020-21
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Welcome Message from POMS President



I warmly welcome you to the 32nd Annual Conference of the Production and Operations Management Society! In 2019, I served as the conference chair for our 30th annual conference, which was the last POMS Annual Conference held in-person, and it saw a record high attendance. Although our 32nd conference is not held face-to-face, I hope it could, through its online format, reach out to more members and draw even greater attention from managers, scientists, educators, and students throughout the world.

Started from a small society about 20 years ago, POMS has become a leading international professional organization. Our flagship journal, *Production and Operations Management*, has become the primary outlet for POM professionals around the world to disseminate research findings and share management experiences. Covid had forced us to cancel the Annual Conference in 2020, and we have to conduct last year's and this year's Annual Conferences online. As a result, the current membership has not reached pre-pandemic levels, yet. However, there is a sign of healthy growth. The membership as of April 12, 2021 has grown by 57% and 140% compared to the numbers from November 2020 and April 2020, respectively. I hope this conference can strengthen collaborations among existing POMS members and attract new blood to join the society.

The theme for this year's conference, ***"Emerging Domains of POM"***, highlights the critical importance of our society in the effort to address emerging problems in business, healthcare, government, and non-profit organizations in both developed and developing countries. Conferences of this magnitude cannot happen without the dedicated support of a large number of individuals. On behalf of POMS, I would like to express my deepest gratitude to the organizing committee members, Funda Sahin (General Chair), Bogdan Bichescu (Program Co-Chair), Rakesh Mallipeddi (Program Co-Chair, VP of Communications & AVP for Sponsorship), Reza Zanjirani Farahani (Program Co-chair), Ken Klassen (Advisor – Operations), Hossein Rikhtehgar Berenji (VP of Colleges & Scheduling Chair), Amy Pan (VP of Meetings), Tej Dhakar (Proceedings Editor), Anthony Ross (Doctoral Consortium Program Chair), Nagesh Murthy (Associate Executive Director - Global Initiatives), Craig Froehle (Emerging Scholar Program Chair), Subodha Kumar (Virtual Meetings Expert), Bharat Kaku (VP of Finance), Seema Singhania (Program Coordinator), Ram Tewari (Coordinator Conference Activities), Taylor Leh (UI Designer), Matt Miller (IT Team Lead), Keith Smith (Web Developer), and John Cunningham (Web Developer).

I greatly appreciate the invaluable administrative support and leadership from our executive director, Sushil Gupta. His continuous devotion to and impeccable execution of the planning process are key factors for the success of our annual conferences.

I would also like to thank all the keynote speakers, track chairs, session chairs, panel organizers, panelists, and presenters. Their endless efforts ensure the sessions and presentations to be always insightful and intriguing.

Last but certainly not least, I would like to thank all of you, the conference participants, for supporting this meeting. I hope you will enjoy the presentations, develop new ideas, renew old friendships and make new friends, and have a good time at the conference.

Max Shen

Professor, College of Engineering, UC Berkeley (on leave)

Professor, Vice President and Pro-Vice Chancellor (Research), The University of Hong Kong



We welcome outstanding scholars to **VinUniversity.**

Unique research and teaching opportunities to create breakthrough knowledge and solutions.

College of Business and Management (CBM) at VinUniversity, inaugurated with its first batch of undergraduate students in the fall of 2020 has a vision to become the best business education provider in Vietnam and in the ASEAN region in the next decade.

With a goal of becoming a research-focused college, CBM will soon offer different graduate programs and desirable research environments for our faculty members to support them to conduct world-class research towards solving real-world problems and advancing business practices.

Moreover, with the advantage of being in the ecosystem of Vingroup with numerous leading companies such as Vinpearl, Vinhomes, VinHMS, VinFast, VinTech, Vincom Retail, and their close business partners, CBM will collaborate closely with these companies in research to create breakthrough knowledge and solutions.

Given Vietnam's strategic location to serve as the logistics hub for the global supply chain, CBM aims to be the hub for knowledge and solution creation on this topic area through breakthrough research. Hence, CBM invites outstanding scholars in this field, who are particularly interested in the unique research and teaching opportunities VinUni and Vietnam can offer.

Best wishes!

Rohit Verma, Provost, VinUni & Sunmee Choi, Dean, CBM

Find out more about our programs and faculty at vinuni.edu.vn

WELCOME MESSAGE FROM CONFERENCE GENERAL CHAIR

Welcome to the 32nd Annual Online Conference of the Production and Operations Management Society (POMS)! POMS Annual meetings continue to attract participants from different disciplines, who share their diverse research, teaching and industry experiences and perspectives. This year's conference theme is "Emerging Domains of POM". The theme captures the expanding boundaries of OM with inclusion of new domains, multi-disciplinary research and teaching.

The conference promises to be an exciting event with thought-provoking plenary and showcase speakers, several sessions featuring industry experts, tutorials, panels, workshops, research presentations with almost 1,800 scheduled presentations in more than 650 sessions. This year's plenary sessions include:



- Anne Robinson - Chief Strategy Officer, Kinaxis
"Inspiration, Credibility and Trust - The Key Tenets for a Strong POM Ecosystem"
- Ramanan Krishnamoorti - Chief Energy Officer, University of Houston
"Energy Transition: The Opportunities and the Challenges"
- Martin K. Starr - Director of Strategic Planning, POMS
"POM's Mastery of Emerging Domains"

There are also three new tracks at this year's conference: Aviation, Disruptive Technologies and Operations Management, and Not-for-Profit Operations Management. We are very grateful for all the plenary speakers, who accepted our invitations, and authors and presenters for their contributions to the event by submitting and presenting their work, sharing their ideas and experiences.

We are also acknowledging the efforts of those, who contributed their time into making this conference a reality. First of all, we thank the chairs of the 36 tracks, who worked very diligently to put together an exciting program by reviewing all the submitted abstracts and assigning them into sessions, organizing invited sessions, panels, tutorials, and others. Countless number of hours and dedicated effort resulted in what we expect to be a rewarding experience for you. We cannot thank them enough for all their work.

Of course, events of this size cannot happen without a committed, hard-working program team. The organizing committee members- Bogdan Bichescu (Program Co-Chair), Rakesh Mallipeddi (Program Co-Chair, VP of Communications and AVP of Sponsorship), Reza Zanjirani Farahani (Program Co-Chair), Ken Klassen (Advisor-Operations), Anthony Ross (Doctoral Consortium Program Chair), Craig Forehle (Emerging Scholars Program Chair), Tej Dhakar (Proceedings Editor), Gerald Burke and Amy Pan (Vice President of Meetings), Nagesh Murthy (Associate Executive Director- Global Initiatives), Subodha Kumar (Virtual Meetings Expert), Xiuli He and Hossein Rikhtehgar Berenji (Vice President of Colleges and Scheduling Chair), Taylor Leh, Matt Miller, Keith Smith and John Cunningham (Website and IT), Seema Singhania (Program Coordinator), Ram Tewari (Coordinator of Conference Activities) - worked tirelessly to put together a successful conference. More than 100 volunteers provided technical support for the virtual conference. They all had conflicting demands on their times, but yet all made this conference a priority. A hearty thank you goes to all of them for everything they did for this year's conference.

A very special thank you goes to Sushil Gupta (POMS Executive Director), and Hossein Rikhtehgar Berenji (Scheduling Chair). They are the real heroes of this event doing all the heavy lifting behind the scenes. We are truly inspired by the amazing job they do and consider them to be the invaluable players of this conference.

As a participant of the 32nd Annual POMS Conference, you will find a great variety of events and mix of topics to choose from based on your interests and great networking opportunities. Do not miss out and try taking advantage of it all.

Again, welcome to the POMS Annual Online Conference!
Funda Sahin, C.T. Bauer College of Business - University of Houston

MAKING STRIDES IN OPERATIONS & SUPPLY CHAIN MANAGEMENT

The Operations & Supply Chain Management group at the Fox School of Business at Temple University is housed in the Department of Statistics, Operations, and Data Science and as such, the faculty capitalize on a unique synergy with the Statistics and Data Science group, as well as with Information Systems and Marketing researchers at Fox. Our Operations & Supply Chain group has recently seen tremendous growth in research-active faculty, with a strong presence in mathematical modeling.

FACULTY MEMBERS INCLUDE:

Xue Bai, Ph.D., Carnegie-Mellon. Business Analytics, data mining, mathematical modeling, optimization.

Misty Blessley, Ph.D., Temple. Behavioral operations, supply chain relationships, and humanitarian logistics.

Yiwei Chen, Ph.D., MIT. Dynamic pricing, revenue management, supply chain contracts, resource allocation.

Mark Gershon, Ph.D., Arizona. Quality management, project management.

Guangwen Kong, Ph.D., USC. Sharing economy, supply chain collaboration and contract design, service platforms.

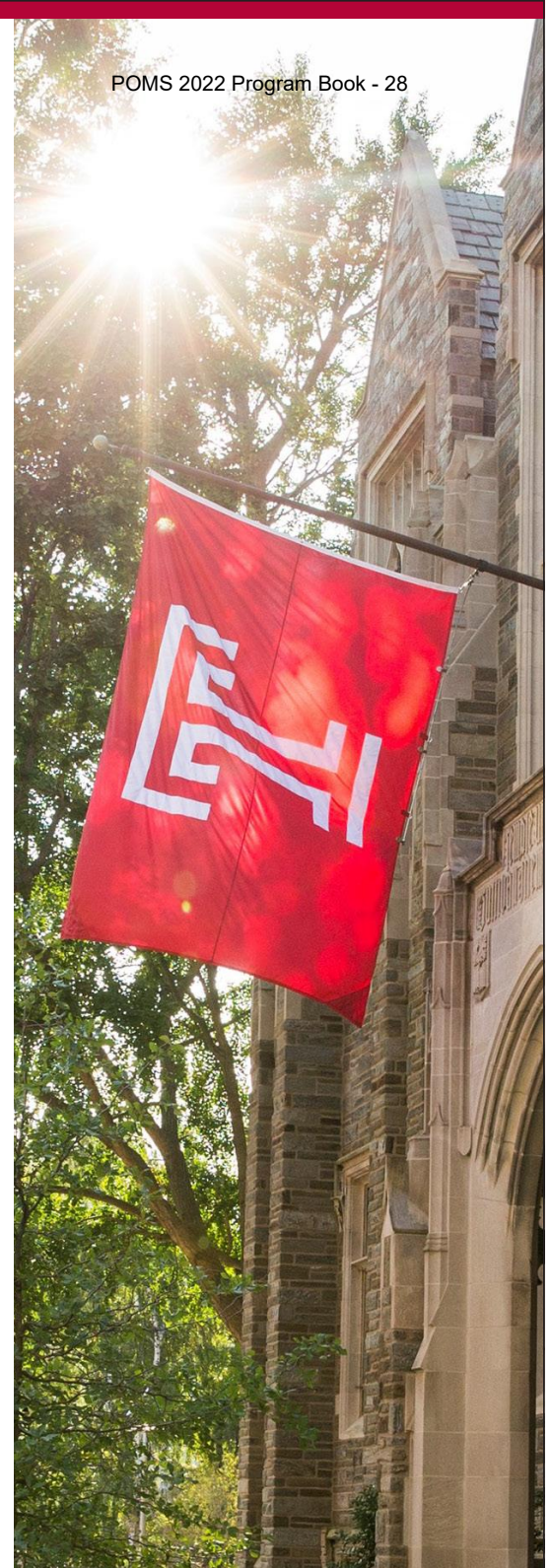
Subodha Kumar, Ph.D., UT-Dallas. On-demand economy, online reviews, omnichannel retailing, social media, healthcare, blockchain, fintech, artificial intelligence, machine learning, game theory, econometric modeling.

Neha Mittal, Ph.D., Rutgers. Urban transport, logistics, location analysis.

Edward Rosenthal, Ph.D., Northwestern. Game theory, mechanism design, logistics, behavioral decision theory.

Abhishek Roy, Ph.D., UT-Austin. Strategic inventory, contracts and incentives in supply chains, multi-sided markets and platforms.

For more information about the SODS department, visit: fox.temple.edu/sods.



WELCOME MESSAGE FROM PROGRAM CO-CHAIRS

Dear POMS colleagues and friends,

A warm welcome to our society's 32nd Annual Online Conference! The conference theme, "Emerging Domains of POM," reflects the broad range of topics featured at the conference in three plenary sessions, seven panels, tutorials, and workshops, and almost 1,800 research presentations grouped in over 650 sessions spanning 36 new and established tracks. Abstract submissions were received from all over the world, representing more than 50 countries. The online conference format affords attendees opportunities to interact and network with leading academics and industry experts, reconnect with colleagues, meet new people, and enlarge professional networks.



This conference could not be possible without the support and dedication of many individuals. We would like to thank all speakers, presenters, and authors for their invaluable participation and contribution to the conference. We are grateful to the track chairs for their essential role in creating an exciting program. Finally, we would like to extend a special thanks to Funda Sahin, the Conference Chair, and Sushil Gupta, the POMS Executive Director, for their leadership, guidance, and unwavering support throughout all phases of the conference.



We also gratefully acknowledge the other members of the program committee for their hard work and dedication to the success of conference: Anthony Ross (Doctoral Consortium Program Chair), Craig Forehle (Emerging Scholars Program Chair), Tej Dhakar (Proceedings Editor), Amy Pan (Vice President of Meetings), Nagesh Murthy (Associate Executive Director- Global Initiatives), Subodha Kumar (Virtual Meetings Expert), Hossein Rikhtehgar Berenji (Vice President of Colleges and Scheduling Chair), Bharat Kaku (VP of Finance), Taylor Leh, Matt Miller, Keith Smith and John Cunningham (Website and IT), Seema Singhanian (Program Coordinator), and Ram Tewari (Coordinator of Conference Activities). Finally, we would like to thank several PhD student volunteers from around the world for their hard work serving as technical track managers and handling the zoom sessions during the conference.



In closing, we reiterate our great pleasure in welcoming you to the POMS 32nd Annual Online Conference! We hope you will have an enjoyable conference and we look forward to seeing you in April!

Bogdan Bichescu
Associate Professor
Haslam College of Business
The University of Tennessee

Rakesh Mallipeddi
Assistant Professor
A.B. Freeman School of Business
Tulane University

Reza Zanjirani Farahani
Professor
Rennes School of Business



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POMS 2022 Program Book - 30

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WELCOME MESSAGE FROM VICE PRESIDENT FOR MEETINGS

Welcome to our 32nd Annual Conference of the Production and Operations Management Society (POMS)! Although we cannot gather physically due to the ongoing pandemic this year, the virtual meeting offers us a special way to forge new connections and reconnect with old friends. Over the past year, we have witnessed principles of operations and supply chain management in practice to provide comfort and strength to people around the globe. The POMS 2022 Annual Conference-Online will provide a great opportunity for us to share and interact with each other again.



I would like to thank all the people who made great efforts to organize this event. Funda Sahin (general chair), Bogdan Bichescu Burak, Rakesh Mallipeddi and Reza Zanjirani Farahani (program co-chairs) worked with many track chairs to populate this year's tracks. Craig Froehle served as the chair for the Emerging Scholars program. Anthony Ross served as the chair of the Doctoral Consortium program. Subodha Kumar and Rakesh Mallipeddi provided expertise with technological requirements for hosting virtual sessions which comprise this year's conference. Hossein Rikhtehgar Berenji's hard work and attention to detail as scheduling chair helped provide order to the conference. As the V.P. of Colleges, Hossein also coordinated the many and varied efforts of POMS Colleges to emphasize interest groups of our society. Tej Dhakar diligently served as editor of the proceedings. Rakesh Mallipeddi helped direct sponsorship and programming focused on education. Bharat Kaku, as the V.P. of Finance, kept our financial books in order. Nagesh Murthy continued to represent POMS in leading our global initiatives. Of course, this event like so many other POMS activities depends on executive leadership from Sushil Gupta, and coordination expertise from Seema Singhania and Ram Tewari.

We hope to be able to meet again physically in Orlando, FL for the POMS 33rd Annual Conference in Spring, 2023. Let us enjoy our membership in POMS and lift our spirits via the POMS 32nd Annual Conference-Online.

With gratitude,

Amy Pan
University of Florida

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MESSAGE FROM VP OF COMMUNICATIONS AND AVP OF SPONSORSHIPS

We are gratified that the academic and business communities continue to believe in the mission of POMS and provide steadfast support to the society and the conference.

We are happy to have the support of the *City University of Hong Kong*, *Tenex Software Solutions*, and *Hyatt Regency Orlando* as Platinum sponsors for the 32nd Annual POMS Conference. Continuing in their tradition of significant annual support, *Indian School of Business (ISB)*, *Temple University*, *University of Florida*, and *VinUniversity* are once again, Silver sponsors this year. *Arizona State University*, *Dongbei University of Finance and Economics*, *Georgetown University*, *Tianjin University*, and *University of Texas at Dallas* have been dedicated partners of POMS, and we appreciate their support again this year as Bronze sponsors. We would like to acknowledge *Memorial University* and *University of South Carolina* for sponsoring the Global Supply Chain Management and Supply Chain Management tracks respectively. We are happy to partner with *McGraw Hill* and *Processim Labs* as exhibitors for this year's conference.



Special thanks also go out to all our exhibitors, advertisers, and sponsors of tracks, and other virtual events. Several POMS board members stepped up to persuade their department heads and deans to support the conference as sponsors. Our deepest gratitude for their leadership and efforts.

We are grateful for the efforts of the entire conference team that worked extremely hard to make POMS 2022 a rewarding experience for all attendees, albeit virtually!

Rakesh Mallipeddi

Associate V.P. for Sponsorships

A.B. Freeman School of Business, Tulane University

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Founded in 1952, Dongbei University of Finance and Economics is a top university of finance and economics in the north of China, located in the beautiful Xinghai beach in Dalian. In 2012, the Ministry of Finance, the Ministry of Education, and Liaoning Provincial Government co-administered DUFE. Following the university motto "Broaden Intellectual Horizon and Contribute to Social Well-being", DUFE is marching towards its goal of developing into a domestically leading, internationally recognized, high-level research-oriented university of finance and economics with prominent distinguishing features.

POM Society has a deep cooperative relationship with DUFE. As the first summer school established by POMS Society in the global, POMS China Summer School settled in DUFE and successfully opened its first summer school in 2019. President of POMS, professor *Sushil Gupta*, and Vice President of POMS, professor *Nagesh Murthy*, were delighted to attend the ceremony. In addition, we have appointed professor *Sushi Gupta*, professor *Subodha Kumar*, professor *Tava Olsen*, professor *Gangshu Cai* and other famous professors as distinguished professors of DUFE.

The management disciplines of DUFE, especially the disciplines of management science, Emergency Management, and public Administration, have a long history of running schools and cultivate high-level talents to meet the major national strategic orientation, such as Dongbei Revitalization Strategy, national security strategy, digital economy strategy, and so on.

The university fully implements the academic evaluation standard of the international first-class business school (e.g., UTD-24 top journal), and eagerly expects doctoral students at abroad to use their knowledge to serve the motherland. We create a first-class academic environment, and reward high quality research results with heavy financial rewards (1.2 million RMB for each top-paper in the next six years). Accordingly, we offer four grades of A, B, C, and D for outstanding PhD with different research potentials and achievements, with an annual salary of 400,000 Yuan RMB.

With beautiful scenery, rich academic atmosphere, first-class academic research orientation, and strong feelings of home and country, we are looking forward to your joining our team! Clear sea, blue sky, the most beautiful Dalian, the place where dreams fly.

Serve wholeheartedly for you: Professor Dehai Liu, Chairman of the Academic Committee of the School of Management Science and Engineering

Email: Ldhai2001@163.com Wechat: ldhai2001

WELCOME MESSAGE FROM THE VP OF COLLEGES

Welcome to the 32nd Annual POMS Conference. It is my honor and privilege to serve as the Vice President of the Colleges, Production and Operations Management Society (POMS). I would like to extend my gratitude to our former VP of Colleges, Xiuli He, for her leadership over the last three years.

Our main POMS conference planning team has done a remarkable job this year under the direction of our General Chair, Funda Sahin, our Executive Director, Sushil Gupta, and Program Co-Chairs, Bogdan Bichescu, Rakesh Mallipeddi, and Reza Zanjirani Farahani, along with track-chairs to ensure a very productive conference experience.



This year POMS Colleges are also offering excellent programs in three different areas. Our colleagues in the College of Healthcare Operations Management (HOM), College of Humanitarian Operations and Crisis Management (HOCM), and College of Operational Excellence (OpEx) spent countless number of hours planning and ensuring high-quality mini-conferences. I thank all our colleagues, especially our College Presidents, David Dobrzykowski (HOM), Erica Gralla (HOCM), and Morgan Swink (OpEx), along with the College Board Members to organize these outstanding mini-conferences.

I invite you to attend the following mini-conferences which will be held prior to the main conference:

- Healthcare Operations Management Mini-Conference
Friday, April 15, 2022, 11:00 AM to 2:00 PM (EST)
- Operational Excellence Conference
Thursday, April 21, 2022, 9:00 AM to 12:30 PM (EST)
- Humanitarian Operations and Crisis Management Mini-Conference
Thursday, April 21, 2022, 10:00 AM to 4:45 PM (EST)

Our colleagues have also put together the following paper competitions in different colleges. I would like to invite you to consider attending these sessions and enjoy the high-quality presentations (please find the time and virtual location from the program book or online schedule):

- College of Behavioral OM Junior Scholar Paper Competition
- College of Healthcare Best Paper Competition
- College of Humanitarian Operations & Crisis Management Best Paper Competition
- College of Operational Excellence Best Paper Competition
- College of Supply Chain Management Best Student Paper Competition

During the last year, several colleges also organized multiple online workshops and panel discussions for the POM community. In the end, I would like to express my heartfelt gratitude and thanks to all eight College Presidents and College Board Members who contributed their time and energy in making the above-mentioned mini-conferences and past year's online events an exceptional experience for the POM community.

Hope you all enjoy the 32nd Annual POMS Online Conference and look forward to meeting you all in person next year once we return to the face-to-face event! Until then, please take care and stay well!

Hossein Rikhtehgar Berenji
VP Colleges, POMS
Assistant Professor of Operations Management
College of Business, Pacific University



Georgetown University's McDonough School of Business is a proud sponsor of the 32nd Annual POMS Conference

Our faculty are world-class scholars and key contributors to fundamental research that impacts practice in the areas of sustainable operations and renewable energy, supply chain management, risk management and decision-making under uncertainty, innovation and new product development, global operations, and behavioral operations.

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WELCOME MESSAGE FROM ASSOCIATE EXECUTIVE DIRECTOR, GLOBAL INITIATIVES & OUTREACH

It is my distinct pleasure to welcome you all to the POMS 32nd Annual Conference.

Our planning team has done an incredible job under the direction of our President, Zuo-Jun (Max) Shen and our Executive Director, Sushil Gupta. Our General Chair, Funda Sahin and Program Co-Chairs, Bogdan Bichescu, Rakesh Mallipeddi, and Reza Zanjirani Farahani, along with track-chairs have worked with tremendous energy and enthusiasm to ensure a great conference experience.



Thanks to the incredible enthusiasm of our members, as we get past the pandemic, opportunities for organizing POMS international conferences, workshops, or practice leaders forums are currently being explored with schools in Europe, Asia, Latin America, and Africa. This year we are recognizing the efforts of conference chairs and steering committee members associated with planning online meetings of POMS 2021 International Conference, Lima, Peru, December 2nd – 4th, 2021; POMS 2021 International Conference, Mumbai, India, December 22nd – 24th, 2021; and 12th POMS Hong Kong Chapter International Conference, January 8th - 9th, 2022. We will surely miss the opportunity to meet them in person and recognize and celebrate their success at our traditional “International Meetings Organizers Reception”. Nevertheless, we will do so this year via an online event.

POMS 32nd Annual Conference would not be possible without the intensive efforts of the program committee, along with the track chairs and various college committees who have worked tirelessly to support all facets of this meeting. My sincere thanks to Amy Pan for shouldering responsibility as VP Meetings, Rakesh Mallipeddi for securing sponsorships, Hossein Rikhtehgar Berenji for his pivotal role as Scheduling Chair, Ken Klassen for his longstanding involvement and advising operations, and Tej Dhakar for being the meticulous Proceedings Editor. As always, a special hearty welcome to all the doctoral students who will join us from all across the world, with many of them also volunteering to facilitate the online sessions.

Have a great conference and enjoy the POMS experience!

You all stay safe and well.

Nagesh N. Murthy

Associate Executive Director POMS, Global Initiatives and Outreach
President-Elect POMS

Roger Engemann Professor of Operations and Business Analytics
Lundquist College of Business, University of Oregon

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Professor

Milind Dawande

Mike Redeker Distinguished Professor

Soraya Fatehi

Assistant Professor

Andrew Frazelle

Assistant Professor

Dorothee Honhon

Associate Professor

Bin Hu

Associate Professor

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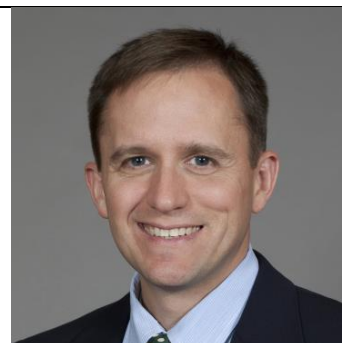
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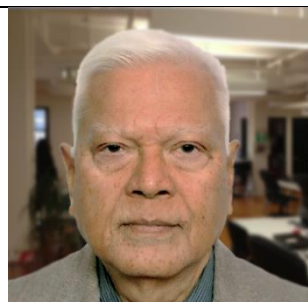
Sushil Gupta
Executive Director



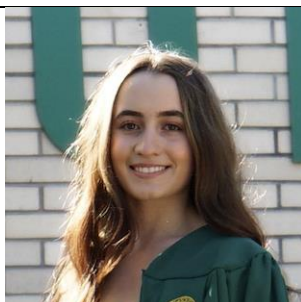
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Activities



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Matt Miller
IT Team Lead



Keith Smith
Web Developer



John Cunningham
Web Developer



Basic Information

Position:

- Outstanding Young Professor
- Outstanding Young Associate Professor
- Young Associate Professor
- Assistant Professor
- Postdoctoral Fellow

Organization Name:

College of Management and Economics (CoME),
Tianjin University

Position Type: Full Time

Location(s): Tianjin, China



Brief Introduction

Tianjin University is the oldest institution of higher education in the modern history of China. It was included in the list of "Double First-Class" university project.

College of Management and Economics (CoME) is a leading school of management and economics in China and all of its MBA, MPA and EMBA programs are the first batch in China. CoME has over 30 international partner schools, including Purdue University, University of Waterloo, and University of California, Davis.

Qualifications & Work Support

We invite applications for full-time faculty positions with interests in operations management, logistics and supply chain management etc.

Applicants are supposed to have a doctorate degree in relevant fields by August 2022.

Applicants for Young Associate Professor, Postdoctoral Fellow should have the research capability of publishing in top-tier journals, while applicants for higher academic positions should have a well-qualified record of research and teaching effectiveness.

The compensation package (including salary, relocation fund, and fringe benefits) will match with qualifications. In addition, CoME will provide additional internal funding for high-quality research.

Application Instructions

- 1 The CV
- 2 Job Market paper
- 3 3 letters of reference with contact information

You may kindly collate the total materials listed above into a single PDF document with the file name being "**Name + School / College + Position+POMS**", and send it to Miss. Gan Yaoqiong, H.R. Office, at hr14@tju.edu.cn before April 25.

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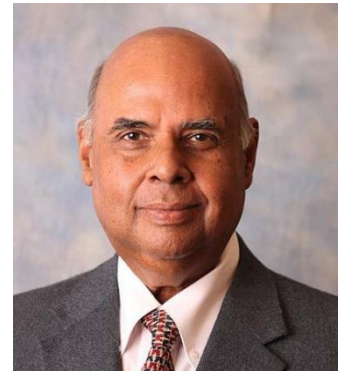
POMS 2022

SUSHIL K. GUPTA POMS DISTINGUISHED SERVICE AWARD

Recognizing Outstanding Service to POMS

The Production and Operations Management Society (POMS) created the POMS *Distinguished Service Award* in its annual meeting in Reno, April 29, 2011, to recognize contributions made by its members to the growth of the Society.

In its quest to identify the most deserving person to receive the first award, it was no surprise that the POMS Board, consisting of 28 people from around the world, unanimously and very enthusiastically voted at its meeting in Chicago, April 20, 2012, that the first POMS Distinguished Service Award should be given to Dr. Sushil K. Gupta, POMS Executive Director, Professor at Florida International University (FIU), Miami, USA. Sushil was presented with the award during the POMS awards ceremony luncheon on April 22, 2012 in Chicago. Immediately after the award was given to Dr. Gupta, Dr. Luk Van Wassenhove, Professor at INSEAD, France, and past president of POMS, announced another unanimous decision of the POMS Board. Luk proclaimed that this is the first and the last POMS Distinguished Service Award. "Starting now", he said, "The award will be known as the *Sushil K. Gupta POMS Distinguished Service Award*. All future POMS Distinguished Service awards will be named after Dr. Gupta to honor him for his dedicated services to POMS."



Dr. Sushil Gupta's superb administrative skills have led POMS to grow in size, become a stronger society, and truly international in scope. Dr. Gupta has been involved in the planning and execution of all major POMS initiatives like increasing membership, establishment of awards, creation of colleges and regional chapters, more successful POMS conferences, greater impact of publications and more powerful web development. He has worked successfully and continuously with a diverse constituency from around the globe. Dr. Gupta has been the POMS Vice President of Membership and then POMS President. He was elected a POMS Fellow in 2004 - the year that the POMS Fellowship was instituted.

The first *Sushil K. Gupta POMS Distinguished Service Award* was given at the POMS Annual Conference Awards Ceremony in Denver, May 3 - May 6, 2013. Dr. Martin K Starr was the first recipient of this award. In the following years other award winners include: Dr. Cheryl Gaimon and Dr. Hau Lee (2014), Dr. James P. Gilbert and Dr. Chelliah Sriskandarajah (2015), Dr. John J. Kanet and Dr. Nagesh Murthy (2016), Dr. Christopher Tang (2017), and Dr. Subodha Kumar (2018), and Shailesh Kulkarni (2019). The award was not given in 2020 and 2021 due to pandemic.

The Committee for the Sushil K. Gupta POMS Distinguished Service Award has unanimously selected Dr. Gerard (Jerry) Burke as the award winner for this year in recognition of his outstanding service to POMS.

Dr. Burke served the Production and Operations Society as the Vice-President for Colleges from 2015-2018, during which time he collaborated with leadership of POMS Colleges and POMS Board of Directors to support and help execute dozens of activities for POMS Colleges including mini-conferences, paper competitions and site tours. The number of POMS Colleges grew from 7 to 8 with formation of the College of Operational Excellence in 2017. Most recently Jerry served as Vice-President of Meetings and served on the Executive Board of POMS during the dynamic and challenging times from 2018-2021. During this time his contributions to POMS members centered on activities connected to annual conferences in Houston, TX (2018) and Washington, D.C. (2019) as well as Minneapolis, MN (2020) until cancellation in April 2020 due to pandemic lockdowns. Jerry's contributions include collaborating with POMS leadership on major aspects of annual meetings such as site visits and venue contract negotiations as well as space assignments, menu planning, program book generation and printing, coordinating production and delivery of award plaques, and A/V quality assurance. Working with the executive committee, POMS Board and hospitality partners as VP of Meetings the past two years, Dr. Burke helped with contract renegotiations to move venue obligations for POMS 2020, 2021 and 2022 annual conferences forward to the long-run benefit of both POMS and its hospitality partners.



Dr. Burke is a professor in the Department of Logistics and Supply Chain Management, Parker College of Business, Georgia Southern University, Statesboro, GA. Jerry and his wife, Amy, are blessed with four children: Madeline, Marley, Eleanor and James.

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POMS 2022

POMS FELLOWS AWARD

Designation as a POMS Fellow is the most prestigious honor awarded by our Society and is given for life. It is intended to recognize POMS members who have made exceptional intellectual contributions to our profession and Society through their research and teaching. Although loyal service to the Society, in administrative, elected, or editorial assignments, is not by itself a sufficient qualification for this award, it can strengthen the case of a member who is recognized as a thought-leader in our field. To be eligible a candidate must have demonstrated commitment to furthering the objectives of POMS (as evidenced by such indicators as membership in the Society, and active participation in POMS Colleges and meetings.)

Dr. Milind Dawande and Dr. Zuo-Jun (Max) Shen have been elected POMS Fellows this year. Both of them are thought-leaders in our field and have demonstrated commitment to furthering the objectives of POMS.

Milind Dawande is Mike Redeker Distinguished Professor of Management and Area Coordinator of the Operations Management area at the Jindal School of Management, The University of Texas at Dallas. He received his doctoral education in Algorithms, Combinatorics, and Optimization, from the Tepper School of Business, Carnegie Mellon University. His research interests are broadly in supply chain management and, in particular, optimization models in manufacturing and operations, and socially-responsible operations management. In recent years, he has worked on a host of operations and incentive issues in developing countries, including adulteration of milk, formation of dairy cooperatives, decentralized distribution of scarce water among farmers, logistics and distribution of food grains to the below-poverty-line population, and guaranteed price-support schemes offered by the government to farmers. He is also interested in mechanism design, and has worked on the design and analysis of procurement auctions or policies that are simple from the viewpoint of participating suppliers. Prior to joining academia, he was a member of the research staff at IBM's T. J. Watson Research Center in New York. At IBM Research, he worked on optimizing key operations for major steel manufacturers in the Asia-Pacific region.



Zuo-Jun Max Shen is the Vice-President and Pro-Vice-Chancellor (Research) and the Chair Professor in Logistics and Supply Chain Management at the University of Hong Kong. He is on leave from the University of California, Berkeley, where he is a Chancellor's Professor in the Department of Industrial Engineering and Operations Research and the Department of Civil and Environmental Engineering. He received his Ph.D. from the Department of Industrial Engineering and Management Sciences at Northwestern University. He has been active in the following research areas: integrated supply chain design and management, operations management, data driven optimization algorithms and applications, energy systems, and transportation system planning and optimization. Max has extensive research collaborations with government agencies as well as private companies. Max is serving as the president for the Production and Operations Management Society, has served as a Department Editor for the Journal of Production and Operations Management, and Associate Editors for leading journals such as Operations Research and Management Science. Max received the CAREER award from National Science Foundation, the Franz Edelman Laureate Award from INFORMS, won several best paper awards, and was elected Fellow of INFORMS in 2018.





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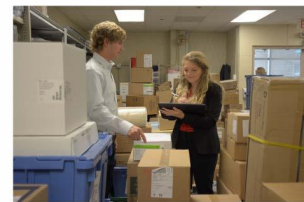
The BA concentration was primarily designed to further strengthen our OSC graduates' analytics skills but is a college-wide initiative upgrading analytics competencies of all business graduates. It includes cutting-edge courses in data analytics, modeling and data-mining.

PRACTICAL INDUSTRY INTERFACES

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Sonoco-UofSC Lean Six-Sigma Green Belt (LSS GB): We are the only university program in the world to graduate more than 1,200 students with such an industry-validated certification requiring substantive Capstone project experience.

Center for Applied Business Analytics (CABA): CABA coordinates the technology and industry interfaces of the business analytics initiative, including a fully functional Data Lab, industry-sponsored competitions and select industry projects.



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CHELLIAH SRISKANDARAJAH EARLY CAREER RESEARCH ACCOMPLISHMENTS AWARD 2022

2022 Award Committee:

Tinglong Dai (chair), Johns Hopkins University

Karan Girotra, Cornell University

Pinar Keskinocak, Georgia Institute of Technology

Hau Lee, Stanford University

Serguei Netessine, University of Pennsylvania

The Chelliah Sriskandarajah Early Career Research Accomplishments Award (previously known as the “Wickham Skinner Early Career Research Accomplishments Award”), hereafter “the Award,” will be presented during the POMS 2022 Annual Conference, Orlando, FL, U.S.A. As a leading professional society in the field of production and operations management, POMS has the responsibility to shape the development of this field through recognizing and rewarding academics who have achieved unusually high accomplishment early in their careers.

An “Early-Career Researcher” will be defined as someone who has received a doctoral degree (or its equivalent outside of the USA) within the previous six years. Applying this definition, for 2022 POMS Annual Conference, 2015 is the starting year for inclusion. Given that the Award was not offered last year due to the COVID-19 pandemic, we are making a one-time exception and accepting applications for the 2022 Award from those who received their doctoral degree in or after 2014. Note that previous winners of this Award are not eligible to apply again, but unsuccessful applicants may submit materials in a later year, provided they still meet the career stage requirement. The applicant must be a POMS member of good standing.

Given the one-time exception that allowed 2014 graduates to apply, the award committee decided to recognize more awardees than in a typical year. This allows for the recognition of exceptionally productive 2014 graduates without crowding out less seasoned applicants.

Co-Winners:

Ruomeng Cui (PhD, Northwestern University, 2014), Associate Professor at Emory University

Ruomeng Cui is an Associate Professor in the Department of Information System and Operations Management at the Goizueta Business School, Emory University. In her research, Professor Cui investigates how operations strategies create and deliver value in companies' digital transformation. Specifically, she studies how digitization reshapes how companies compete and operate. Her research has been recognized by various prizes including 2019 INFORMS Junior Faculty Interest Group (JFIG) Paper Competition award, 2019 M&SOM Practice-Based Paper Competition award, 2017 INFORMS Behavioral Section Best Working Paper award, and 2014 POMS Supply Chain Management Student Paper Competition award. Professor Cui's research has been widely covered by the media, including NPR, NPR Marketplace, Financial Times, Fox News, Fortune Magazine, and HBR.



Hummy Song (PhD, Harvard University, 2017), Assistant Professor at the University of Pennsylvania

Hummy Song is an Assistant Professor of Operations, Information and Decisions at the Wharton School at the University of Pennsylvania. She conducted her undergraduate, master's, and PhD studies at Harvard University.



Professor Song's research focuses on identifying ways to improve the performance of service systems, with a particular emphasis on the health care sector. Her work has examined several factors related to patient flow and capacity management in health care delivery settings, including queue configurations, off-service placement, performance feedback, provider turnover, and team staffing. Her research utilizes large datasets derived from electronic health record systems, administrative databases, and surveys of the health care workforce. For her research, Professor Song has worked with hospitals and health care delivery organizations in the U.S. and in developing countries. Professor Song's work has been published in leading academic journals including *Management Science*, *Operations Research*, and *Health Services Research*. Her work has also appeared in *Harvard Business Review* and has received media coverage in various outlets including the *Wall Street Journal*, *Reuters*, and *CBS News*. She has received several recognitions for her research, including the M&SOM Service Management SIG Best Paper Award, INFORMS Health Applications Society Best Student Paper Award, and the Best OM Paper in *Management Science* Award (finalist). She currently serves as an Associate Editor of *Management Science*.

Dennis Zhang (PhD, Northwestern University, 2016), Associate Professor at Washington University in St. Louis

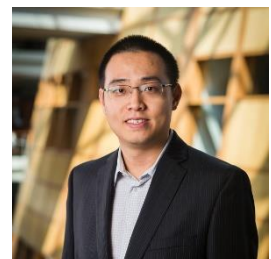
Dennis Zhang is an Associate Professor at Olin Business School, Washington University in St. Louis. His research focuses on operations in innovative marketplaces and in the public sector. He built theoretical models to extract reliable insights from data and use data to improve existing models. Prior to joining the Olin faculty, Dennis finished his PhD from Northwestern University and worked at Google as a machine learning software engineer.



Runner-up:

Shiliang Cui (PhD, University of Pennsylvania, 2014), Associate Professor at Georgetown University

Shiliang (John) Cui is a Provost's Distinguished Associate Professor of Operations and Information Management at the McDonough School of Business of Georgetown University. He completed his Ph.D. from the Wharton School of the University of Pennsylvania in 2014. His research interests focus on process improvement of products (more specifically, product design and supply chain strategies) and services (more specifically, innovative service mechanisms).





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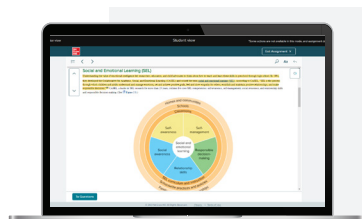
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POMS 2022

EMERGING ECONOMIES DOCTORAL STUDENT AWARD 2022

The Emerging Economies Doctoral Student Award (EEDSA) was created by the Production and Operations Management Society (POMS) in 2008 to establish institutional linkages, to reach out to future scholars in emerging economies, to encourage their development and to facilitate building connection to POMS. The emerging economies are grouped into the following three regions for this award: Africa, Asia-Pacific, and Latin America & Caribbean. Starting in the year 2022, these awards have been named after distinguished members of the POMS community who have played a pivotal role in the development of doctoral education. These awards are called:

- The Nagesh Murthy Emerging Economies Doctoral Student Award for Asia - Pacific region
- The Dino Petrarolo Emerging Economies Doctoral Student Award for Africa and the Middle East
- The Nada Sanders Emerging Economies Doctoral Student Award for Latin America and the Caribbean

To be eligible for an award, an applicant has to be enrolled in a Ph.D. program in Operations Management or a related discipline offered by a university in a country belonging to one of the following three regions – Africa, Asia-Pacific, and Latin America and the Caribbean.

For 2022, POMS appointed a committee comprised of Gemma Berenguer, Chair (Universidad Carlos III de Madrid), Prashant Chintapalli (Indian Institute of Management, Bangalore), Mohammad Moshtari (Tampere University), Marcia Regina Santiago Scarpin (Concordia College and Arizona University), and Manish Shukla (Durham University). The committee is pleased to recognize the following three individuals as the **2022 Emerging Economies Doctoral Student Award** recipients.

Asia- Pacific region

- Ayush Gupta (Indian Institute of Management Ahmedabad, India)
- Ganesh Balasubramanian (Indian Institute of Management Ahmedabad, India)

Latin America and the Caribbean region

- Luiza Cunha (Pontifical Catholic University of Rio de Janeiro – PUC-Rio, Brasil)

Ganesh Balasubramanian is a final year doctoral student in the Production and Quantitative Methods area at the Indian Institute of Management, Ahmedabad. He is a visiting research scholar at the Luxembourg Centre for Logistics and Supply Chain Management, University of Luxembourg. He received his master's degree (MBA) from the Indian Institute of Technology Madras and has 39 months of industry work experience in e-commerce (Amazon) and



Information Technology. His research interests include managing inventories, pricing, retail and distribution, operations-marketing interface, and supply chain resilience. He received the best paper award in the doctoral colloquium of the POMS India International conference, 2021. He also received the best paper award in the ISDSI Global Conference held at the Indian Institute of Management Nagpur, 2021. Ganesh has published his research work in the International Journal of Production Economics. His dissertation explores strategic interactions between the manufacturer and the retailer in decentralized supply chains.

Ayush Gupta is a doctoral student in the Production and Quantitative Methods area at the Indian Institute of Management Ahmedabad and a visiting researcher at Luxembourg Centre for Logistics and Supply Chain Management (MIT Global SCALE network), University of Luxembourg. He completed his B.Tech in Production and Industrial Engineering from Delhi Technological University (Formerly Delhi College of Engineering) and received the vice-chancellor's Gold Medal for securing the first position in engineering. His dissertation focuses on building and analyzing game-theoretical models to generate managerial insights. His research interest includes dual-channel supply chain, strategic inventory, digitization of operations, technology adoption, maintenance management, humanitarian logistics, and knowledge management. His previous work has been published in various international journals like the International Journal of Production Research, Annals of Operation Research, Knowledge Management Research & Practice, etc



Luiza Cunha is a last-year Ph.D. student program in Operations Management at the Industrial Engineering Department of the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Brazil. She received her Master's (August 2018) and Bachelor's (December 2015) degrees in Production Engineering (Industrial Engineering) also from PUC-Rio. She has been a researcher at the Humanitarian Assistance and Needs for Disasters (HANDs) Laboratory, where she has developed applied projects in Humanitarian Logistics, Humanitarian Operations, and Disaster Management fields. Her Master's dissertation on social risk management in supply chains received special mention by ANPEPRO (Brazilian national association of graduate programs and research in production engineering). For her Ph.D. thesis, Luiza is working with Professors Adriana Leiras (PUC-Rio) and Paulo Gonçalves (University of Lugano), addressing the complex dynamics of Humanitarian Operations. Her current research aims to simulate policies to scale migratory movements operations. The results of her research have been presented in high-quality conferences (e.g., POMS and EurOMA) and published in high-quality journals (e.g., Annals of Operations Research, Sustainability and Journal of Cleaner Production).





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WICKHAM SKINNER TEACHING INNOVATION AWARD 2022

As a leading professional society in the field of production and operations management, POMS has the responsibility to shape, to influence, and to recognize outstanding research and teaching accomplishments. The purpose of The Wickham Skinner Teaching Innovation Award, hereafter “the Award”, is to recognize impact and innovation in the teaching of Production and Operations Management courses.

AWARD CRITERIA

1. Pedagogical excellence. This could be documented through the diversity of courses taught and student evaluations, letters of support from former students and/or assessments of knowledgeable colleagues.
2. Creativity and/or innovation. This would be reflected in teaching approaches and methodologies (e.g., team teaching, student teams, action learning, role playing, etc.) and/or new ways for understanding actual operations problems and the methods that can be applied to deal with them (e.g., frameworks, technology, software, etc.).
3. Impact. In this case, impact on the field, the profession, students/executives, and managers are of relevance. Various types of evidence could be offered to demonstrate that the applicant’s teaching has influenced the world of POM. Having taught large numbers of students is certainly one measure of impact, but more important is evidence that the applicant’s teaching has influenced behavior. This could be documented via letters from former students, statements from people in industry who have hired former students, and letters from other academics who have themselves been influenced by the applicant’s teaching (e.g., by adopting a book, case or course structure).

For 2022, the Review Committee consisted of Carmela DiMauro (University of Catania, Italy), Stanley E. Fawcett (University of Applied Sciences, Austria), Asoo J. Vakharia (University of Florida, USA) and, as chair, Gyula Vastag (Corvinus University of Budapest, Hungary).

By the deadline of January 15, 2022, the committee received five excellent applications from the United States and Canada describing and documenting a variety of experiential, action-learning approaches, and online games. All applications were assessed by all committee members on the criteria of pedagogical excellence, creativity/innovation, and impact. In addition to the numerical scores, detailed comments were also provided for proper contextual interpretation. After two rounds of discussions, it was clear and unanimously agreed upon that two applicants rose above the others: Wiljeana Jackson Glover and Gregory R. Heim.



Wiljeana is a passionate and creative teacher with an experiential, action-learning approach. She taught a large variety of courses and her latest effort, Global health Innovation Lab, is particularly interesting as it helps globalize the learning environment. Wiljeana has taken a winning model and applied it across many of her courses.

Greg has an excellent record of teaching and supervising at all levels of academia; he is also a productive scholar often working with PhD students to co-author top papers. He has brought value to the institutions he has worked for.



The committee was unanimous in its decision to award the first place with a prize of \$1,000 to Wiljeana Jackson Glover (Babson College) and the runner-up prize of \$500 to Gregory R. Heim (Texas A&M University).

POMS 2022 Online Conference: April 21 - 25

POMS 2022 Program Book - 54

Friday, April 15, 2022	
Event	Time (EST)
College of Healthcare Operations Mgmt Mini-Conference (for Registered Participants)	11:00 AM to 2:00 PM
Thursday, April 21, 2022	
Event	Time (EST)
College of Operational Excellence Mini-Conference (for Registered Participants)	9:00 AM to 12:30 PM
College of Humanitarian Operations and Crisis Mgmt Mini-Conference (for Registered Participants)	10:00 AM to 4:45 PM
Friday, April 22, 2022	
Event	Time (EST)
Applied Research Challenge	9:00 AM to 10:00AM
Workshop: Emerging Research in Telemedicine	9:00 AM to 10:00AM
Plenary Session: Anne Robinson	10:15 AM to 11:15AM
Tutorial: Asymptotic Optimality of Base-Stock Policies for Perishable Inventory Systems	11:30 AM to 12:30 PM
Panel: OM Research in the ESG Era	3:15 PM to 4:15PM
College Business Meetings (All Colleges)	5:45 PM to 6:45 PM
Saturday, April 23, 2022	
Event	Time (EST)
Doctoral Consortium (for Registered Participants)	8:30 AM to 12:30 PM
International Meetings Organizers' Recognition	9:00 AM to 10:00 AM
Tutorial: COVID-19 Modeling	11:30 AM to 12:30 PM
Plenary Session: Ramanan Krishnamoorti	12:45 PM to 1:45 PM
College Presidents' Meetings (By Invitation)	2:00 PM to 3:00 PM
POMS Business Meeting & Awards Ceremony (All are welcome)	5:45 PM to 6:45 PM
Sunday, April 24, 2022	
Event	Time (EST)
Panel: Uncertainties and New Modes of Cooperation in Traditional and Emerging Domains	9:00 AM to 10:00 AM
Plenary Session: Martin K. Starr	10:15 AM to 11:15AM
Tutorial: Teaching Supply Chain Analytics - Recent Development	11:30 AM to 12:30 PM
Panel: The Future of Graduate Business School Education	2:00 PM to 3:00 PM
Workshop: Pandemics Preparedness: Inventory, Capacity, and Capability	3:15 PM to 4:15 PM
Monday, April 25, 2022	
Event	Time (EST)
Emerging Scholars Program (for Registered Participants)	9:00 AM to 11:15 AM
Meet the POM Editors (Open to all registered attendees)	11:30 AM to 12:30 PM
Meeting of POM Senior and Department Editors (By Invitation)	12:45 PM to 1:45 PM

POMS 2022 PLENARY SESSIONS

Friday, April 22, 2022 - 10:45 – 11:15 am

Anne Robinson, Chief Strategy Officer, Kinaxis

Inspiration, Credibility and Trust - The Key Tenets for a Strong POM Ecosystem

Saturday, April 23, 2022 - 12:45 – 1:45 pm

Ramanan Krishnamoorti, Ph.D., Chief Energy Officer, University of Houston

Energy Transition: The Opportunities and the Challenges

Sunday, April 24, 2022 - 10:15 – 11:15 am

Martin K. Starr, Director of Strategic Planning, POMS

POM's Mastery of Emerging Domains

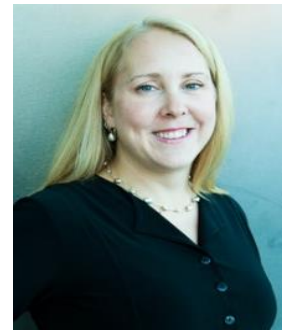
Friday, April 22, 2022 - 10:45 – 11:15 am

Anne Robinson, Chief Strategy Officer, Kinaxis

Inspiration, Credibility and Trust - The Key Tenets for a Strong POM Ecosystem

The domains of POM have experienced an increase in recognized relevance in recent years. Exacerbated by the effects of the pandemic, the demand for our expertise has never been higher. It's natural for us to ask "How can we ensure most recent research is being applied in practice to tackle these opportunities? How can ensure that the most critical industry problems are being considered in academic research and education?"

Drawing on her own academic and career experiences, Robinson will share thoughts on the importance and strength of a healthy academic-industry ecosystem. She will focus on the needs and wants, as well as some best practices, all anchored in inspiration, credibility and trust, to ensure our profession continues to thrive.



About Anne: As Chief Strategy Officer, Anne is responsible for advancing Kinaxis strategic development to add continued value to customers. Her team delivers the strategic roadmap, extensive thought leadership, as well as internal communications and change management. Recognized in analytics and digital transformation, Dr. Robinson has extensive experience managing supply chains for global organizations. At Verizon, she was responsible for the strategic vision of the global supply chains, driving excellence through analytics and process innovation. Previously, Anne managed analytics and business performance teams for Cisco's supply chain. Dr. Robinson is a past president of INFORMS, seasoned industry speaker, and recipient of the 2020 Starr Excellence in Production and Operations Management Practice Award. In 2021, she joined the Creative Destruction Lab as a Supply Chain Mentor. Anne has a BSCh from Acadia University, MASc from the University of Waterloo and MSc and PhD from Stanford University.

Saturday, April 23, 2022 - 12:45 – 1:45 pm

Ramanan Krishnamoorti, Ph.D., Chief Energy Officer, University of Houston

Energy Transition: The Opportunities and the Challenges

The quest for affordable, reliable and sustainable energy drives the energy transition and requires an approach that embraces all possible solutions. Societal pressure and the consequences of climate change on human development have raised the urgency with which these solutions must be deployed. However, the resources to undertake such a systemic modification and redeployment globally are geographically heterogeneous and in many cases isolated from the locations of highest energy demand. In this talk, I will discuss the challenges and opportunities of the energy transition through four distinct pathways -- carbon management, materials circularity, electrification including energy storage, and the re-invention of hydrogen as a fuel. While there are technological and regulatory barriers in each case, the supply chain and integration of the value chain remain the most significant barriers to their rapid growth. A talented and trained workforce that can address some of the key issues in the energy transition remains an important barrier to the acceleration of the energy transition and requires a re-think of the development of the talent pipeline.



About Ramanan: Dr. Ramanan Krishnamoorti is the Chief Energy Officer at the University of Houston (UH). Prior to his current position, Krishnamoorti served as the interim Vice President for Research and Technology transfer for UH and the UH System.

During his tenure at the university, he has served as Chair of the UH Cullen College of Engineering's chemical and biomolecular engineering department, Associate Dean of Research for engineering, Professor of Chemical and Biomolecular Engineering with affiliated appointments as Professor of Petroleum Engineering and Professor of Chemistry. Dr. Krishnamoorti obtained his bachelor's degree in chemical engineering from the Indian Institute of Technology Madras and doctoral degree in chemical engineering from Princeton University in 1994.

Sunday, April 24, 2022 - 10:15 – 11:15 am

Martin K. Starr, Director of Strategic Planning, POMS

POM's Mastery of Emerging Domains

Does POM Mastery exist? History provides a record of considerable achievement. Let us note that the M in POM stands for management that is both *strategic* and *tactical*. POM excels in tactical management (e.g., scheduling, SQC, and inventory management). We are rightly proud of our tactical role model leaders. However, POM failed to excel in dealing with strategic management issues such as offshoring and the advancement of disruptive technology. A watershed moment occurred at the 2001 POMS Conference where the theme was "POM Mastery in the New Millennium." Plenary speaker Dr. Clay Christensen explained how POM must deal with global strategic disruptions. As if in resonance, we have publication of *Blue Ocean Strategy* (Kim and Mauborgne. 2004), *The Black Swan: The Impact of the Highly*



Improbable (Taleb, 2007), and an IPCC Report (2012): *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*. There has been a cascade of unanticipated events: The World Trade Center destruction, 2001; COVID-19 pandemic kills millions; war erupts in Ukraine, 2022; major technological upheavals sweep through traditional markets (such as EV's, social media, space travel). Supply chain disruptions require new management methods for effective strategic systems planning. This includes agility and resilience management. We conclude that POM must become a strategically minded member of the C-suite team. In this way, "all organizations" can gain mastery over challenges posed by emerging domains.

About Martin: Martin K Starr, Past President of POMS (1995) is Senior Professor Emeritus of the Graduate School of Business, Columbia University, NYC, and Distinguished Professor Emeritus of the Crummer Graduate School of Business of Rollins College in Winter Park, FL. An MIT undergraduate and Columbia University Ph. D. in OR, Starr has written many books and articles about various POM topics. His present research foci are on Disaster Management (pandemics included) and shaping POM capabilities to solve evolving problems. Starr was Editor-in-Chief of *Management Science* for 15 years. He is now Departmental Editor (DE) for Special Responsibilities of the POMS Journal. This follows years as DE for the Disaster Management Department. His publication activities reflect Starr's special interest in nurturing research results by means of editorial teamwork. His background as teacher, practitioner, consultant and academic has enabled him to coach students in cross-disciplinary applications of the systems approach.

POMS 2022: EMERGING SCHOLARS PROGRAM

(Participation in this session is by invitation / application only)

Monday, April 25, 2022 – 9:00-11:15 AM

The Program: The Production and Operations Management Society is committed to supporting early-career scholars in Operations Management (OM). To that end, it has commissioned this special session of the conference. The program's goal is to create a platform for early-career OM scholars already in an academic position to meet and hear from more senior OM scholars and seek career-building advice. The online program consists of moderated panel discussions on academic career-building in OM with opportunities for Q&A.

Timetable & Panelists (US Eastern times):

- 9:00 - 9:05 AM – Intro & Welcome — Program Chair: Craig Froehle (University of Cincinnati)
- 9:05 - 9:50 AM – PANEL: Research Strategies — Panelists: Elliot Bendoly (Ohio State University), Mark Ferguson (University of South Carolina), Pengyi Shi (Purdue University)

9:50 - 10:00 AM – Break

- 10:00 - 10:30 AM – PANEL: Navigating Service & Teaching — Panelists: Bob Batt (University of Wisconsin-Madison), Eve Rosenzweig (Emory University), Rohit Verma (Cornell University; VinUniversity)

10:30 - 10:35 AM – Break

- 10:35 - 11:15 AM – PANEL: Career Planning & Open Q&A — Panelists: Tinglong Dai (Johns Hopkins University), Rachna Shah (University of Minnesota-Twin Cities), *others per availability*

Emerging Scholar Participants:

Temidayo Adepoju - Rutgers University	Lan (Vicky) Luo - University of Hartford
Arzum Akkas - Boston University	Vishwakant Malladi - Indian School of Business
Matt Baucum - Florida State University	Mohammad Moshtari - Tampere University
Marcus Bellamy - Boston University	Fernando Naranjo - Niagara University
Philippe Blaettchen - City University of London	Sergey Naumov - Penn State Smeal College of Business
Param Chhabra - University of Alberta	Iman Nosoochi - Dalhousie University
Prashant Chintapalli - Ivey Business School	Irem Sengul Orgut - University of Alabama
Gihan Edirisinghe - Western Kentucky University	Helmer Paz Orozco – Unicomfacauc
Saeede Eftekhari - Tulane University	Jean Pauphilet - London Business School
Trilce Encarnacion - University of Missouri-St. Louis	David Rea - Lehigh University
Emily Zhu Fainman - Texas State University	Hang Ren - George Mason University
Jin Fang - Clark University	Abigail Richard - University of Indianapolis
Henrik Franke - Swiss Federal Institute of Technology Zurich	Arkajyoti Roy - University of Texas at San Antonio
Rowena Gan - Southern Methodist University	Iana Shaheen - University of Arkansas
Jiwen Ge - Dongbei University of Finance and Economics	Graça Miranda Silva - ISEG-Lisbon School of Econ & Mgmt
Mike Gordon - Virginia Tech	Lina Song - University College London School of Management
Eojin Han - Southern Methodist University	Gita Taherkhani - Loyola University Chicago
Rick Hardcopf - Utah State University	Lijia Tan - Eindhoven University of Technology
Masoud Kamalahmadi - University of Miami	Lina Wang - Georgia Southern University
Nil Karacaoglu - Ohio State University	Xinyu Wei - California State University, Chico
Amir Karimi - The University of Texas at San Antonio	Lingli Wu - Central China Normal University
Esmaeil Keyvanshokoo - Texas A&M University	Heng Xie - The University of Texas - Permian Basin
Ilbin Lee - University of Alberta, School of Business	Zhenzhen Yan - Nanyang Technological University
Michelle (Dong) Li - Babson College	Han Zhang - Michigan State University
Stanley Lim - Michigan State University	Renyu (Philip) Zhang - New York University Shanghai
John Lowrey - Northeastern	Zhihao Zhang - University of Missouri - Kansas City

POMS DOCTORAL CONSORTIUM 2022

Agenda of Topics

Saturday, April 23rd 8:30 AM -12:30 pm EST
(Participation is by application/invitation only)

The POMS Doctoral Consortium provides a unique opportunity for current PhD students to learn about the academic profession, job market process and what life is like as a faculty member, and current themes/trends on navigating one's career. There have been several important shocks to the profession over the last decade. These shocks are reshaping the profession. Come hear an esteemed group of mid-career and senior scholars in business and engineering. The consortium also provides an opportunity to network with fellow PhD students who share similar interests.

Time	Topic	Speaker/Panelists
8:30 – 8:45 AM	Pre-Consortium Networking	Please sign in early and join us for light conversation
8:45 -9:00 AM	Welcome Message	Prof. Z Max Shen, Hong Kong University, POMS President
9:00-9:30 AM	Navigating Today's Professional Academic Career	Prof Morvarid Rahmani, Georgia Tech
9:30 -10:00 AM	Understanding the Job Market: Department Chairs' Perspective	Prof. Vijay Kannan, Utah State University Prof Jennifer Ryan, University of Nebraska-Lincoln
10:00-10:30 AM	The Job Market Experience: New Hire Perspectives	Prof Nadia Fatehi, UT-Dallas Prof Sharan Srinivas, Univ Missouri
10:30 – 10:45 AM	Break and Network	
10:45-11:30 AM	Current Research Perspectives and Strategies	Prof Elliot Bendoly, Ohio State University Prof Tobias Schoenherr, CSCP; Michigan State Univ
11:30-12:00 PM	Teaching Perspectives: Beyond Sage on the Stage	Prof Owen Wu, Indiana University-Bloomington Prof Elliot Bendoly, Ohio State University
12:00 – 12:20 PM	Industry-University Partnerships	Prof Nagesh Murthy, Univ. Oregon
12:20 - 12:30 PM	Wrap-Up and Reflections	Prof Nagesh Murthy, Univ. Oregon POMS President-Elect Prof. Funda Sahin, Univ. Houston, POMS Conference Chair

SYNAPSE:

Applied Healthcare Operations Management & Research Conference

Friday, April 15, 2022
11:00am – 2:00pm EDT

Production & Operations Management
Society Conference
Organized By
College of Healthcare Operations
Management (CHOM)

www.poms.org



CONFERENCE OBJECTIVES

This mini-conference connects healthcare researchers and practitioners to actively discuss **how operations are adapting to the new environment – what are we learning from the pandemic**. This helps all of us develop innovative, practical and sustainable solutions that improve the operations of healthcare organizations. This conference provides a venue for discussion between those working and researching healthcare delivery issues to share what works, what doesn't and why, and which areas need greater attention. The conference is meant to complement the POMS annual meeting (April 21 – 25, 2022) as it gives participants a chance to learn from both practitioners and researchers, and allows time for brainstorming new approaches and research ideas for improving the effectiveness of healthcare delivery systems.

SCHEDULE OF ACTIVITIES

CHOM Mini-Conference Schedule 2022			
Start	End	Duration	Activity
11:00 AM	11:05 AM	0:05	Welcome
11:05 AM	11:50 AM	0:45	Keynote: Ed Hisscock. Senior Vice President of Supply Chain at Trinity Health
11:50 AM	12:00 PM	0:10	Break
12:00 PM	1:15 PM	1:15	Panel: Adapting operations to the new environment – what are we learning from the pandemic?
1:15 PM	1:45 PM	0:30	Research In Practice Showcase Presentations
1:45 PM	1:55 PM	0:10	CHOM Best Paper Competition Summary
1:55 PM	2:00 PM	0:05	Closing

Virtual Conference!

Registration for the Healthcare College Synapse conference requires registration to the main POMS Conference. Please register at: <https://pomsmembers.org/members/Default.aspx?ev=111&cnf=y> **THANK YOU FOR ATTENDING!**

11:05 am - KEYNOTE PRESENTATION



Ed Hisscock is Senior Vice President of Supply Chain at Trinity Health, a leading catholic healthcare ministry. Nationally recognized for care and experience, the Trinity Health system includes 88 hospitals, 131 continuing care locations, the second largest PACE program in the country, 125 urgent care locations and many other health and well-being services. Ed is a lifelong Healthcare Supply Chain Practitioner having spent over 30 years serving in the supply chain and IT disciplines with fortune 50 companies, healthcare supplier and healthcare provider organizations. He has founded two healthcare companies and personally served over 100 healthcare provider organizations in the US and Europe.

College of Healthcare Operations (of POMS) – Conference Organizers

David Dobrzykowski, Ph.D. (President) – DDobrzykowski@walton.uark.edu, Vikram Tiwari, Ph.D. (VP of Awards) – vikram.tiwari@vanderbilt.edu,
Pengyi Shi, Ph.D. (Secretary) – shi178@purdue.edu, Nan Liu, Ph.D. (VP of Meetings) – nan.liu@bc.edu, E. David Zepeda, Ph.D. (VP of Outreach) – dzepeda@bu.edu



SYNAPSE:

Applied Healthcare Operations Management & Research Conference

Friday, April 15, 2022
11:00am – 2:00pm EDT

Production & Operations Management
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12:00 pm - PANEL: Adapting Operations to the New Environment



Margaret Flinter, PhD, APRN is the Senior Vice President and Clinical Director of the Community Health Center, Inc. (CHCI). CHCI is a leading independent, non-profit healthcare provider in the state of Connecticut, providing comprehensive primary care services in medicine, dentistry, and behavioral health to more than 145,000 people. A family nurse practitioner since 1980, Dr. Flinter has held progressive roles in the organization as both clinician and executive leader as it transformed from a storefront clinic to one of the country's largest FQHCs.



Rodney VanDerwarker, MPH is Vice President, Primary Care at Atrius Health. Atrius delivers an effective system of care for adult and pediatric patients at dozens of practice locations in Eastern Massachusetts. Rodney joined Atrius Health in 2019 as Executive Director, Internal Medicine and Family Medicine and was recently promoted into his new role which includes oversight for clinical and administrative operations of Internal Medicine, Family Medicine, Pediatrics, OB/GYN as well as several other related programs and ambulatory services. Prior to Atrius Health, Rodney spent 21 years in leadership roles in clinical, research, education and social service departments.



Marcus Osborne, MBA previously served as Senior Vice President of Health Transformation at Walmart where he was focused on furthering Walmart's goal of improving the healthcare industry in the U.S. by increasing access and affordability in the system for consumers, helping to launch Walmart Health and other key health initiatives. Prior to joining Walmart in 2007, he served as the Chief Financial Officer of the Clinton Foundation Health Access Initiative and as a Senior Management Consultant for Alliance Consulting Group in Boston. He earned his MBA at the Harvard Business School, graduating with honors.

1:15 pm – RESEARCH IN PRACTICE SHOWCASE PRESENTATIONS

Developing Analytics-Based Technology for Smart Scheduling: A Venture with TeamBuilder

Nan Liu, David Howard, Michael Paraskakis and Evan Tsun

Data-Driven Surgical Tray Optimization to Improve Operating Room Efficiency

Vinayak Deshpande, Nishanth Mundru, Sandeep Rath, Martyn Knowles, David Rowe and Benjamin C. Wood

Can Instant Message App Perform Well? The Impact of a WeChat-Based Telemedicine & Online Health Community on User Satisfaction

Chengzhao Tu and Quinton Nottingham

1:45 pm – BEST PAPER COMPETITION ANNOUNCEMENT AND CLOSING REMARKS

College of Healthcare Operations (of POMS) – Conference Organizers

David Dobrzykowski, Ph.D. (President) – DDobrzykowski@walton.uark.edu, Vikram Tiwari, Ph.D. (VP of Awards) – vikram.tiwari@vanderbilt.edu, Pengyi Shi, Ph.D. (Secretary) – shi178@purdue.edu, Nan Liu, Ph.D. (VP of Meetings) – nan.liu@bc.edu, E. David Zepeda, Ph.D. (VP of Outreach) – dzepeda@bu.edu



BOSTON COLLEGE
CARROLL SCHOOL OF MANAGEMENT

Boston University School of Public Health



VANDERBILT UNIVERSITY
OWEN GRADUATE SCHOOL OF MANAGEMENT
VANDERBILT UNIVERSITY
MEDICAL CENTER

SAVE THE DATE!**2022 HOCM ONLINE Mini-Conference: Thursday, April 21, 2022**

POMS College of Humanitarian Operations and Crisis Management (HOCM College)

The HOCM College will be hosting (virtually) our eighth mini-conference on Thursday, April 21, one day before the main conference. Join us to explore new topics relevant to humanitarian operations and crisis management and learn from practitioners and academics. This is an excellent opportunity to exchange ideas with experts and colleagues that will inform and inspire your research!

The mini-conference will be held *virtually* on April 21, from 10:00 a.m. to 4:45 pm. (EDT – New York Time Zone).

This year's mini-conference will feature the following sessions:

- **Challenges faced by Florida Emergency Managers** with panelists from:
 - *Sumter County, Seminole County, and City of Orlando Emergency Management*
- **Role of the Private Sector in Emergency Response** with panelists from:
 - *Walt Disney, Walmart, and The Home Depot*
- **Establishing Programs with Refugees and Migrants** with panelists from:
 - *Syrian Community Network, Refugee Education & Adventure Challenge (REACH), and InterAction*
- **The Cross-Sector Disaster Game** run by Kathy Fulton from American Logistics Aid Network (ALAN)

You can register for the POMS mini-conference as part of the registration for the POMS conference, so be sure to look out for the registration option!

More details will be posted on the college website. If you have any questions, please email Johanna Amaya HOCM VP meetings (Junior) at amayaj@psu.edu, Andres Jola-Sanchez, HOCM VP meetings at ajola-sanchez@mays.tamu.edu, or Erica Gralla, HOCM President at egralla@email.gwu.edu.

We are looking forward to seeing you there!

Sincerely,

The College of Humanitarian Operations and Crisis Management

http://www.poms.org/colleges/college_of_humanitarian_operat/

The HOCM College is a set of members from the POMS community with an objective to connect the communities of academics and practitioners with a common goal of achieving effective and efficient humanitarian operations and management of crises. The College organizes research tracks, mini-conferences, panel discussions, best paper awards, and workshops at the POMS conferences.

POMS College of Operational Excellence Mini Conference 2022

Thursday April 21, 9:00 AM-12:30 PM EST, POMS 2022 Conference, Online

<https://pomsmeetings.org/conf-2022/>

AI in Managing Work and People towards Operational Excellence

Please join us for the POMS Operational Excellence College Mini-Conference on the morning of Thursday, April 21, 2022. We will interact with leaders from industry and academia. All times are Eastern Standard Time.

Start	End	Duration	Activity
9:00	9:10	0:10	Welcome
9:10	10:10	1:00	Keynote: Matthias Holweg (Saïd Business School, University of Oxford) will discuss how AI and other technologies will impact how work is done.
10:10	10:30	0:20	Break: OPEX Trivia (with prizes)
10:30	11:50	1:20	Best paper award finalist presentation: <i>Tele-Follow-Up and Outpatient Care</i> (Gu, W., Li, M., & Sun, S.) <i>A Data-driven Approach to Enhance Worker Productivity by Optimizing Facility Layout</i> (Khalilabadi, S.M.G., Roy, D., & de Koster, R.) <i>Give me a Choice! A Field Experiment on the Performance Effects of Smartwatch-based Task Assignment</i> (Kwasnitschka, D., Franke, H. & Netland, T.)
11:50	12:20	0:30	OPEX Trivia (with prizes)
12:20	12:30	0:10	Concluding Remarks

Organized by the POMS College of Operational Excellence.

Morgan Swink, Rachna Shah, Vidya Gargeya, Gopesh Anand, and Tor Netland
 2022 College officers

Thanks to our sponsors:



POMS 2022

POMS COLLEGES' PAPER COMPETITIONS

In all Production & Operations Management Society (POMS) annual conferences, colleges generally organize best paper competitions at different levels, e.g., Ph.D. Student Best Paper competition, Junior Faculty Best Paper competitions. These Best Paper competitions motivate our POM community to enhance the research quality and also introduce new scholars and ideas to the world. This year, we are pleased to present the following best paper competitions in multiple areas:

- College of Behavioral OM Junior Scholar Paper Competition
 - Friday, April 22, 03:15 – 5:30pm
- College of Healthcare Best Paper Competition
 - Friday, April 22, 03:15 – 5:30pm
- College of Humanitarian Operations & Crisis Management Best Paper Competition
 - Friday, April 22, 03:15 – 5:30pm
- College of Operational Excellence Best Paper Competition
 - Thursday, April 21, 9:00am – 12:30pm (During Operational Excellence Mini-Conference)
- College of Supply Chain Management Best Student Paper Competition
 - Saturday, April 23, 09:00 - 11:15am

Conference Tracks

All Plenaries and Special Events: Open to Everyone (MEET)

Funda Sahin, University of Houston [fsahin@bauer.uh.edu]

Hossein Rikhtehgar Berenji, Pacific University [hossein@pacificu.edu]

All Special Events & Programs: By Invitation (MT-INV)

Funda Sahin, University of Houston [fsahin@bauer.uh.edu]

Hossein Rikhtehgar Berenji, Pacific University [hossein@pacificu.edu]

All Tutorials, Invited Panels, and Workshops (PTUT)

George Shanthikumar, Purdue University [shanthikumar@purdue.edu]

Funda Sahin, University of Houston [fsahin@bauer.uh.edu]

Aviation (AVI)

Sushil Gupta, Florida International University [poms@fiu.edu]

Paulo Gomes, Florida International University [pgomes@fiu.edu]

We invite quality submissions that contribute to the advancement of system design, operation, and improvement in the aviation industry. Topics include, but are not limited to, aviation sustainability, aviation safety and quality (including cybersecurity), technological developments and innovation (robotics and AI, drones, additive manufacturing, blockchain), impact of the pandemic (congestion at the airports, flights scheduling, impact on supply chain logistics), and other operational Issues (such as lean practices, route scheduling, logistics). We are open to analytical, simulation, empirical and qualitative research methods.

Behavioral Operations Management (BOM)

Anto Verghese, University of Wisconsin-Whitewater [verghesa@uww.edu]

Kyle Hyndman, University of Texas Dallas [tdp062000@utdallas.edu]

We invite submissions focusing on the analysis of human behavior with relevance to operations management. Examples include behavioral drivers of operational performance, decision making, social preferences and team dynamics & collaboration. Research submitted to this track should have a clear operations context. All research methodologies are welcome.

Crisis/Disaster Management and Covid-19 Pandemic (PAND)

Jon Stauffer, Mays Business School, Texas A&M University [JSTAUFFER@MAYS.TAMU.EDU]

Ujjal Mukherjee, University of Illinois Urbana-Champaign [ukm@illinois.edu]

We invite submissions focusing on Covid-19, other past pandemics and/or disaster/crisis management. The topics include, but are not limited to, warning signals, disease spread, capacity planning, resource management, vaccine development, supply chain issues, public policy issues, disaster management (preparedness, response, relief, recovery and mitigation); emergency and crisis management; vulnerability mapping; coordination and collaboration among others. All research methodologies are welcome.

Conference Tracks

Disruptive Technologies and Operations Management (DTOM)

Dengpan Liu, Tsinghua University [liudp@sem.tsinghua.edu.cn]

Guangzhi Shang, Florida State University [gshang@business.fsu.edu]

We invite submissions focusing on a broad conceptualization of technological advancements that can cause significant shifts or disruptions. These shifts or disruptions can create new or transformed business processes, product innovation, as well as new business models. Research submitted to this track should address advancements, where operations management research is at the center of the impact or disruption. All methodologies are welcome.

Economic Models in Operations Management (ECOM)

Muge Yayla-Kullu, University of Central Florida [muge@ucf.edu]

Eda Kemahlioglu-Ziya, North Carolina State [ekemahl@ncsu.edu]

We invite submissions that solve operations management problems with economic modeling tools. Topics include (but are not limited to) industrial organization theory as related to strategic interactions between firms which may be influenced by government regulations and/or have policy implications; game theory applications involving cooperative or non-cooperative behavior; contract design problems to provide incentives or to induce revelation of private information using adverse selection, moral hazard, or signaling techniques; procurement auctions; pricing; and consumer behavior. We welcome a wide variety of research methods including applied economic theory. Papers utilizing econometrics and empirical analysis are also encouraged.

Elections and Political Management (EM)

Rakesh Mallipeddi, Tulane University [rmallipeddi@tulane.edu]

Subodha Kumar, Temple University [subodha@temple.edu]

Sushil Gupta, Florida International University [guptask@fiu.edu]

We invite submissions that explore election and political management from POM perspective. Topics include, but are not limited to, impact of social media on elections and political campaigns, social media strategy of politicians and political parties, impact of social media on political decision making, voter fraud detection, OR and game theory models for political strategy, resource allocation and scheduling for political campaigns, wait time reduction, and country or regional-themed research. All research methodologies are welcome.

Emerging Topics in Operations Management (ETOM)

Christopher Zobel, Virginia Tech [czobel@vt.edu]

We invite submissions that apply operations management principles to emerging themes. The submissions should highlight how OM principles and techniques have enhanced practice in new areas and industries. All research methodologies are welcome.

Conference Tracks

Finance and Operations Management (FOM)

Fehmi Tanrisever, Faculty of Business Administration [tanrisever@bilkent.edu.tr]

Jing Wu, The Chinese University of Hong Kong [jingwu@cuhk.edu.hk]

We invite submissions that focus on the interface of operations and finance. Topics may include, but are not limited to, supply chain finance, trade credit, inventory finance, foreign exchange risk, supplier default management, commodity operations management, price risk, effect of operational performance on financial performance, risk aversion, operational flexibility and operational hedging, financial hedging, asset based financing, etc. We invite presentations of research papers and case studies, tutorials, as well as panel discussions.

Global Supply Chain Management (GSCM)

Yingchao Lan, University of Nebraska Lincoln [yingchao.lan@unl.edu]

Amit Eynan, University of Richmond [aeynan@richmond.edu]

Fabrizio Salvador, IE BUSINESS SCHOOL [fabrizio.salvador@ie.edu]

In a world that is diverse in management practice, culture, communication, ethics, and beyond, global supply chains present practitioners and researchers with new challenges as well as new opportunities. This becomes even more prominent with the COVID10 pandemic, emergence of new business models. Effective management of global supply chains requires extensive knowledge and skillful collaboration. We invite submissions that advance knowledge of managing supply chains focusing on issues that present themselves in global settings. All research methodologies are welcome.

Healthcare Analytics (HCA)

ravi aron, [raron@Central.UH.EDU]

Seokjun Youn, University of Arizona [syoun@email.arizona.edu]

We invite submissions that study healthcare problems motivated by data within various clinical and operations settings. Topics include, but not limited to, resource allocation, incentives and payment models, diagnosis, treatment optimization, outcome prediction, and population health. Data may include electronic health records, diagnostic tests, labs, imaging exams, treatments, outcomes, genomics and proteomics data, claims and financial records, clinical guidelines and best practices. Analytical advances and actual implementations are both welcome.

Healthcare Operations Management (HOM)

Feng (Susan) Lu, Purdue University [lu428@purdue.edu]

Claire Senot, Tulane University [csenot@tulane.edu]

We invite submissions that focus on the advancement of healthcare delivery system design, operation, and improvement with the purpose of enhancing clinical and patient-relevant outcomes, increase patient satisfaction, and lower cost. All research methodologies are welcome.

Conference Tracks

Information Systems and Operations Management (ISOM)

Subodha Kumar, Temple University [subodha@temple.edu]

Samayita Guha, Temple University [samayita.guha@temple.edu]

Shubham Gupta, Temple University [tuj74944@temple.edu]

Emre Demirezen, University of Florida [emre.demirezen@warrington.ufl.edu]

We invite submissions that focus on the various ways in which information flows impact operational functions in a firm or across firms. Information Systems can be used to coordinate activities within the firm as well as across firms in the supply chain. This track is appropriate for research at the intersection of Information Systems and Operations Management including a broader spectrum of topics.

Inventory Management (INVM)

Avinash Geda, University of North Carolina Wilmington [gedaa@uncw.edu]

Tharanga Rajapakshe, University of Florida [tharanga.rajapakshe@warrington.ufl.edu]

We invite submissions focusing on inventory and capacity related topics in manufacturing, service, and retail operations. The topics include, but are not limited to, research at the interface of inventory and marketing, finance, and other disciplines. All research methodologies are welcome.

Logistics Management (LOG)

Sandun Perera, University of Nevada, Reno [sperera@unr.edu]

Yunxia Zhu, University of Nebraska Lincoln [yunxia.zhu@unl.edu]

Li-Lian Gao, Hofstra University [Li-lian.Gao@Hofstra.edu]

We invite submissions focusing on transportation, warehousing, distribution and topics that deal with logistics providers, shipper-carrier exchanges and any others that fit under the logistics domain. All methodologies are welcome.

Manufacturing Operations (MANU)

Neil Geismar, Texas A&M University College Station [ngeismar@mays.tamu.edu]

We welcome submissions that deal with topics closely related to manufacturing. Topics include, but are not limited to, capacity planning, scheduling, lean operations, manufacturing and operational flexibility, agile manufacturing, facility layout, service-oriented manufacturing, automation in manufacturing systems, quality management, etc. All methodologies are welcome.

Conference Tracks

Marketing and Operations Management (MOM)

Dennis Yu, The Reh School of Business [dyu@clarkson.edu]

Tony Haitao Cui, University of Minnesota [tcui@umn.edu]

We invite submissions that investigate interesting research questions at the interface of operations management and marketing. While operations management typically deals with supplying goods and services efficiently, marketing mostly focuses on how to generate and sustain demand for goods and services. Research at this interface should address the synergy between operations and marketing and consider both the demand and supply sides by appropriately incorporating consumer preferences to demand models. All research methodologies are welcome.

Not-for-Profit Operations Management (NPOM)

Priyank Arora, University of Massachusetts Amherst [parora@isenberg.umass.edu]

Gemma Berenguer, Universidad Carlos III de Madrid [gemma.berenguer@uc3m.es]

Not-for-profit operations management refers to managing the process of product or service delivery that does focus on profitability but rather on welfare, social, environmental goals and/or cultural values. We welcome submissions focusing on innovative models and applications that address unique challenges in the not-for-profit operations. Topics include, but are not limited to, fundraising and budget planning, revenue and pricing management, resource management, distribution of products and services, project management, and operational performance evaluations.

Operational Excellence (OEX)

Matthias Thurer, Jinan University [matthiasthurer@workloadcontrol.com]

Torbjørn Netland, Eth Zurich [tnetland@ethz.ch]

Gopesh Anand, University of Illinois Urbana-Champaign [gopesh@illinois.edu]

Achieving and sustaining operational excellence continues to be a topic of great interest to practice and academia. We invite submissions that focus on tactics and strategies for operational excellence – spanning from implementation of new technologies and new work processes for improving operations to cultivating learning organizations for sustaining improvement initiatives. All methodologies are welcome.

POM in Food and Agriculture (PFA)

Hossein Rikhtehgar Berenji, Pacific University [hossein@pacificu.edu]

Nagesh Murthy, University of Oregon [nmurthy@uoregon.edu]

This track features research on food and agriculture systems broadly defined. We invite submissions that use analytical and empirical methods to (i) provide a better understanding of the business environment and challenges in this domain, (ii) prescribe solutions to problems faced by industry, and (iii) project the environment and challenges of tomorrow.

Conference Tracks

POM in Practice (PPR)

Doug Thomas, University of Virginia [thomasd@arden.virginia.edu]

Trilce Encarnacion, University of Missouri St Louis [tencarnacion@umsl.edu]

We invite submissions that focus on research problems arising from different types of operational issues in practice across a variety of industries. All methodologies are welcome.

Procurement and Supplier Management (PSM)

Mikaella Polyviou, Arizona State University [mikaella.polyviou@asu.edu]

Xingzhi Jia, Renmin University of China [jiaxingzhi@rmbs.ruc.edu.cn]

Stephan Wagner, ETH Zurich [stwagner@ethz.ch]

Purchasing and supplier management is crucial for the effective and efficient operation of manufacturing and service firms. This track is designed to facilitate presentations that advance knowledge and theory of practices evolving in the field of procurement and supplier management. Topics of interest in this track include, but are not limited to outsourcing, global sourcing, risk and disruption in the upstream supply chain, supply networks, service purchasing, relationship management and buyer-supplier relationships, supplier innovation, supplier development, contracting, behavioral issues, technological advances for purchasing (e.g. artificial intelligence), as well as issues related to sustainability and green supply management. Furthermore, this track welcomes papers based on all types methodologies.

Product Innovation and Technology Management (PITM)

Anand Paul, University of Florida [anand.paul@warrington.ufl.edu]

Janne Kettunen, George Washington University [jkettune@gwu.edu]

Moren Levesque, York University [mlevesque@schulich.yorku.ca]

We welcome submissions that focus on organizational value creation and value capture through new products or services, new business models, new processes, learning, and technological developments. Topics include, but are not limited to, product development, innovation process, service design, learning curves, organizational learning, technology strategy, identification and commercialization of new technologies, and the management of the R&D process. All research methodologies are welcome.

Public Sector Operations Management (PSOM)

Karthik V. Natarajan, University of Minnesota [knataraj@umn.edu]

We invite submissions that focus on research related to public sector organizations, including those in collaboration with private and non-profit organizations. Topics include, but are not limited to, problems related to government operations, humanitarian logistics, transportation, health care, defense, academic institutions, criminal justice, and energy supply chains.

Conference Tracks

Retail Operations (RO)

Michael Galbreth, University of Tennessee Knoxville [galbreth@utk.edu]

M. Serkan Akturk, Clemson University [MAKTURK@clemson.edu]

Michael Ketzenberg, Texas A&M University College Station [mketzenberg@tamu.edu]

We invite submissions that focus on problems related to retailer and end consumer portion of supply chain management. Some of the topics include, but are not limited to, omni-channel retailing, e-commerce, product returns and assortment planning. All methodologies are welcome.

Revenue Management and Pricing (RMP)

Metin Cakanyildirim, University of Texas Dallas [metin@utdallas.edu]

Xi Shan, Bemidji State University [xi.shan@bemidjistate.edu]

Revenue Management and Pricing is broadly concerned with how to control price and availability to better match limited supply for a perishable product with its demand. We invite submissions that look at new applications of revenue management and pricing in traditional (airlines, hospitality etc.) as well as emerging domains (web advertising, sharing economy etc.). All methodologies are welcome.

Service Operations (SOP)

Joy Field, Boston College [joy.field@bc.edu]

Liana Victorino, University of Victoria [lianav@uvic.ca]

We invite submissions from scholars and practitioners interested in all aspects of research, teaching, and practice in Service Operations Management. Subjects may include, but are not limited to: service measurement, service productivity, service supply chains, product-service systems, service science, service design, service quality, service recovery, lean service, IT-enabled services, e-service, management of service technology, service innovation, service analytics, service organizational design and structures, service value, performance management systems in services, coordinating service strategy and operations, service outsourcing implications, behavioral service operations, global service operations, non-profit services operations, public services operations, interdisciplinary service studies, service practice, and teaching service operations. We welcome all research methodologies, including theoretical, empirical, case studies and field studies, presentations from practitioners, and papers on teaching service operations. Tutorials and panel sessions are also encouraged.

Social Media and Internet of Things (SMA)

Liangfei Qiu, University of Florida [liangfei.qiu@warrington.ufl.edu]

Yinliang (Ricky) Tan, University of Houston [yrtan@bauer.uh.edu]

Social media and Internet of Things (IoT) are two major driving forces for the increasingly digitized business environment. Social media enables businesses to be more deeply connected with customers, and allowing them to have greater access and involvement with the company's operations via online tracking and feedback. IoT digitizes the business processes by embedding internet-enabled sensors in various devices such as industrial machines, fitness trackers, household appliances, and transmitting these micro-level data to cloud services that are accessible by businesses in real time. Both social media and IoT generate vast volumes of digital data which can be used to enhance various aspects of business operations. We invite submissions on social media and IoT, which demonstrate how these can transform business through the use of micro-level data in streamlining business processes and shaping consumer behavior.

Conference Tracks

Sports Operations Management (SPM)

Iain Reid, Manchester Metropolitan University [iain.reid@mmu.ac.uk]

David Bamford, Manchester Metropolitan University [d.bamford@mmu.ac.uk]

We invite submissions on topics that include, but are not limited to, on-field performance, off-field performance, facility utilization, events management, player analytics, crowd science, fan experience, service quality, policy, sports betting, team dynamics & collaboration, e-sports, and marketing/sponsorship. Research submitted to this track should have a clear sports operations context. All methodologies are welcome

Supply Chain Management (SCM)

Hongseok Jang, Tulane University [hjang@tulane.edu]

Quan Zheng, University of Science and Technology of China [benzheng@ustc.edu.cn]

Xiajun Pan, University of Florida [amy.pan@warrington.ufl.edu]

We invite submissions that examine various aspects of supply chain management, including, but are not limited to, managerial issues, sourcing strategies, manufacturing practices, information channels, financial exchanges, and intra- or inter-firm integration. All methodologies are welcome.

Supply Chain Risk Management (SCR)

Kaitlin Wowak, University of Notre Dame [katie.wowak@nd.edu]

Davood Golmohammadi, University of Massachusetts Boston

[davood.golmohammadi@umb.edu]

We invite submissions on the general theme of risk management in supply chains with topics including, but not limited to, disruption, quality, reputation, yield risks, and strategies or tactics to manage these risks. In particular, we encourage submissions with interdisciplinary content such as finance and risk management interface in supply chains. All methodologies are welcome.

Sustainable Operations (SOPS)

Gokce Esenduran, Purdue University [gesendur@purdue.edu]

Gilvan Souza, Indiana University Bloomington [gsouza@indiana.edu]

We invite submissions that focus on the triple bottom line as it relates to operations/supply chain decisions. Topics include, but are not limited to, environmental considerations in managing operations and supply chains; the circular economy (refurbishment, reuse, remanufacturing, recycling); closed loop supply chains; energy and water supply chains; climate change; life-cycle assessment and its implications for product, process, and supply chain design; environmental legislation; environmental justice; and, economic and market value of sustainable operations, among others. All methodologies are welcome.

Teaching/Pedagogy in POM (TPOM)

Vidyaranya Gargeya, The University Of North Carolina At Greensboro [vbgargey@uncg.edu]

We invite submissions related to all facets of teaching Production & Operations Management (POM) topics to students at any level (undergraduate, graduate, and/or doctoral). Of particular interest are presentations that discuss methods and strategies for teaching online or in a flipped/hybrid classroom environment. Other possible topics include incorporating POM technology into the classroom, experiential classroom activities to teach POM concepts, managing student projects with external clients, and strategies for teaching emerging topics.

INSTRUCTIONS

to find INFORMATION about

the session you have a

PRESENTATION

or are the

SESSION CHAIR

1. Go to the Author Index and the Session Chair Index (please check both to ensure none are missed).
2. Find your name.
3. Note the Session Number(s), Date and Time.
4. Go to the Date and Time in the Presentation Schedule*. The Presentation Schedule is arranged in chronological order.
5. When you find the Date and Time, go to your Session Number. The session numbers are arranged in ascending order.
6. When you find the session number, look up your name and the session information.

*If you are looking for a Panel, Workshop or Tutorial, go to Panels, Workshops and Tutorials Schedule.

OR

Please click on the following link for online schedule:

[Conference Schedule](#)

Friday, 09:00 AM - 10:00 AM

3	Friday, 09:00 AM - 10:00 AM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Workshop: Emerging research in telemedicine	
	Chair(s): Zhaofang Mao Hui Zhao	

111-1826 Workshop: Emerging research in telemedicine

Hui Zhao, Associate Professor, Penn State University University Park, United States

Hessam Bavafa, Associate Professor, University of Wisconsin-Madison, United States

Feng (Susan) Lu, Associate Professor, Purdue University, United States

Telemedicine has become increasingly popular, especially with the push from the pandemic. In this workshop, speakers will share emerging research in telemedicine from many perspectives, including e-visits, government-provider partnership, and policy makers' view. Applications include primary care, emergency care, and specialized services, with methodologies ranging from empirical to analytical.

5	Friday, 09:00 AM - 10:00 AM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Meet the Editors (BOM)	
	Chair(s): Mirko Kremer	

111-1847 Meet the Editors (BOM)

Mirko Kremer, Professor, Frankfurt School of Finance & Management, Germany

Meet with the department editors and discuss tips to succeed, pitfalls to avoid, and methodologies to consider while attempting high-quality behavioral operations work. Also, learn the department's expectations and future direction.

6	Friday, 09:00 AM - 10:00 AM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Invited Session: Workshop on Behavioral Operations Management	
	Chair(s): Brent Moritz	

111-1844 Workshop on Behavioral Operations Management

Brent Moritz, Associate Professor, Penn State University University Park, United States

This workshop will discuss research in behavioral operations management (BOM) and the state of the field. As behavioral economics is to traditional economics, BOM is a cross-disciplinary approach that moves from normative theories of decision making to descriptive theories of decision making. We will discuss topics, questions and methods well-suited to BOM, and how these fit with other domains. We will offer guidance for conducting experimental and non-experimental research. The session is particularly well-suited for researchers newer to the area or those are interested in conducting BOM research.

Friday, 11:30 AM - 12:30 PM

87	Friday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Tutorial: Asymptotic Optimality of Base-Stock Policies for Perishable Inventory Systems	
	Chair(s): George Shanthikumar Xiting Gong	

111-1817 Asymptotic Optimality of Base-Stock Policies for Perishable Inventory Systems

Xiting Gong, Associate Professor, The Chinese University of Hong Kong, China

We consider periodic-review perishable inventory systems with a fixed product lifetime under long-run average cost criterion. We construct simple base-stock policies and establish a variety of asymptotic-optimality results for these policies over four parameter regimes including large product lifetime, large demand population sizes, large unit penalty costs, large unit costs.

104	Friday, 11:30 AM - 12:30 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Digital Infrastructure Investments-Private, Public & Joint View	
	Chair(s): Nitin Joglekar	

111-1851 Digital Infrastructure Investments-Private, Public & Joint View

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Edward Anderson, Professor, University of Texas Austin, United States

Kyungmin Lee, Post Doc/Researcher, American University, United States

Geoffrey Parker, Professor, Dartmouth College, United States

Jagjit Srail, Professor, University of Cambridge, United Kingdom

Ettore Settanni, Post Doc/Researcher, University of Cambridge, United Kingdom

The panel will look at the emergent trends in digital infrastructure growth in public (think of Biden's trillion dollars) and private sectors, especially from an OM perspective. Panelists: 1) Nitin Joglekar, Boston University, 2) Edward Anderson, University of Texas at Austin, 3) Kyungmin Lee, American University, 4) Geoffrey Parker, Dartmouth College, 5) Jagjit Singh Srail, Cambridge University, 6) Ettore Settanni, Cambridge University.

Friday, 12:45 PM - 01:45 PM

129	Friday, 12:45 PM - 01:45 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Using Digital Platforms and Adaptive Reading and Practice to teach Operations Management	
	Chair(s): Rakesh Mallipeddi	

111-1874 Using Digital Platforms and Adaptive Reading and Practice to teach Operations Management

Tracie Lee, Lecturer, Boise State University, United States

Please join Tracie Lee, Boise State University, as she demonstrates digital platforms and adaptive reading and practice to teach Operations Management and Supply Chain. She is passionate about interactive learning, and actively engages students in the learning process. Learn tips and tricks for greater student success in your classroom.

165	Friday, 12:45 PM - 01:45 PM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Invited Session: How to Build Your Co-Author Network	
	Chair(s): Krista Foster	

111-1433 Creating a Co-author Network in Operations and Supply Chain Management

Krista Foster, Assistant Professor, University of Notre Dame, United States

Aleda Roth, Professor, Clemson University, United States

Xenophon Koufteros, Professor, Texas A&M University College Station, United States

Feng (Susan) Lu, Associate Professor, Purdue University, United States

Kaitlin Wowak, Associate Professor, University of Notre Dame, United States

Alfonso Pedraza, Professor, Indiana University, United States

Tim Kraft, Assistant Professor, 2801 Founders Dr, United States

In this session, I share my experiences with how to build a co-author network, from how to start a conversation and choose co-authors, to nurturing and managing relationships and how to get to publication. I also discuss opportunities for continuous learning and relationship pitfalls.

Friday, 03:15 PM - 04:15 PM

213	Friday, 03:15 PM - 04:15 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Panel: Operations Management in the ESG (Environmental, Social, and Governance) Era	
	Chair(s): Christopher Tang	

- 111-1821 Panel: Operations Management in the ESG (Environmental, Social, and Governance) Era
- Christopher Tang, Professor, University of California Los Angeles, United States
- Charles Corbett, Professor, UCLA Anderson School of Management, United States
- Tinglong Dai, Professor, Johns Hopkins University, United States
- Hau Lee, Professor, Stanford University, United States

As ESG (environmental, social, and governance) movement is gaining momentum, it is a new opportunity for OM researchers to explore innovative research agendas. Our panelists will share their observations and their insights about different research agendas that Operations Management researchers can explore.

Saturday, 09:00 AM - 10:00 AM

337	Saturday, 09:00 AM - 10:00 AM, 1- Meetings & Programs - All are Welcome	Track: All Plenaries and Special Events: Open to Everyone
	Invited Session: POMS International Conference Organizers' Recognition	
	Chair(s): Nagesh Murthy	

- 111-1861 POMS International Conference Organizers' Recognition
- Nagesh Murthy, Professor, University of Oregon, United States

POMS International Conference Organizers' Recognition

338	Saturday, 09:00 AM - 10:00 AM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Doctoral Consortium-1	
	Chair(s): Anthony Ross	

- 111-1855 Doctoral Consortium - 1
- Anthony Ross, Professor, University of Missouri Columbia, United States
- Max Shen, Professor, University of California Berkeley, United States
- Vijay Kannan, Professor, Utah State Univ, United States
- Jennifer Ryan, Professor, University of Nebraska Lincoln, United States

This session is by invitation only, for those doctoral students who have been registered. The purpose of the POMS Doctoral Consortium is to help doctoral students maximize their chances of having a successful academic career in our globally competitive environment.

341	Saturday, 09:00 AM - 10:00 AM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Research Opportunities for Nudging Behavior within the Retail Sector	
	Chair(s): Karen Donohue Yuanyuan Ding	

- 111-1845 Research Opportunities for Nudging Behavior within the Retail Sector
- Karen Donohue, Professor, University of Minnesota, United States
- Yuanyuan Ding, Student, University of Minnesota, United States
- Wedad Elmaghraby, Professor, Robert H. Smith School of Business, United States
- Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States
- Tim Kraft, Associate Professor, 2801 Founders Dr, United States
- Anton Ovchinnikov, Professor, Queens University, Canada

This interactive panel session brings together top scholars to discuss research trends, opportunities, and challenges in the field of behavioral research within the retail sector. We aim at exploring what we as academics can do to lead and inform retailers through nudging customers, workers, or managers toward better retail-specific outcomes.

355	Saturday, 09:00 AM - 10:00 AM, Information Systems & OM 1 Track: Information Systems and Operations Management Invited Session: Panel: Future of Work Chair(s): Alok Gupta
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- 111-1849 Future of Work
- Alok Gupta, Professor, University of Minnesota, United States
- Prithwiraj Choudhury , Professor, Harvard University, United States
- Marios Kokkodis, , ,
- Andreas Fügener, Student, Technische Universität München, Germany
- Balaji Padmanabhan, Professor, University of South Florida, United States

Past few years have given us a glimpse of a significant change in the future of work both from how the work would be done and by whom. While there are many changes on the horizon in terms of where and how the work would be performed and coordinated, to how technology will facilitate and even perform some of the work that was performed by humans, the gorilla in the room is indeed the question of how artificial intelligence (AI) will influence the workplace of the future, and thereby, the human working condition. While some of the focus of this discussion has been on the rather tautological conclusion that many current jobs will eventually be performed by machines, recent research is drawing attention to the fact that AI automation may not be that one-sided. The participants on this panel will discuss the future of work from a variety of perspectives. The five panelists will each provide a five-minute presentation of exigent ideas that they believe merit consideration, will have a profound impact on future of work, and how we can prepare the future workforce to be ready for the new order. The panelists are: 1) Prithwiraj Choudhury - Harvard University, 2) Marios Kokkodis - Boston College, 3) Andreas Fügener - University of Cologne, and 4) Balaji Padmanabhan, University of South Florida.

362	Saturday, 09:00 AM - 10:00 AM, Operational Excellence Track: Operational Excellence Invited Session: Resilient Operations in Just-In-Time Low Buffer Environments (1) Chair(s): Maneesh Kumar Guilherme Tortorella
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- 111-1809 Resilient Operations in Just-In-Time Low Buffer Environments
- Matthias Thurer, Professor, Jinan University, China
- Guilherme Tortorella Tortorella, Associate Professor, University of Melbourne, Australia
- Maneesh Kumar, Professor, Cardiff University, United Kingdom

Chipageddon and other disruptions highlight that firms need to become more resilient, but they also need to stay profitable. Nada Sanders, Tyson Browning and Mohan Sodhi discuss traditional and emerging solutions, exploring trade-offs in resilience and buffering costs. The panel clarifies pros and cons, outlining promising research directions.

Saturday, 10:15 AM - 11:15 AM

380	Saturday, 10:15 AM - 11:15 AM, 2- Meetings & Programs - By Invitation Track: All Special Events & Programs: By Invitation Invited Session: Doctoral Consortium-2 Chair(s): Anthony Ross
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- 111-1856 Doctoral Consortium - 2
- Anthony Ross, Professor, University of Missouri Columbia, United States
- Soraya Fatehi, Assistant Professor, University of Texas at Dallas, United States
- Sharan Srinivas, Assistant Professor, University Of Missouri Columbia, United States
- Elliot Bendoly, Professor, Ohio State University, United States
- Tobias Schoenherr, Professor, Michigan State University, United States

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Saturday, 10:15 AM - 11:15 AM, Global Supply Chain Management

Track: Global Supply Chain Management

Invited Session: WORKSHOP: Using AI and Machine Learning to Predict Consumers' Behavior

Chair(s): Polly Mitchell-Guthrie Masoud Chitsaz

111-1734 Machine Learning in Practice for Retail

Kanchana Padmanabhan, Director, Data Science, Kinaxis, Canada

Liz Arcila-Osejo, Machine Learning Developer, Kinaxis, Canada

Anneya Golob, Machine Learning Architect, Kinaxis, Canada

Over the last decade the use of ML in the retail space has exploded. We'll provide a view into various applications and discuss what benefits retailers can expect, and the data challenges associated with each.

111-1751 Applying Customer Co-creation Principles to Supply Chain Management for Concurrent Planning and and Its Enablers

Andreas M. Radke, Senior Executive Consultant, mSE Solutions, United States

Gabriel Vidor, Professor, University of Caxias do Sul, Brazil

The increasing risks of supply chain disruptions and more dynamic shifts in demand patterns require a step-change in the agility of operations management to achieve resilience. We introduce concurrent planning as an extension of customer co-creation and discuss the required enablers. We include an industry case.

111-1797 Integrated material and transportation planning to optimize efficiency and robustness across supply chains

Ina Goedicke, Director Strategy, 4Flow, Germany

Annette Chmielewski, Managing Director, 4Flow, Germany

Greca Manuzzi, Product Marketing Manager, 4flow AG, Germany

Kinaxis and 4flow partnered to build a native embedded software application that enables automatic integration of transportation optimization within material requirement planning. Despite the traditional S&OP systems, the solution shifts and groups demands to minimize total logistics costs and CO2 emissions while taking into account real logistic constraints.

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Saturday, 10:15 AM - 11:15 AM, Information Systems & OM 1 Track: Information Systems and Operations Management

Invited Session: Theory, Practice, and Data in Information Systems and Operations Management research

Chair(s): Anand Paul

111-1850 Theory, Practice, and Data in Information Systems and Operations Management research

Anand Paul, Associate Professor, University of Florida, United States

Haldun Aytug, Professor, University of Florida, United States

Lingjiong Zhu, Associate Professor, Florida State University, United States

This panel discussion is intended to be a wide ranging and discursive discussion on the foundations of analytical and empirical model building, with special reference to - but not limited to - information systems and operations management. We may venture into philosophy, meta-mathematics, artificial intelligence, machine learning, and the theory of knowledge as we probe the question of how new knowledge is created, verified, and used in various domains. How reliable, sound, and useful are our research prescriptions? Are there clear guidelines for improving the theory and practice of model based and empirical research in OM and IS? We do not pretend to be able to comprehensively answer such general and ambitious questions, but we would certainly like to spark an open minded conversation.

Saturday, 11:30 AM - 12:30 PM

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Saturday, 11:30 AM - 12:30 PM, 2- Meetings & Programs - By Invitation

Track: All Special Events & Programs: By Invitation

Invited Session: Doctoral Consortium-3

Chair(s): Anthony Ross

111-1857 Doctoral Consortium - 3

Anthony Ross, Professor, University of Missouri Columbia, United States

Owen Wu, Associate Professor, Indiana University, United States

Elliot Bendoly, Professor, Ohio State University, United States

Nagesh Murthy, Professor, University of Oregon, United States

Funda Sahin, Associate Professor, University of Houston, United States

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423	Saturday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Tutorial: COVID-19 Modeling	
	Chair(s): George Shanthikumar Sridhar Seshadri	

111-1818 COVID-19 Modeling

Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States

The fight against COVID-19 requires multi-faceted actions at both the policy and the operational level. We provide a conceptual overview of modeling strategies for COVID-19. The tutorial is broadly divided into two related sections, (i) modeling and predicting the spread of the disease, and (ii) modeling control actions.

Saturday, 02:00 PM - 03:00 PM

506	Saturday, 02:00 PM - 03:00 PM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: College Presidents' Meeting	
	Chair(s): Hossein Rikhtehgar Berenji Sushil Gupta	

111-1854 College Presidents' Meeting

Sushil Gupta, Professor, Florida International University, United States

Hossein Rikhtehgar Berenji, Assistant Professor, Pacific University, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence.

523	Saturday, 02:00 PM - 03:00 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: B2B Platforms and Supply Chain Innovation	
	Chair(s): Burcu Tan Erciyes	

111-1852 B2B Platforms and Supply Chain Innovation

Burcu Tan Erciyes, Associate Professor, University of New Mexico, United States

Edward Anderson, Professor, University of Texas Austin, United States

Geoffrey Parker, Professor, Dartmouth College, United States

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Improved technology systems for gathering data at the supply chain and manufacturing level, such as the rise of the Internet of Things and Industry 4.0, has created a step change in the importance of business-to-business (B2B) platforms. However, the majority of POM and information systems studies has focused until now on business-to-consumer platforms. How well the knowledge from that literature translates to business-to-business platforms is unclear. An expert panel will discuss how new research agendas might shed light on critical questions of design, employment, and necessary infrastructure for business-to-business platforms.

Sunday, 09:00 AM - 10:00 AM

675	Sunday, 09:00 AM - 10:00 AM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Panel: Uncertainties and New Modes of Cooperation in Traditional and Emerging Domains	
	Chair(s): Dehai Liu	

111-1827 Panel: Uncertainties and New Modes of Cooperation in Traditional and Emerging Domains

Dehai Liu, Professor, Dongbei University of Finance and Economics, China

Xiaoyan Qian, Associate Professor, Dongbei University of Finance and Economics, China

Ruirui Chai, Professor, Dongbei University of Finance and Economics, China

Delong Li, No, Inner Mongolia University of Finance and Economics, China

The COVID-19 outbreak has a huge impact on the production and life of human society. Superimposed a new round of digital technological revolution, operation management in various fields presents a high degree of uncertainty. How do new modes of cooperation operate in traditional domains (e.g., agriculture, transportation), and emerging domains?

677

Sunday, 09:00 AM - 10:00 AM, Behavioral OM 1

Track: Behavioral Operations Management

Invited Session: Interfaces with Industry

Chair(s): Kyle Hyndman

111-1846 Interfaces with Industry

Kyle Hyndman, Professor, University of Texas Dallas, United States

Gary Bolton, Professor, University Of Texas Dallas, United States

Come listen to speakers from different industries discussing the behaviorally relevant challenges that they face in their industries. If time allows, we will open the floor to questions from the audience.

Sunday, 11:30 AM - 12:30 PM

759

Sunday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops

Track: All Tutorials, Invited Panels, and Workshops

Invited Session: Tutorial: Teaching Supply Chain Analytics: Recent Development

Chair(s): George Shanthikumar Yao Zhao

111-1819 Teaching Supply Chain Analytics: Recent Development

Yao Zhao, Professor, Rutgers University, United States

In this tutorial, we introduce recently developed widely-tested teaching modules for students to learn by doing, award winning cases to earn hands-on experience, and competitive games to simulate real-life data-driven decisions.

Sunday, 02:00 PM - 03:00 PM

843

Sunday, 02:00 PM - 03:00 PM, 3- POMS Tutorials, Panels, & Workshops

Track: All Tutorials, Invited Panels, and Workshops

Invited Session: Panel: The Future of Graduate Business School Education

Chair(s): Arvind Mahajan

111-1873 Panel: The Future of Graduate Business School Education

Arvind Mahajan, Professor, Texas A&M University College Station, United States

Aravind Chandrasekaran, Associate Professor, Ohio State University, United States

Xianjun Geng, Professor, Tulane University, United States

Jennifer Blackhurst, Professor, University of Iowa, United States

Bala Shetty, Professor, Mays Business School, United States

Various forces are rapidly changing the landscape of graduate education. A panel of distinguished associate deans for graduate programs will share their thoughts on the future of graduate education. This session is moderated by Prof. Arvind Mahajan (Texas A&M University) and the panelists are Prof. Jennifer Blackhurst (University of Iowa), Prof. Aravind Chandrasekaran (Ohio State University), Prof. Xianjun Geng (Tulane University) and Prof. Bala Shetty (Texas A&M University).

Sunday, 03:15 PM - 04:15 PM

885

Sunday, 03:15 PM - 04:15 PM, 3- POMS Tutorials, Panels, & Workshops

Track: All Tutorials, Invited Panels, and Workshops

Invited Session: Workshop: Pandemics preparedness: inventory, capacity, and capability

Chair(s): Manmohan Sodhi

111-1820 Workshop - Pandemics preparedness: inventory, capacity, and capability

Manmohan Sodhi, Professor, City University - London, United Kingdom

The US experience with the Strategic National Stockpile showed that storing inventory for use in rarely occurring disasters, including pandemics, is neither cheap nor effective. Accessible, if expensive, (domestic) manufacturing capacity and investment in "capability" create such capacity can reduce expected costs and improve effectiveness. We discuss research opportunities.

Monday, 09:00 AM - 10:00 AM

1010	Monday, 09:00 AM - 10:00 AM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Emerging Scholars Program-1	
	Chair(s): Craig Froehle	

- 111-1858 Emerging Scholars Program-1
- Craig Froehle, Professor, University of Cincinnati, United States
- Elliot Bendoly, Professor, Ohio State University, United States
- Mark Ferguson, Professor, University of South Carolina, United States
- Pengyi Shi, Associate Professor, Purdue University, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence. This program provides new university professionals in OM with career-building advice in developing excellence in their personal programs of teaching, research, and service.

Monday, 10:15 AM - 11:15 AM

1052	Monday, 10:15 AM - 11:15 AM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Emerging Scholars Program-2	
	Chair(s): Craig Froehle	

- 111-1859 Emerging Scholars Program-2
- Craig Froehle, Professor, University of Cincinnati, United States
- Robert Batt, Associate Professor, University of Wisconsin-Madison, United States
- Eve Rosenzweig, Professor, Emory University, United States
- Rohit Verma, Professor, VinUniversity, Vietnam
- Tinglong Dai, Professor, Johns Hopkins University, United States
- Rachna Shah, Associate Professor, University of Minnesota, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence. This program provides new university professionals in OM with career-building advice in developing excellence in their personal programs of teaching, research, and service.

1087	Monday, 10:15 AM - 11:15 AM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: Panel discussion - Reconceptualizing Lee's AAA supply chain capabilities	
	Chair(s): Andrea Patrucco Anthony Roath	

- 111-1853 Panel discussion - Reconceptualizing Lee's AAA supply chain capabilities
- Andrea Patrucco, Assistant Professor, Department of Marketing and Logistics, United States
- Anthony Roath, Assistant Professor, Auburn University, United States

The session aims to initiate a discussion about how supply chain can increase responsiveness in the future, and how the post-Covid-19 environment is pushing for a reconceptualization of AAA capabilities in supply chains. Possible questions to be discussed during the session (from the perspective and context of post-Covid and disruptions):

- What are the drivers of changes of supply chain operations in the post-Covid business environments?
- How are companies responding to these changes from a structural, strategic and operations position?
- What are the implications for AAA capabilities in supply chains?
- What are some of the issues that challenge the ability to develop short-term and long-term capabilities to respond to disruptions and uncertainty? (e.g., channel relationship management; the role of human resource and talent management; global/local regulatory issues; access, use, communication of data and presentation).

Monday, 11:30 AM - 12:30 PM

1093	Monday, 11:30 AM - 12:30 PM, 1- Meetings & Programs - All are Welcome	Track: All Plenaries and Special Events: Open to Everyone
	Invited Session: Meet the POM Editors	
	Chair(s): Subodha Kumar Kalyan Singhal	

111-1864 Meet the POM Journal Editors

Subodha Kumar, Professor, Temple University, United States

The Production and Operations Management Journal's departmental editors and the editor-in-chief will be here to meet conference participants in order to discuss any publication issues. All are welcome.

1121	Monday, 11:30 AM - 12:30 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Getting Purchasing and Supply Management Research Published	
	Chair(s): Steven Carnovale Carmela Di Mauro	

111-1636 Publishing in Purchasing and Supply Management

Carmela Di Mauro, Associate Professor, University of Catania, Italy

Steven Carnovale, Assistant Professor, Rochester Institute of Technology, United States

The goal of this session, - chaired by the editors of the Journal of Purchasing and Supply Management, is to discuss future directions of research in the field of PSM. Editors of leading journals and authors of PSM research will participate in the panel and provide insights to prospective authors.

Monday, 12:45 PM - 01:45 PM

1136	Monday, 12:45 PM - 01:45 PM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Meeting of POM Senior and Dept. Editors	
	Chair(s): Kalyan Singhal Subodha Kumar	

111-1860 Meeting of POM Senior and Dept. Editors

Kalyan Singhal, Professor, (CIF:ESG50985993), United States

Subodha Kumar, Professor, Temple University, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence .

Monday, 02:00 PM - 03:00 PM

1184	Monday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: POM Special Issue on Pandemics - A Panel Discussion	
	Chair(s): Subodha Kumar Nitin Joglekar	

111-1848 POM Special Issue on Pandemics - A Panel Discussion

Subodha Kumar, Professor, Temple University, United States

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Sushil Gupta, Professor, Florida International University, United States

Martin Starr, Emeritus Professor, Rollins College, United States

Edward Anderson, Professor, University of Texas Austin, United States

The editors of the special issue will highlight the accepted papers and comment on potential research opportunities towards planning for and reacting to pandemics from a POM perspective.

INSTRUCTIONS

to find INFORMATION about

the session you have a

PRESENTATION

or are the

SESSION CHAIR

1. Go to the Author Index and the Session Chair Index (please check both to ensure none are missed).
2. Find your name.
3. Note the Session Number(s), Date and Time.
4. Go to the Date and Time in the Presentation Schedule*. The Presentation Schedule is arranged in chronological order.
5. When you find the Date and Time, go to your Session Number. The session numbers are arranged in ascending order.
6. When you find the session number, look up your name and the session information.

*If you are looking for a Panel, Workshop or Tutorial, go to Panels, Workshops and Tutorials Schedule.

OR

Please click on the following link for online schedule:

[Conference Schedule](#)

Invited Session

1	Friday, 09:00 AM - 10:00 AM, 1- Meetings & Programs - All are Welcome Track: All Plenaries and Special Events: Open to Everyone Invited Session: POMS Applied Research Challenge Chair(s): Felipe Caro
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111-1814 Stopping the Revolving Door: An Empirical and Textual Study of Crowdfunding and Teacher Turnover

Samantha Keppler, Assistant Professor, University of Michigan Ann Arbor, United States

Jun Li, Associate Professor, University of Michigan - Ann Arbor, United States

Andrew Wu, Assistant Professor, University of Michigan - Ann Arbor, United States

In this study, we analyze novel quantitative and textual data to demonstrate the effect of crowdfunding on teacher retention. We find crowdfunding reduces teacher turnover by 2.66 pp---a 22% reduction against a mean rate of 12 percent---by addressing two key issues: inadequate working conditions and insufficient teacher autonomy.

111-1815 The Co-Production of Service: Modeling Service Times in Contact Centers Using Hawkes Processes

Andrew Daw, Assistant Professor, University of Southern California, United States

Antonio Castellanos, Student, Technion Israel Institute of Technology, Israel

Galit Yom-Tov, Assistant Professor, Technion - Israel Institute of Technology, Israel

Jamol Pender, Associate Professor, Cornell University, United States

Leor Gruendlinger, Data Scientists, LivePerson Inc., Israel

In contact centers, customers and agents co-produce service. This yields both interesting behaviors, like history and relationship dependence, and operational challenges, like workload ambiguity. Through Hawkes process models, we show that these behavioral phenomena can actually be leveraged to address the managerial problems, creating significant process improvements without additional resources.

111-1816 Capping Mobile Data Access Creates Value for Bottom-of-the-Pyramid Consumers

Kamalini Ramdas, Professor, London Business School, United Kingdom

Alp Sungu, Student, London Business School, United Kingdom

Through an app we developed, we find that addictive smartphone usage increases the information isolation of the poor via entertainment bingeing and subsequent data shortages. Random assignment to a daily capped data plan reduces social media checking, and increases late-plan access to digitally-delivered information, translating into in-person health camp attendance.

Invited Session

3	Friday, 09:00 AM - 10:00 AM, 3- POMS Tutorials, Panels, & Workshops Track: All Tutorials, Invited Panels, and Workshops Invited Session: Workshop: Emerging research in telemedicine Chair(s): Zhaofang Mao Hui Zhao
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111-1826 Workshop: Emerging research in telemedicine

Hui Zhao, Associate Professor, Penn State University University Park, United States

Hessam Bavafa, Associate Professor, University of Wisconsin-Madison, United States

Feng (Susan) Lu, Associate Professor, Purdue University, United States

Telemedicine has become increasingly popular, especially with the push from the pandemic. In this workshop, speakers will share emerging research in telemedicine from many perspectives, including e-visits, government-provider partnership, and policy makers' view. Applications include primary care, emergency care, and specialized services, with methodologies ranging from empirical to analytical.

Invited Session

5	Friday, 09:00 AM - 10:00 AM, Behavioral OM 1 Track: Behavioral Operations Management Invited Session: Meet the Editors (BOM) Chair(s): Mirko Kremer
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111-1847 Meet the Editors (BOM)

Mirko Kremer, Professor, Frankfurt School of Finance & Management, Germany

Meet with the department editors and discuss tips to succeed, pitfalls to avoid, and methodologies to consider while attempting high-quality behavioral operations work. Also, learn the department's expectations and future direction.

Invited Session

6	Friday, 09:00 AM - 10:00 AM, Behavioral OM 2 Track: Behavioral Operations Management 2 Invited Session: Workshop on Behavioral Operations Management Chair(s): Brent Moritz
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111-1844 Workshop on Behavioral Operations Management

Brent Moritz, Associate Professor, Penn State University University Park, United States

This workshop will discuss research in behavioral operations management (BOM) and the state of the field. As behavioral economics is to traditional economics, BOM is a cross-disciplinary approach that moves from normative theories of decision making to descriptive theories of decision making. We will discuss topics, questions and methods well-suited to BOM, and how these fit with other domains. We will offer guidance for conducting experimental and non-experimental research. The session is particularly well-suited for researchers newer to the area or those are interested in conducting BOM research.

Contributed Session

7	Friday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Contributed Session: Behavioral aspects of COVID-19	
	Chair(s): Sreejith Kumar Krishnakumar	

111-1255 Behavioral Models of Management of Scarce Resources During Supply Chain Shortages

Min Gong, Student, Northeastern University, United States

Ozlem Ergun, Professor, Northeastern University, United States

Jacqueline Griffin, Assistant Professor, Northeastern University, United States

As highlighted in the COVID-19 pandemic, supply chain resiliency is both a function of the system features and structures as well as the behaviors of the stakeholders throughout the system. We focus on identifying tractable models of these behaviors to inform the best policies and strategies to mitigate consequences.

111-0333 Exploring Theoretical Perspectives to Understand CSR Behavior During COVID-19

Sreejith Kumar Krishnakumar, Assistant Professor, Indian Institute of Management Udaipur, India

Nallan Suresh, Professor, SUNY at Buffalo, United States

Rajiv Kishore, Professor, University of Nevada Las Vegas, United States

We explore understudied theoretical perspectives which can be used to explain CSR behavior during Covid times, including exploration-exploitation perspective and signaling. We plan to use firm annual and CSR reports and other secondary sources, along with text analytics methods, for this research.

111-1012 COVID-19 and gender inequality

Yuxiao Ye, Assistant Professor, Tianjin University, China

Shenyang Jiang, Post Doc/Researcher, Tongji University, China

We examine how the COVID-19 pandemic leads to gender inequality in workplace. We employ the World Bank data to explore the results.

Contributed Session

8	Friday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Humanitarian and Pandemic Food Response	
	Chair(s): Miguel Jaller	

111-1280 MODELING POST-DISASTER LAST MILE RELIEF DISTRIBUTION DECISIONS THROUGH AGENT-BASED-SIMULATION (ABS) MODELING

Miguel Jaller, Associate Professor, University of California Davis, United States

Feizar Rueda-Velasco, Assistant Professor, Universidad Distrital Francisco José de, Colombia

Eduyn López, Assistant Professor, Universidad Distrital Francisco José de, Colombia

This study designed an empirically based ABS model to evaluate the performance of different last mile post-disaster distribution strategies considering deprivation costs, multiple stakeholders, distribution priority rules, and aid supply temporal availability and quantity. Different scenarios based on empirical data and field work are designed and evaluated finding counter-intuitive behaviors

111-1607 Delivering Fresh Produce under Lockdown: The Post-Pandemic Pickup and Distribution Problem with Time Windows

Tianyang Cai, Student, Sichuan University, China

Yusen Ye, Associate Professor, Sichuan University, China

Hong Yan, Professor, The Hong Kong Polytechnic University, China

Under pandemic lockdown, humanitarian responders are challenged with the logistics problem of picking up fresh produce from local markets and delivering them to many communities under strict time restrictions. This paper makes simultaneous pickup and distribution decisions within the routing resource allocation problem to achieve equitable allocations with time windows.

111-0747 An Alternative Food Pantry Responds to the Pandemic

Rainer Kleber, Assistant Professor, Universität Magdeburg, Germany

Ian Langella, Professor, Shippensburg University, United States

Robert Setaputra, Professor, Shippensburg University, United States

David Hwang, Associate Professor, Shippensburg University, United States

We show how a local alternative food pantry serving 150 families quickly modified procurement and distribution operations in the face of the crisis. This illustrates the different ways that food pantries can be organized and suggests several meaningful service opportunities for faculty and students alike.

Invited Session

9	Friday, 09:00 AM - 10:00 AM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Blockchain and OM	
	Chair(s): Xiaosong (David) Peng	

111-0713 The role of fair pay for performance in the decentralized networks: evidence from Steemit

Woojin Yang, Student, Korea Advanced institute of Science and Technology, South Korea

Yeongin Kim, Assistant Professor, Virginia Commonwealth University, United States

Chul Ho Lee, Assistant Professor, K A I S T, South Korea

Tae Hun Kim, Assistant Professor, Baylor University, United States

Yasin Ceran, Associate Professor, Korea Advanced institute of Science and Technology, South Korea

Social media platforms are increasingly operating on new business models that utilize a distributed ledger, a blockchain. As many blockchain technologies incentivize users with cryptocurrency, designing an effective incentive scheme is essential. This paper empirically examines the impact of fairness in incentive scheme on user activities in a social media.

111-1506 An investigation on the impact of counterfeiting and traceability in the secondary market

Hubert Pun, Associate Professor, University of Western Ontario, Canada

Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

Jing Chen, Professor, Dalhousie University, Canada

We use a two-period game to study the impact of blockchain for combating counterfeits in the secondary market. In the first period, a manufacturer sells a new product to customers. In the second period, there is a secondary market that has two firms: the reseller and a counterfeiter.

111-1624 The Effects of Signaling Blockchain-based Track and Trace on Consumer Purchase

Xiaosong (David) Peng, Professor, Lehigh University, United States

Using transaction data from a leading global e-retailer, we design a quasi-natural experiment to estimate the effects of signaling BCT to consumers (BCT for short) on customer purchases of food and nutrition products. Our research uncovered the significant positive effect of BCT on consumer purchases.

Invited Session

10	Friday, 09:00 AM - 10:00 AM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Models for Information Goods	
	Chair(s): Muge Yayla-Kullu	

111-0257 Fast or Slow? Competing on Publication Frequency

Lin Chen, Student, INSEAD, France

Guillaume Roels, Professor, INSEAD, France

We characterize how information providers choose their publication cycles and prices in a duopoly. Our analysis shows that while a reduction in the fixed cost, e.g., driven by digitalization, yields shorter publication cycles, it might also intensify the competitive dynamics, which lead firms to differentiate their publication cycles further.

111-1339 Misinformation: Strategic Sharing, Homophily, and Endogenous Echo Chambers

Daron Acemoglu, Professor, Massachusetts Institute of Technology, United States

Asuman Ozdaglar, Associate Professor, Massachusetts Institute of Technology, United States

James Siderius, Student, Massachusetts Institute of Technology, United States

We present a model of online content sharing where some content may contain misinformation. While the impact of homophily on sharing behavior is non-monotone, we show echo chamber environments lead to the most viral misinformation. We use this to understand the incentives of a platform to propagate (and recommend) misinformation.

111-0425 News aggregator and media bias

Yue Feng, Student, Tianjin University, China

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

Jianxiong Zhang, Professor, Tianjin University, China

We investigate the impact of news aggregators on the news market under media bias. Furthermore, we study how the preview accuracy on news aggregators influences the news media and readers. Results show that news aggregators can be beneficial or harmful, conditional on the preview accuracy and the market environment.

Contributed Session

12	Friday, 09:00 AM - 10:00 AM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Contributed Session: Leveraging Data Online	
	Chair(s): Neha Sharma	

111-1130 Structuring online Question and Answer Communities

Neha Sharma, Student, Kellogg School of Management, United States
 Gad Allon, Professor, The Wharton School, United States
 Achal Bassamboo, Professor, Northwestern University, United States

We model an online community where users can ask questions and other more knowledgeable users can answer their questions. We study the users' decisions to join and participate in the community. We find the participation level, number of users and the network structure of the community in equilibrium.

111-1676 Crowd-Sourcing for Data Science and Quantifiable Challenges: Optimal Contest Design

Goutham Takasi, Student, University of Texas at Dallas, United States

We study the design of crowd-sourcing contests in settings where the output (from the contestants) is quantifiable -- for example, a data science challenge. We derive an optimal cardinal contest using Myerson's mechanism design framework and design an easy-to-implement contest that achieves the same outcome as the former.

111-1601 Joint effort and pricing decisions with revenue sharing in online food delivery

Arvind Shroff, Student, IIM Indore, India

Bhavin Shah, Associate Professor, Indian Institute of Management Indore, India

Hasmukh Gajjar, Associate Professor, Indian Institute of Management Indore, India

The sustainability of the online food delivery platforms is a function of quality of service experienced by restaurants and consumers. While the restaurant exerts self-efforts, the platform, induces quality altering cross-efforts on the restaurant. We formulate a game-theoretic model to decipher the effect of the efforts exerted by players.

Invited Session

14	Friday, 09:00 AM - 10:00 AM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Fintech and Blockchain Applications in Supply Chain Finance	
	Chair(s): Jiri Chod	

111-0478 The Value of Smart Contract in Trade Finance

Xiaoyu Wang, Student, Washington University in St. Louis, United States

Fasheng Xu, Assistant Professor, Syracuse University, United States

Smart contract improves the supply chain efficiency by enabling the supplier to commit future financing decisions, which mitigates the bank's lending risk exposure and thereby reduces the financing cost. This paper investigates how smart contract adoption could facilitate the trade finance activities and create value for supply chain firms.

111-0601 To Infinity and Beyond: Financing Platforms with Uncapped Crypto Tokens

Rowena Gan, Assistant Professor, Southern Methodist University, United States

Gerry Tsoukalas, Associate Professor, Boston University, United States

Serguei Netessine, Professor, The Wharton School, United States

Initial Coin Offerings (ICOs) are an emerging form of crowdfunding for blockchain-based startups. Focusing on "uncapped" structures that forego limits on token supply, we provide a theoretical underpinning for the use of such ICOs in practice. Both the traditional utility-token model and the novel dual-token model are studied.

111-1134 Decentralized or Centralized Control of Online Service Platforms: Who Should Set Prices?

Gerard Cachon, Professor, The Wharton School, United States

Tolga Dizdärer, Student, The Wharton School, United States

Gerry Tsoukalas, Associate Professor, Boston University, United States

Motivated by emergence of blockchain-based decentralized service platforms and Uber's recent driver-pricing practice in California, we investigate how a platform with large supply should set its fares when service providers are heterogeneous in costs. We use a stylized model to compare centralized and decentralized control of prices.

Invited Session

16	Friday, 09:00 AM - 10:00 AM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Machine Learning in Healthcare	
	Chair(s): Craig Froehle	

111-0199 Learning to Optimize with Hidden Constraints: An Application in Radiation Therapy Planning

Rafid Mahmood, AI Resident Researcher, Nvidia Corporation, Canada

Aaron Babier, Student, University of Toronto, Canada

Adam Diamant, Assistant Professor, York University, Canada

Timothy Chan, Professor, University of Toronto, Canada

In radiation therapy for head-and-neck cancer, clinicians take days fine-tuning AI-recommended treatment decisions to meet their preference constraints. We propose simultaneously learning to predict when a treatment is feasible and estimating optimal treatments. Our models produce treatments that more easily satisfy clinician constraints, suggesting a path to reducing clinician labor.

111-0794 Optimizing Treatment for Substance Use Disorder with Machine Learning

Matt Baucum, Assistant Professor, Florida State University, United States
 Anahita Khojandi, Associate Professor, University of Tennessee, United States
 Carole Myers, Associate Professor, University of Tennessee, United States

Substance use disorder (SUD) exacts a substantial economic and social cost in the U.S. In this study, we use contextual bandits to optimally map patients to SUD treatment plans, considering both therapeutic and financial characteristics of each treatment. We compare our results to existing SUD treatment practices.

111-0097 Embedding Models for Healthcare Analytics

Kanix Wang, Post Doc/Researcher, Booth School of Business, United States

Inspired by advances in deep learning, word embedding models become increasingly popular. We introduce two categories of embedding models for healthcare: one focuses on clinical text with a large annotated corpus. The other is pre-trained on 151 million patients' EHRs, remains grounded in genetic truth, and forecasts clinical trajectories.

Contributed Session

17	Friday, 09:00 AM - 10:00 AM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Healthcare Technology	
	Chair(s): Aaron Ratcliffe	

111-1590 Implementation of a Standardized Incident Reporting System into a Commercial EMR.

Paul St. Jacques, Professor, Vanderbilt University Medical Center, United States

Reporting of non-routine occurrences contributes to the creation of a reporting culture. Commercial EMRs are not equipped for this task as occurrence data must be held in a protected database separate from EMR data. We describe the implementation of a standardized anesthesiology reporting tool into a commercial EMR.

111-1401 Impacts of IT Vendor Turnover & Concentration on Hospital Performance

Aaron Ratcliffe, Assistant Professor, Appalachian State University, United States

Joonghee Lee, Assistant Professor, Appalachian State University, United States

Trent Spaulding, Associate Professor, Appalachian State University, United States

Too many hospital IT vendors burdens employees with increased training and redundancy; whereas fewer improves integration but increases vendor bargaining power and decreases hospital agility and digital innovativeness. We investigate the impact of vendor consolidation and turnover on quality, patient experience, and financial performance using US hospital data from 2012-2018.

111-0764 Health IT Adoption Incentives and Data Breaches in Hospitals

RAJIB DUTTA, Student, University of Arkansas, United States

David Dobrzykowski, Associate Professor, University of Arkansas, United States

Randy Bradley, Lecturer, University of Tennessee, United States

The CMS provides incentives to hospitals for using certified health information technology (HIT). While HIT use enhances operational efficiency, security of the large amounts of patient data remains a concern. We investigate how HIT incentives drive hospitals' future IT adoption and ultimately their impact on healthcare data breach incidents.

Invited Session

20	Friday, 09:00 AM - 10:00 AM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Impact of Influencer Activities on Online Platforms	
	Chair(s): Yili Hong	

111-1538 The Impact of Influencer Activities on Service and Quality of Care in Online Healthcare Platforms

Qinglai He, Assistant Professor, University of Wisconsin-Madison, United States

Many healthcare professionals take on the dual role of being a professional as well as an influencer, engaging in both professional services and influencer activities. Our empirical research aim to examine the impact of professionals' influence activity on service and quality of care.

111-1567 Herding Effects of Subjectivity on Emotional Polarization and Hate Speech in Online Political Discourse

Amin Sabzehzar, Student, Arizona State University, United States

This paper studies the influence of subjective comments on the quality of political discourse in the Reddit r/politics. Our results shed light on the effect of herding behavior in online political discourse by showing that the subjectivity of top-level comment triggers a subjective, high-emotional/low-analytical political discourse.

Invited Session

21	Friday, 09:00 AM - 10:00 AM, Inventory Management	Track: Inventory Management
	Invited Session: Inventory and Operations Management	
	Chair(s): Vashkar Ghosh Arunima Chhikara	

111-0068 Trade Credit or Wholesale Price? The Role of Information Sharing in Supply Chain Financing

Erbao Cao, Professor, Hunan university, China
 Guangwen Kong, Assistant Professor, Temple University, United States
 Abhishek Roy, Assistant Professor, Temple University, United States
 Jiamuyan Xie, Student, Hunan university, China

By extending trade credit to a capital-constrained retailer, a manufacturer can improve the financial performance of both firms. However, the existing literature assumes symmetric demand information, although in practice, the retailer often possesses private information. We examine the manufacturer's trade credit and the retailer's information-sharing decisions under such information asymmetry.

111-0591 Channel Operation Strategies under Price Harmonization

Avinash Geda, Assistant Professor, University of North Carolina Wilmington, United States
 Arunima Chhikara, Assistant Professor, University of Kansas, United States
 Nazli Turken, Assistant Professor, Johns Hopkins University, United States
 Janice Carrillo, Professor, University of Florida, United States

Price harmonization across different channels is a widely practiced marketing strategy. Contrary to the intuition that dual-channel firms utilize both channels under channel-specific pricing strategy, we find conditions when a single (online/offline) channel dominates the dual-channel policy under the price harmonization strategy

111-0856 A Model of Network Formation

Angelo Mele, Associate Professor, Johns Hopkins University, United States
 Lingjiong Zhu, Associate Professor, Florida State University, United States

We study an equilibrium model of sequential network formation with heterogeneous players. We show that the network formation process converges to an exponential random graph (ERGM). We develop an approximate estimation method based on a variational mean-field approximation of the ERGM's normalizing constant.

Invited Session

23	Friday, 09:00 AM - 10:00 AM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Topics in Manufacturing Operations	
	Chair(s): Aditya Vedantam	

111-0575 Exploring Dual-Role Warehouses and Multi-Echelon Inventory at Dow

Kyle Harshbarger, Senior Innovation Manager, Dow, Inc., United States

Dow's supply chain complexity is high due many factors. Implementation of inventory management theory frequently devolves into using single-echelon approximations. Dual-role warehouses and multi-echelon inventory cause many of these problems. This work highlights gaps between supply chain practice and inventory management theory.

111-0578 Unlocking the Potential Reuse of Medical Devices Using Sequential CNN Method

Xinyao Zhang, Student, University of Florida, United States
 Sara Behdad, Associate Professor, University of Florida, United States

The dynamic condition monitoring of products plays an important role in predicting the chance of reuse and extending their lifecycle. This study develops a data-driven framework for better prediction of medical devices' lifetime. It introduces a Deep CNN for analyzing medical device operating data and predicting lifecycle events.

111-1388 How to design a Multi-level Sustainable Textile Supply Chain? A Game-Theoretic Analysis

Arnab Adhikari, Assistant Professor, Indian Institute of Management Ranchi, India
 Arnab Bisi, Associate Professor, Carey Business School, Johns Hopkins University, United States

This work presents a three-level sustainable textile supply chain comprising a textile firm, an apparel manufacturer, and an apparel retailer. We depict the supply chain members' collaboration using sharing and fixed fee-based contracts. We determine the optimal greening quality, price, and supply chain member's profitability, along with coordinating criteria.

Invited Session

24	Friday, 09:00 AM - 10:00 AM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Crowdsourcing	
	Chair(s): Jiaru Bai	

111-1345 Exploring the Boundary of Crowdsourcing in the Domain of Creativity and How to Break it

Jie Ren, Assistant Professor, Fordham University, United States

This paper explores the boundary where the crowd is creative than professorial. Applying the componential theory of creativity, this paper focuses on generalist and specialist tasks to compare crowd with professionals and focuses on learning effects among crowd members to break this boundary

111-1204 Active learning and social exchange in crowd voting on crowdsourcing platforms

Pei Xu, Associate Professor, Auburn University, United States
 De Liu, Associate Professor, University of Minnesota, United States
 Liang Chen, Assistant Professor, West Texas A&M University, United States

Crowd voting is a relatively inexpensive and scalable way of selecting candidates in crowdsourcing contests. Prior studies have overlooked the dynamic of voter capability on online crowdsourcing platforms. We empirically investigate how voters' active learning and social exchange could impact voters' performance.

111-1311 Hiding In Plain Sight: Strategic Ridesharing Drivers, Surge Pricing, And Mitigation Strategies

Jiaru Bai, Assistant Professor, Wake Forest University, United States

H. Sebastian Heese, Professor, North Carolina State University, United States

Manish Tripathy, Post Doc/Researcher, Sauder School of Business, UBC, Canada

There is increasing evidence that service providers strategically collude to induce artificial supply shortages by reducing the number of providers showing as available on the app. Our work establishes some first structural insights into the problem of collusion by strategic providers in an on-demand service platform context.

Invited Session

27	Friday, 09:00 AM - 10:00 AM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Policies To Improve Agriculture Practices	
	Chair(s): Prashant Chintapalli	

111-0079 Avoiding Fields on Fire: Information Dissemination Policies for Environmentally Safe Crop-Residue Management

Mehdi Farahani, Post Doc/Researcher, Massachusetts Institute of Technology, United States

Milind Dawande, Professor, University of Texas Dallas, United States

Ganesh Janakiraman, Professor, University of Texas Dallas, United States

Shouqiang Wang, Associate Professor, University of Texas Dallas, United States

Agricultural open burning, i.e., the practice of burning crop residue to prepare land for sowing a new crop, is a significant contributor to long-term climate change. We study how governments in developing countries can use effective information-disclosure policies to minimize agricultural open burning.

111-0525 Optimal Market Integration Decisions by Policy Makers: Modeling and Analysis of Agriculture Market Data

Shivam Gupta, Assistant Professor, University of Nebraska Lincoln, United States

Saurabh Bansal, Associate Professor, Penn State University University Park, United States

We consider the spectrum of all possible integration policies spanning from full isolation to complete integration, and characterize the socially-optimal market integration, under general demands. Using data from the commercial seed market in EU, we show that socially-optimal integration provides a further improvement in the social surplus by 2.8%.

111-1466 Improving Cash Constrained Smallholder Farmer Welfare: Role Of Government Interventions

Kenneth Pay, Student, Massachusetts Institute of Technology, Singapore

Somya Singhvi, Assistant Professor, University of Southern California, United States

Yanchong Zheng, Associate Professor, Massachusetts Institute of Technology, United States

The need for immediate cash inhibits smallholder farmers from maximizing their revenue by forcing them to sell their produce at suboptimal times. This paper develops a model to examine how cash constraints influence farmers' sales decisions, as well as to analyze the efficacy of loan programs in improving revenue outcomes.

Contributed Session

29	Friday, 09:00 AM - 10:00 AM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Buyer-supplier relationships	
	Chair(s): Jade Chu	

111-0152 Investigating the impact of supplier development initiatives on economic development/growth in African mining sector

Farooq Habib, Lecturer, Cranfield University, United Kingdom

Denyse Julien, Senior Lecturer, Cranfield University, United Kingdom

Simon Annan, Student, Cranfield School of Management, United Kingdom

This study presents a conceptual model that establishes relationship between impact of supplier development initiatives on economic development & growth of developing economies. This research employs a combination of content analysis and Systematic-Literature-Review based approach to investigate the economic impact of supplier development initiatives in the African mining industry.

111-0368 Buyer Supplier Exit Strategy Evaluation Based On Data Driven Support Vector Classifier

Anurag Tewari, Lecturer, Cranfield School of Management, United Kingdom

Farooq Habib, Lecturer, Cranfield University, United Kingdom

Buyer-supplier characteristics shape the choice of relationship exit strategy. We propose a novel method of data driven supervised learning support vector machines (SVM) to evaluate correlation between various firm/relationship variables and the choice of exit strategy. The model is trained and validated using real data of 300 terminated supplier-buyer relationships.

111-0012 David vs. Goliath - Size Asymmetry in Buyer-Supplier Relationships

Jade Chu, Assistant Professor, University of Northern Iowa, United States

Dan Bumblauskas, Associate Professor, University of Northern Iowa, United States

While firm size has often been included as a default control variable for inter-organizational relationship studies, little is known about the role of a firm's size, particularly size asymmetry, in affecting buyer-supplier relationships. This study evaluates current literature and size asymmetry in buyer-supplier relationships.

Invited Session

30	Friday, 09:00 AM - 10:00 AM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Contemporary issues in PITM	
	Chair(s): Dwaipayan Roy Tian Chan	

111-0288 Does network help? Innovation during distressed times

Pankaj Kumar, Assistant Professor, Virginia Tech, United States

Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States

Collaboration is generally viewed as a strategic resource to augment innovation output. In this study, we empirically investigate how an employee's network of relationships within a firm affects their creativity and innovation productivity during times of distress.

111-0299 Product Development in Crowdfunding: Theoretical and Empirical Analysis

Sidika Candogan, Student, UCL School of Management, United Kingdom

We analyze an entrepreneur's product development and improvement decisions in crowdfunding. We show that both the chances of campaign success and the likelihood of product improvement first increase but then decrease with the product's level of enhancement. We also characterize the initial enhancement level that maximizes the entrepreneur's profit.

111-1260 Is Simple Still Better? The Valuation of Design Features

Tian Chan, Assistant Professor, Emory University, United States

Po-Hsuan Hsu, Professor, National Tsing Hua University, Taiwan, Republic of China

Kevin Tseng, Associate Professor, National Taiwan University, Taiwan, Republic of China

Some product designs are simple while others are complex - which type is more valuable? We show that the US design patent law relatively disadvantaged novel complex designs, until the unexpected decision of Egyptian Goddess v. Swisa in 2008, leading to a marked improvement in the valuation of complex designs.

Invited Session

32	Friday, 09:00 AM - 10:00 AM, Retail Operations	Track: Retail Operations
	Invited Session: Product Returns	
	Chair(s): Aditya Jain	

111-0095 The Impact of Online Product Reviews on Retailer's Pricing and Return Policy Decisions

Mehmet Altug, Associate Professor, George Mason University, United States

Customers feel increasingly more comfortable with posting and using on-line product reviews. In a two-period setting, we explore the impact of product reviews on customer's valuation uncertainty for an experience-type product and how that in turn affects a monopolist retailer's pricing and refund decisions. We also study duopolistic competition.

111-1170 Promotion Incentives for Customer Retention: Field Experiments with a Subscription Meal Kit Service

Aysun MUTLU, Student, McGill University, Canada

Sanjith Gopalakrishnan, Assistant Professor, McGill University, Canada

Mehmet Gumus, Professor, McGill University, Canada

Saibal Ray, Professor, McGill University, Canada

Customer retention is a challenging problem in retail management. Companies employ a variety of incentives to retain or re-acquire customers. However, their effectiveness is not well understood. Via field experiments carried out with a subscription meal-kit service, we estimate the impacts of various incentives on customer retention and lifetime value.

111-1074 Measuring the Influence of Digital Advertising on Product Adoption

Aslan Lotfi, Assistant Professor, University of Richmond, United States

We first introduce a new advertising stock model based on the premise that the effect of an advertising exposure can peak over time. Next, we incorporate the new advertising stock model into survival analysis to determine the effect of advertising on product adoption. We compare our model with benchmark models.

Invited Session

33	Friday, 09:00 AM - 10:00 AM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Innovative Pricing Applications in Two Sided Markets	
	Chair(s): Mingwen Yang	

111-0150 Preserving Degree Distributions When Sampling from Networks

Abhijeet Ghoshal, Assistant Professor, University of Illinois Urbana-Champaign, United States
 Syam Menon, Associate Professor, University of Texas Dallas, United States
 Sumit Sarkar, Professor, University of Texas Dallas, United States

In this paper, we address the problem of sampling from an undirected network while preserving its degree distribution as best as possible. We formulate it as an optimization problem, and as it is known to be hard, develop heuristics based on intuition drawn from the formulation.

111-0310 Optimal Mechanism to Subsidize Advertisers' Data Acquisition Behaviors in Behavioral Targeting

wangsheng zhu, Student, The University of Texas at Dallas, United States
 Shaojie Tang, Assistant Professor, The University of Texas at Dallas, United States
 Vijay Mookerjee, Professor, University of Texas Dallas, United States

In behavioral targeting, some advertising platforms launched data management platforms (DMPs) to provide user data that helps advertisers target users accurately and increases the platform's revenue. However, some platforms don't have DMPs and advertisers rely on third-party DMPs. We propose three subsidy mechanisms for such platforms to increase their revenues.

111-0221 Design of Optimal Incentives for Traders in Copy Trading

Kai Sun, Student, University of Texas at Dallas, United States

Copy trading allows retail investors (followers) to automatically copy the trades of experts (traders) in real time after paying following fees to the platform. To help mitigate the potential principal-agent problem, we propose a model that compensates the trader in a way that his trading behavior will not be altered.

Contributed Session

36	Friday, 09:00 AM - 10:00 AM, Sports OM	Track: Sports Operations Management
	Contributed Session: Sports Operations Management - Operations	
	Chair(s): David Bamford Iain Reid	

111-1167 How to Conclude a Suspended Sports League?

Ali Hassanzadeh, Assistant Professor, University of Manchester, United Kingdom
 Mojtaba Hosseini, Student, University of California, Irvine, United States
 John Turner, Associate Professor, University of California, Irvine, United States

Many professional sports leagues worldwide ceased activity due to COVID-19 crisis. Using data from previous NBA seasons, we propose data-driven models to appropriately select a subset of the remaining games to conclude the league in a shortened manner while producing an end-of-season ranking similar to that of the full season.

111-0634 Equipment Logistics in National Sport Federations

Christoph Pott, Post Doc/Researcher, Technische Universität Dortmund, Germany

Sport equipment logistics is providing athletes and events the material necessary to practice sport. An explorative study with eleven national sport federations was carried out to reveal straight from operational practice what sport equipment logistics is about, what organizational structures look like and how operations are managed.

111-0296 Strategizing Through Relationship Portfolio: A Professional Sport Organization Perspective

Sabrina Thornton, Associate Professor, University of Sheffield, United Kingdom
 Benjamin Dehe, Associate Professor, Auckland University of Technology, New Zealand
 David Bamford, Professor, Manchester Metropolitan University, United Kingdom

This study investigates how a strategic relationship portfolio framework can be used to assess a professional sport organization's partnerships with their sponsors? It aims to conceptualize and operationalize a sponsoring partnership portfolio framework. A case study research design with multiple sources of data is adopted and resulted in three applications.

Contributed Session

37	Friday, 09:00 AM - 10:00 AM, Supply Chain Management 1	Track: Supply Chain Management
	Contributed Session: Emerging Topics in Supply Chains	
	Chair(s): PIYAL SARKAR	

111-0112 Improving Supply Chain Coordination under Weather Risk

PIYAL SARKAR, Student, Ryerson University, Canada
 Wahab Ismail, Professor, Ryerson University, Canada
 Liping Fang, Professor, Ryerson University, Canada

Firms, dealing in weather-sensitive products often face a problem in demand management. In this context, managing supply chains under weather risk is very important. We propose new class of contracts that improves the supply chain coordination as compared to widely used contracts such as wholesale price, and buyback contracts.

111-0779 A Complexity View Of The Opioid Supply Network

Surya Pathak, Professor, University of Washington Bothell, United States
 Shreyaan Pathak, Student, Inglemoor High School, United States

Opioids such as prescription pain medication, heroin, and fentanyl are a class of drugs that can lead to addiction in humans. We present a complexity view of the opioid supply network and investigate potential disruption mechanisms to sense illegal flows in these systems.

111-1066 Supply Networks and the Cash Conversion Cycle

Maximiliano Udenio, Assistant Professor, KU Leuven, Belgium

Shaunak Dabadghao, Assistant Professor, Technische Universiteit Eindhoven, Netherlands

The working capital management of a firm affects not only its own performance, but that of its supply chain partners. We test a number of hypothesis Relating the financial management of firms with their and their partners performance. We use a large panel of supply chain relationships.

Contributed Session

38	Friday, 09:00 AM - 10:00 AM, Supply Chain Management 2	Track: Supply Chain Management 2
	Contributed Session: Supply Chain Management and Blockchain	
	Chair(s): SACHIN YADAV	

111-0732 Machine Learning approach towards Blockchain integrated Supplier selection mathematical model for Resilient Supply chain

SACHIN YADAV, Student, Indian institute of Technology Delhi IIT, India

Surya Singh, Professor, Indian institute of Technology Delhi IIT, India

Amidst COVID pandemic, ML based MINLP mathematical model is developed to optimize the total procurement cost, including Blockchain cost for significant supplier selection and keeping transparency and complete information on the distributed ledger. ML is used for computing the authenticity factor for the model in real-time.

111-1733 Analyzing the influences of the financial parameter of MSME using Blockchain-Driven Supply Chain Financing Model

RONY MITRA, Student, IIT Kharagpur, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

Adrijit Goswami, Professor, Indian Institute of Technology Kharagpur, India

This research proposes a Blockchain-Driven Supply Chain Financing model by emphasizing the relationship of suppliers and Micro, Small & Medium Enterprises (MSME) and analyzes MSME's performance. We explore the impact of the financial parameter of the MSME and its influences on the entire supply chain model.

Invited Session

39	Friday, 09:00 AM - 10:00 AM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Invited Session: Healthcare Risks in Empirical Research	
	Chair(s): Kevin Mayo	

111-0354 Expanding healthcare services in underserved rural areas

Masoud Kamalahmadi, Assistant Professor, Miami Herbert Busienss School, United States

Kurt Bretthauer, Professor, Indiana University, United States

Jonathan Helm, Associate Professor, Kelley School of Business, United States

Rodney Parker, Associate Professor, Indiana University, United States

We explore the effect of expanding healthcare services in underserved rural areas of the U.S. on their residents' access to care and utilization of healthcare services. Using data from a large healthcare system, we show that opening healthcare clinics improves access to care and affects demand in the entire network.

111-1359 Challenges of shared suppliers: a case study in the medical devices industry.

Mike Oakley, Student, Butler University, United States

Joe Guthrie, Student, Butler University, United States

Francis Bowen, Assistant Professor, Butler University, United States

Jane Siegler, Assistant Professor, Butler University, United States

We compare two medical device companies that together represent 60% of the market share. We evaluate their supply chains to identify common suppliers and understand how to improve the competitive advantage of the market follower. Through the lens of supply chain resiliency, we identify risks, capabilities, and their resiliency impact.

111-0789 Scheduling Smarter: Staffing Decision Impact on Nurse-Aide Turnover

Kevin Mayo, Student, Indiana University, United States

Eric Webb, Assistant Professor, University of Cincinnati, United States

George Ball, Associate Professor, Indiana University Bloomington, United States

Kurt Bretthauer, Professor, Indiana University, United States

High turnover rates exacerbates the existing shortage of caregivers. We examine both how much and with whom to schedule part-time Certified Nursing Assistants (CNAs) in long-term nursing facilities. Using novel data we identify two scheduling levers, reducing coworker variability and optimal hours, managers can use to reduce turnover.

Invited Session

40	Friday, 09:00 AM - 10:00 AM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Sustainable and Socially Responsible Operations	
	Chair(s): Mike Gordon	

111-1583 Effect of Wholesale Price Contract on Target and Pledge amount in a Crowdfunding Campaign

Joyaditya Laik, Assistant Professor, Bucknell University, United States

Crowdfunding campaigns that are otherwise successful in raising a target amount, sometimes fail to deliver the underlying product. We offer insights to this problem by modelling an entrepreneur's choice of funding target and pledge as a function of the size of a post-crowdfunding market, and a wholesale supply chain contract.

111-1550 When Words and Actions Don't Match: How Greenwashing a Firm's Supply Chain Practices Could Backfire

Robert Jensen, Student, University of Arkansas, United States

John Aloysius, Professor, University of Arkansas, United States

Christian Hofer, Associate Professor, University of Arkansas, United States

We study how firms' misleading claims about their sustainable supply chain initiatives can negatively influence consumer evaluations and firms' value. Our multi-method research presents findings from both behavioral experiments and the analysis of archival data. We introduce a new approach to identify greenwashing and its effect on firm value.

111-0251 Trust Formation in Donation-Based Crowdfunding

Mike Gordon, Assistant Professor, Virginia Polytechnic Institute And State University, United States

A multilevel model is developed to explore how potential lenders make decisions on projects to contribute to on a crowdfunding platform. The parameters of interest are examined on both the individual loan level and the national level.

Invited Session

41	Friday, 09:00 AM - 10:00 AM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Empirical Investigation of Sustainable Operations	
	Chair(s): Priyank Arora	

111-0346 Media shaming on supply chain labor transparency: The role of board composition

Veronica Villena, Associate Professor, Arizona State University, United States

Li Cheng, Assistant Professor, University of Dayton, United States

Understanding of factors driving firms' supply chain transparency, particularly on labor issues, is nascent. Using the fashion industry, we show media shaming as one critical factor to prompt firms to disclose information on suppliers' labor issues, and how the impact of media will depend on the characteristics of firms' board.

111-0176 Chosen for Complementarity or Similarity? Supplier Selection in Corporate Social Responsibility, Innovation, and Efficiency

Sining Song, Assistant Professor, University of Tennessee Knoxville, United States

Deepa Goradia, Assistant Professor, Georgia State University, United States

Yuqi Peng, Assistant Professor, Salisbury University, United States

Yan Dong, Professor, University of South Carolina, United States

Supplier selection is a complex decision that depends on choices of different selection criteria and evaluations of firm-supplier synergies. We hence examine how a supplier selection decision is formed based on the complementarities or similarities between firms and their suppliers in operational efficiency, innovation, and corporate social responsibility.

111-0493 Lead or lag? The effect of relative adoption speed to customers

Wayne Fu, Assistant Professor, University of Michigan Dearborn, United States

Hung-Chung Su, Associate Professor, University of Michigan-Dearborn, United States

Few studies in the existing literature discuss the implications of the adoption speed. We explore the impact of the relative adoption speed of environmental practices between the focal firm and its main customers. We find that relatively faster or slower adoption speed have different effects on dyad sales.

Invited Session

43

Friday, 10:15 AM - 11:15 AM, 1- Meetings & Programs - All are Welcome

Track: All Plenaries and Special Events: Open to Everyone

Invited Session: **Plenary #1: Inspiration, Credibility and Trust - The Key Tenets for a Strong POM Ecosystem**

Chair(s): Sushil Gupta

111-1829 Plenary #1: Inspiration, Credibility and Trust - The Key Tenets for a Strong POM Ecosystem

Anne Robinson, Chief Strategy Officer, Kinaxis, Canada

The domains of POM have experienced an increase in recognized relevance in recent years. Exacerbated by the effects of the pandemic, the demand for our expertise has never been higher. It's natural for us to ask "How can we ensure most recent research is being applied in practice to tackle these opportunities? How can ensure that the most critical industry problems are being considered in academic research and education?" Drawing on her own academic and career experiences, Robinson will share thoughts on the importance and strength of a healthy academic-industry ecosystem. She will focus on the needs and wants, as well as some best practices, all anchored in inspiration, credibility and trust, to ensure our profession continues to thrive.

Friday, 11:30 AM - 12:30 PM

Invited Session

87

Friday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops

Track: All Tutorials, Invited Panels, and Workshops

Invited Session: **Tutorial: Asymptotic Optimality of Base-Stock Policies for Perishable Inventory Systems**

Chair(s): George Shanthikumar Xiting Gong

111-1817 Asymptotic Optimality of Base-Stock Policies for Perishable Inventory Systems

Xiting Gong, Associate Professor, The Chinese University of Hong Kong, China

We consider periodic-review perishable inventory systems with a fixed product lifetime under long-run average cost criterion. We construct simple base-stock policies and establish a variety of asymptotic-optimality results for these policies over four parameter regimes including large product lifetime, large demand population sizes, large unit penalty costs, large unit costs.

Invited Session

89

Friday, 11:30 AM - 12:30 PM, Behavioral OM 1

Track: Behavioral Operations Management

Invited Session: **Behavioral Issues in Supply Chain Management**

Chair(s): Jason Nguyen

111-0405 Trade Credit and Bankruptcy Risk in Supply Chains: An Experimental Study

Rihuan Huang, Student, Cornell University, United States

Andrew Davis, Associate Professor, Cornell University, United States

Kyle Hyndman, Professor, University of Texas Dallas, United States

In this paper we experimentally investigate pricing and inventory decisions in a supply chain consisting of a supplier and a capital-constrained retailer. The retailer can purchase units from the supplier through trade credit and faces bankruptcy risk due to demand uncertainty.

111-0502 Sourcing under Supplier-induced Risks: A Behavioral Investigation

Vincent (Junhao) Yu, Post Doc/Researcher, North Carolina State University, United States

Karen Donohue, Professor, University of Minnesota, United States

Karthik V. Natarajan, Assistant Professor, University of Minnesota, United States

Various types of supplier-induced risks occur in supply chains. In this study, we compare risks that disrupt product supply and that influence consumer demand. We combine modeling and experimental methods to investigate buyers' sourcing behaviors and associated profit implications when facing suppliers with different types and levels of risks.

111-0583 Encouraging Energy Efficiency Investments in a Supply Chain: A Behavioral Investigation

Jason Nguyen, Assistant Professor, Ivey Business School, Canada

Karen Donohue, Professor, University of Minnesota, United States

Behrooz Pourghannad, Post Doc/Researcher, University of Minnesota, United States

Suppliers' propensity to accept external assistance from third-party organizations and buyers and undertake subsequent Energy Efficiency investments is still elusive. Through controlled behavioral experiments, this paper studies how the source of external assistance, and characteristics of the investment influence the supplier's propensity to undertake the assessments and subsequent investments

Contributed Session

90	Friday, 11:30 AM - 12:30 PM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Contributed Session: Empirically Grounded Behavioral Operations 1	
	Chair(s): Xingzhi Jia	

111-1325 The Impact of Logistics Service Quality on Customers' Behavior for Food Delivery Service Providers

Jonathan Jackson, Associate Professor, Providence College, United States

Xun Xu, Associate Professor, California State University Stanislaus, United States

This study analyzes logistics service quality (LSQ) metrics and their impact on customer behavior for various types of food delivery service providers. We examine commonalities and differences between hot meal delivery and grocery delivery in terms of LSQ and provide recommendations on how to succeed in this competitive market.

111-0955 Does Algorithm Aversion Exist in the Field? Analyzing Algorithm Use in Diabetes Self-Management

Wilson Lin, Student, University of Southern California, United States

Song-Hee Kim, Associate Professor, Seoul National University, South Korea

Jordan Tong, Associate Professor, University of Wisconsin-Madison, United States

Using the bolus calculator (algorithm) use behavior from a field experiment on Type 1 Diabetes self-management (Aleppo et al. 2017), we contribute field analysis to identify drivers of algorithm use, such as algorithm appreciation, the need for precision, deviations from algorithm recommendations, and exposure to multiple, potentially conflicting measurements.

111-1403 Price Negotiations in Housing Markets: Estimation of Offer Curves, Reservation Prices, and Bargaining Powers

Abdullah Gokcinar, Student, University of Texas Dallas, United States

Metin Cakanyildirim, Professor, University of Texas Dallas, United States

Suleyman Karabuk, Applied Scientist, Amazon.com, United States

We empirically analyze bargaining behaviors of homebuyers over sequential bargaining data from an online real-estate company. After hypothesis-testing on bargaining actions, we derive a structural estimation model which connects offers with reservation prices. Our model allows estimation of reservation prices and bargaining powers across different buyer and house types.

Invited Session

91	Friday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Donations for Nonprofit Operations	
	Chair(s): Gloria Urrea	

111-0175 Cause Marketing as a Strategic Tool for Firms & an Opportunity for NGOs

Vinit Tipnis, Student, Indiana University Bloomington, United States

Alfonso Pedraza, Associate Professor, Indiana University, United States

Fei Gao, Assistant Professor, Indiana University Bloomington, United States

Sebastian Villa, Assistant Professor, Indiana University Bloomington, United States

In cause marketing campaigns (CMCs), firms donate a percentage of their sales revenue to partnering non-governmental organizations as a strategy to increase sales. Using an online experiment, we investigate how and when earmarked (i.e., restricted) and flexible (i.e., unrestricted) donations in CMCs affect consumers' purchase intent and willingness to pay.

111-0595 Linking Funding Strategies and Diversification: The Case of Humanitarian Organizations

Gloria Urrea, Assistant Professor, University of Colorado Boulder, United States

Sebastian Villa, Assistant Professor, Indiana University Bloomington, United States

Eric Quintane, Associate Professor, ESMT Berlin, Germany

Humanitarian organizations (HOs) face a puzzle when attempting to diversify. Diversifying requires additional funding but managing multiple donors can make it harder for HOs to diversify. We investigate empirically how HOs can resolve this puzzle and access funding to diversify, using a unique dataset and a 2SLS instrumental variable approach.

111-1108 Behavioral Responses To Nonprofit Performance Metrics: Efficiency Vs. Impact

Hasti Rahemi, Student, University of Colorado Boulder, United States

Gloria Urrea, Assistant Professor, University of Colorado Boulder, United States

Leon Valdes, Assistant Professor, University of Pittsburgh, United States

When making donation decisions, donors often pay attention to nonprofits' financial performance measures, most notably financial efficiency. However, nonprofits and watchdog organizations are increasingly communicating alternative performance measures such as impact and cost effectiveness. In a series of experiments, we study how and why people respond to these performance measures.

Contributed Session

92	Friday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Impact and Mitigation of Disasters	
	Chair(s): Maximilian Löffel	

111-0646 Empirical Study of Local Risk Factors in Aid Delivery to Crisis Regions

Andreas Ludwig, Student, Swiss Federal Institute of Technology Zurich, Switzerland

Maximilian Löffel, Student, Swiss Federal Institute of Technology Zurich, Switzerland

Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

Disruptions in the last mile can hamper adequate aid delivery by Humanitarian Organizations to beneficiaries. Especially local conditions in crisis regions often change rapidly, delaying delivery or making it entirely impossible. We empirically study potential disruption factors in different missions worldwide, deriving their specific risk levels and potential responses.

111-1336 Dynamic facility location with random demand and the restoration of transportation network in disaster relief

Kanglin Liu, Assistant Professor, Beijing Jiaotong University, China

Zhi-Hai Zhang, Associate Professor, Tsinghua University, China

This paper considers a multi-period facility location problem in disaster relief, and introduces a scenario-based stochastic programming model that accounts for demand uncertainty. To better respond to the restoration of transportation network and the varying demand situation, location strategies can be dynamically adjusted by establishing new and closing old facilities.

111-1771 Managing Flight Delays in the Midst of Disaster triggered by Hurricanes

Rahul Pandey, Assistant Professor, University of Memphis, United States

Hyunwoo Park, Associate Professor, Seoul National University, South Korea

M Rungtusanatham, Professor, York University, Canada

We investigate the effects of warning signal earliness (the time from first available 72-hour probability estimate that wind speed ≥ 34 knots associated with a hurricane are likely at a location) and instability (temporal fluctuation in the probability estimate) on airline departure delay at airports hit by a hurricane.

Invited Session

93	Friday, 11:30 AM - 12:30 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Crowdsourcing and OM	
	Chair(s): Xiaojin Liu Pankaj Kumar	

111-0100 Trips for Tips? The Impact of Tips on Drivers' Relocation Decisions

Li Ding, Student, Georgia Institute of Technology, United States

Basak Kalkanci, Associate Professor, Georgia Institute of Technology, United States

Using a large-scale taxi trip dataset and structural estimation, we analyze the role of tips in drivers' relocation decision-making process. We show heterogeneous sensitivity to tips among new and experienced drivers, drivers below and above the income target. Through counterfactual analysis, we inform platforms on their tip information disclosure policy.

111-0248 The Effects of Experience and Developer Base Expansion on Digital Confidentiality Failure

Devashish Thakar, Student, University of South Carolina, United States

Sean Handley, Professor, University of South Carolina, United States

Keith Skowronski, Assistant Professor, University of South Carolina, United States

Brett Massimino, Associate Professor, Virginia Commonwealth University, United States

Our empirical study considers whether publishers in the Electronic Video Game industry may learn from their own digital confidentiality failures to prevent future confidentiality losses, whether they learn from industry-leading publishers' failures, and how the number of developers a publisher is working with moderates firms' learning abilities.

111-0513 Cooking or Clicking: The Impact of Online Food Delivery Platforms on Domestic Food Preparation

Yash Babar, Assistant Professor, University of Wisconsin-Madison, United States

Ali Adeli, Assistant Professor, University of Memphis, United States

Brad Greenwood, Associate Professor, George Mason University, United States

In this work, we empirically examine how online food delivery platforms have affected meal preparation, and the dining behaviors of American households. Results indicate that the availability of an increasingly diversified delivery service leads to a significant reduction in time spent preparing meals within the home.

Invited Session

94	Friday, 11:30 AM - 12:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: OM-Marketing Channel: Economic analysis and behavioral experiments	
	Chair(s): Yimin Wang	

111-0446 Does Corporate Social Responsibility Moderate Product Returns?

Yimin Wang, Associate Professor, Arizona State University Tempe, United States

Rui Yin, Associate Professor, Arizona State University Tempe, United States

Corporate Social Responsibility practice improves product purchase probability but also affects product quality as compared with conventional products. We study how CSR moderates the impact of product quality on customer purchase and return behaviors and show that a firm can mitigate return risk through information signaling on CSR practice.

111-0924 A one-sentence tweet or a one-hour video? Influencing the Influencer's Recommendations with Discounts

Baojun Jiang, Associate Professor, Washington University St Louis, United States

Ozge Turut, Associate Professor, Rutgers Business School, United States

Tianxin Zou, Assistant Professor, Warrington College of Business, United States

This paper studies how a firm can use price discounts (e.g., influencer promo codes) for customers referred by an influencer to influence her recommendation informativeness to improve the firm's profit.

Invited Session

99	Friday, 11:30 AM - 12:30 PM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Invited Session: AI and Humans in Modern Operations 1	
	Chair(s): Philippe Blaettchen Park Sinchaisri	

111-0716 On the Fairness of Machine-Assisted Human Decisions

Jann Spiess, Assistant Professor, Stanford University, United States

Bryce McLaughlin, Student, Stanford University, United States

Talia Gillis, Associate Professor, Columbia University, United States

Modeling humans as biased Bayesian decision-makers, we find that exclusion of protected characteristics could increase the disparity of decisions taken across said protected characteristics. We attempt to replicate this effect (over gender) using an experiment in which one set of participants estimates other participants cognitive exam scores.

111-0835 Machine Learning Based Causal Inference with Multiple A/B Tests on Large-Scale Platforms

Zikun Ye, Student, University of Illinois at Urbana Champaign, United States

Dennis Zhang, Associate Professor, Washington University in St. Louis, United States

Renyu (Philip) Zhang, Assistant Professor, New York University, China

Heng Zhang, Assistant Professor, Arizona State University, United States

Zhiqi Zhang, Student, Washington University in St. Louis, United States

We develop a new framework to estimate and infer THE overall treatment effect of multiple experiments and identify the optimal experiment combination with partially observable outcomes. We propose a deep learning and semi-parametric statistics framework to estimate the HTE of any experiment combination for each user on the platform.

Invited Session

98	Friday, 11:30 AM - 12:30 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Frontiers in OM-Finance: Blockchain, Green, and Platform - I	
	Chair(s): Xun Xu	

111-0866 The Chicken or the Egg? Causal Inference in Sustainability Performance and Firm Performance

Yiming Zhuang, Assistant Professor, Frostburg State University, United States

While research extensively supports sustainability performance correlates with firm performance, the causal relationship has not been fully explored. This study systematically examines the causal relationship between sustainability performance and firm performance using multiple causal discovery methods. Data is collected from large U.S. manufacturing firms.

111-0980 Examining the role of trade credit platforms

S. Alex Yang, Associate Professor, London Business School, United Kingdom

Jiding Zhang, Assistant Professor, New York University, China

Xiangfeng Chen, Professor, Fudan University, China

We examine the role of trade credit platforms that provide bill-transferring services in supply chain finance.

111-0373 Blockchain-Enabled Digital Voucher Financing and Transfer in a Three-echelon Supply Chain

Yaobin Wu, Student, Fudan University, China

Xiangfeng Chen, Professor, Fudan University, China

Xun Xu, Associate Professor, California State University Stanislaus, United States

Gangshu Cai, Professor, Santa Clara University, United States

This study investigates two blockchain-facilitated financing programs including digital voucher financing and transfer and compares them with traditional bank financing in a three-echelon supply chain. We identify the benefits and conditions for supply chain participants to adopt these blockchain-facilitated financing programs. Managerial implications are discussed.

Invited Session

100	Friday, 11:30 AM - 12:30 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Innovation in Healthcare Delivery 1	
	Chair(s): Nan Liu	

111-0407 The Spillover Effects of Capacity Pooling in Hospitals

Jong Myeong Lim, Student, Wharton School, United States

Hummy Song, Assistant Professor, The Wharton School, United States

Julius Yang, Director of Medical Services, Beth Israel Deaconess Medical Center, United States

We examine the spillover effect that patients who are placed on service experience when other patients belonging to the same service are placed off service. Using an instrumental variables approach, we find there are substantial negative spillover effects, manifesting as longer lengths of stay and lower quality of care.

111-0602 The Success of Women Leadership in Fighting Covid-19: Evidence from U.S. Nursing Homes

Poyraz Bozkurt, Student, Purdue University, United States

Feng (Susan) Lu, Associate Professor, Purdue University, United States

Lauren Lu, Associate Professor, Dartmouth College, United States

Collin Raymond, Associate Professor, Purdue University, United States

Using the U.S. nursing home data, we investigate the impact of women leadership on Covid-19 infection and death rates in nursing homes and observe that a higher number of women directors results in fewer Covid-19 infections and deaths. We further investigate the mechanisms by analyzing staff planning and PPE shortages.

111-0031 A Cost-effectiveness Analysis of Lethal Ovitrap for the Prevention of Dengue Fever

Huijun Zhu, Student, National University of Singapore, Singapore

Joel Aik, Director, Environmental Epidemiology and Toxicology Division, National Environment Agency, Singapore

Jue Tao Lim, Head (Informatics), Environmental Health Institute, National Environment Agency, Singapore

Shuzhen Sim, Director, Environmental Epidemiology and Toxicology Division, National Environment Agency, Singapore

Joel Goh, Associate Professor, NUS Business School, Singapore

We analyze the system-level cost-effectiveness of a network of lethal ovitraps for Dengue control. Benefits are modeled using an age-stratified multiple-infection epidemiological model and measured as reductions in disability-adjusted-life-years (DALYs). We estimate labor costs by modeling the workload needed for periodic maintenance of the traps via Traveling Salesmen Problems (TSPs).

Invited Session

101	Friday, 11:30 AM - 12:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Designing Patient-Centric Systems 1	
	Chair(s): David Rea	

111-0046 Empirical Analysis of Length of Stay, Readmissions, and Discharge in Collaborative Care in Internal Medicine

Paul Cronin, Student, University of Texas Austin, United States

Douglas Morrice, Professor, The University of Texas at Austin, United States

Jonathan Bard, Professor, The University of Texas at Austin, United States

Luci Leykum, Professor, University of Texas Austin, United States

This paper presents the benefits of collaborative care in an internal medicine department at a Texas academic medical center. The hospital implemented the approach on one of its five teaching teams. The effect of collaborative care on patient length of stay and discharge planning was shown to be statistically significant.

111-0576 The Responsibility of Supply Chains to the Public Health

Justin Kistler, Assistant Professor, University of Tennessee Knoxville, United States

Luv Sharma, Assistant Professor, University of South Carolina, United States

Thomas Goldsby, Professor, University of Tennessee Knoxville, United States

As the prevalence of public health issues in society continues to increase, we examine the impact of supply chains on the public health through development of a theoretical framework that advocates for the integration of health well-being outcomes as an additional measure of supply chain success.

Invited Session

102	Friday, 11:30 AM - 12:30 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Invited Session: Data and Decision Analytics for Public Sector and Service Systems	
	Chair(s): Pengyi Shi Iman Attari	

111-0818 A Two-timescale Model for Routing Policy Optimization with Application in Community Corrections

Xiaoquan Gao, Student, Purdue University, United States

Pengyi Shi, Assistant Professor, Purdue University, United States

Nan Kong, Associate Professor, Purdue University, United States

Motivated by jail overcrowding and the increasing adoption of community correction, we formulate and analyze an MDP to optimize criminal placement for case disposition. To tackle the curse-of-dimensionality, we leverage a two-timescale model with an actor-critic policy gradient algorithm. Our results generate useful policy insights.

111-1145 Machine Learning for Public Policy: The Case of Immigration Enforcement

Mohammad Fazel-Zarandi, Lecturer, Massachusetts Institute of Technology, United States

Dimitris Bertsimas, Professor, MIT Operations Research Center, United States

We analyze machine learning-based decision-making in the context of immigration enforcement. We develop an algorithm to predict the risk of recidivism of noncitizens, and embed these predictions into a decision-making framework to design immigration policy that prevents crime. We show that the implementation of our algorithm reduces crimes by 26%.

111-1185 Behavior-Aware Queueing: The Finite-Buffer Setting

Yueyang Zhong, Student, Booth School of Business, United States

Raga Gopalakrishnan, Assistant Professor, Queen's University, Canada

Amy Ward, Professor, Booth School of Business, United States

Service system design is often informed by queueing theory, which traditionally assumes exogenous customer arrivals and server work speeds. However, when customers and servers are human, design decisions influence their behavior. We use a game theoretic queueing framework to study how design decisions affect customer and server interactions.

Invited Session

104	Friday, 11:30 AM - 12:30 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Digital Infrastructure Investments-Private, Public & Joint View	
	Chair(s): Nitin Joglekar	

111-1851 Digital Infrastructure Investments-Private, Public & Joint View

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Edward Anderson, Professor, University of Texas Austin, United States

Kyungmin Lee, Post Doc/Researcher, American University, United States

Geoffrey Parker, Professor, Dartmouth College, United States

Jagjit Srail, Professor, University of Cambridge, United Kingdom

Ettore Settanni, Post Doc/Researcher, University of Cambridge, United Kingdom

The panel will look at the emergent trends in digital infrastructure growth in public (think of Biden's trillion dollars) and private sectors, especially from an OM perspective. Panelists: 1) Nitin Joglekar, Boston University, 2) Edward Anderson, University of Texas at Austin, 3) Kyungmin Lee, American University, 4) Geoffrey Parker, Dartmouth College, 5) Jagjit Singh Srail, Cambridge University, 6) Ettore Settanni, Cambridge University.

Invited Session

105	Friday, 11:30 AM - 12:30 PM, Inventory Management	Track: Inventory Management
	Invited Session: Service Inventory	
	Chair(s): Sanjeev Bordoloi Sameer Kumar	

111-0843 Optimization in Assembly Line Feeding Mode Problem using Machine Learning Algorithms

Prajwal Yadav, Student, Indian Institute of Technology Kharagpur, India

Ratnesh Bhosale, Student, Indian Institute of Technology Kharagpur, India

Duhita Wani, Student, Indian Institute of Technology Kharagpur, India

Sushmita Narayana, Assistant Professor, National Institute of Industrial Engineering, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

This study explores use of Machine learning algorithms in selection of an appropriate feeding policy for an automated inventory assembly line. With increasing product variety, efficient storage and assembly line management is essential. Using a hybrid feeding mode that is unique to each product, time and cost are optimized.

111-1093 Pre-disaster planning for multiple relief items distribution

Muer Yang, Associate Professor, University of St. Thomas, United States

Sameer Kumar, Professor, (CIF:ESG50985993), United States

Xinfang Wang, Associate Professor, Georgia Southern University, United States

Michael Fry, Professor, 3M Company, United States

We develop scenario-robust optimization models for stocking multiple disaster relief items at strategic facility locations for disaster response. Our models allow decision makers to specify uncertainty parameters (i.e., point and probability estimates) based on their degrees of knowledge, using distribution free uncertainty sets in the form of ranges.

Invited Session

107	Friday, 11:30 AM - 12:30 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Innovation and Procurement 1	
	Chair(s): Cuihong Li Xiaoshuai Fan	

111-0131 Sourcing Innovation and Production

Xiaoshuai Fan, Assistant Professor, Southern University of Science and Technology, China
 Ersin Korpeoglu, Associate Professor, University College London, United Kingdom
 Cuihong Li, Professor, University of Connecticut, United States

We consider a firm sources the design and production of an innovative product from two risk-neutral suppliers. This paper designs and compares incentive mechanisms with different commitment to motivate suppliers to exerting efforts and to reveal suppliers' private information. Our analysis shows no-commitment mechanism dominates when innovation cost is high.

111-0140 When does data sharing promote innovation?

Zhi Chen, Assistant Professor, National University of Singapore, Singapore
 Jussi Keppo, Associate Professor, National University of Singapore, Singapore

Many innovations today are data-driven such as self-driving cars. To improve the algorithms of these products, firms make substantial investments in data collection. However, the data is limited for an individual firm. This paper studies whether data collected by individual firms should be shared in order to promote innovation.

Invited Session

108	Friday, 11:30 AM - 12:30 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Managing Operations and Marketing Challenges in Online Retailing	
	Chair(s): Mabel C. Chou	

111-0622 Consumer Targeting and Service Enhancement

Jiong Sun, Assistant Professor, Purdue University, United States
 Yingchen Yan, Assistant Professor, Beihang University, China

This study investigates service enhancement when consumers can affect whether their privacy is revealed. We find that consumer targeting is not always profitable by discovering a U-shaped effect of privacy cost. Our study also suggests that a personalization trap can occur when privacy cost is moderate.

111-0906 The Environmental Implications of Fast Delivery in E-Commerce

Chenshan Hu, Student, Washington University in St. Louis, United States
 Xiaoyang Long, Assistant Professor, University of Wisconsin Madison, United States
 Jiankun Sun, Assistant Professor, Imperial College London, United Kingdom
 Dennis Zhang, Associate Professor, Washington University in St. Louis, United States

In this work we empirically and analytically study the impact of reduced delivery time on consumer purchasing behavior on an e-commerce platform, in terms of both total amount purchased and purchasing frequency. We also investigate optimal delivery pricing policies that balance environmental impact and firm profit.

111-1437 Is more information better? Considering consumer returns under product fit uncertainty

Guiyang Zhu, Student, NUSRI Chongqing, China
 Mabel C. Chou, Associate Professor, National University of Singapore, Singapore

While online reviews increase product sales, the impact on returns remain unclear. Moreover, when no returns occur, how information affects the demand has not been analyzed when customers' purchase decisions are influenced by the return probability and review information. We study the impact of an online seller's information provision policy.

Invited Session

111	Friday, 11:30 AM - 12:30 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Pricing Strategies in Agribusiness	
	Chair(s): Prashant Chintapalli	

111-0437 Outcome-based Pricing for Precision Agriculture in the Presence of Strategic Farmers

Heng Chen, Assistant Professor, University of Nebraska Lincoln, United States
 Ying (Maggie) Zhang, Assistant Professor, Clemson University, United States

Under the pressure of food shortage, precision agriculture has been adopted to grow more food in a sustainable manner. We explore pricing strategies of a service provider of precision agriculture in the presence of strategic farmers while considering that farmers may need to learn by observing the trials before adoption.

111-1635 The Implications of Crop Minimum Support Price in the Presence of Myopic and Strategic Farmers

Prashant Chintapalli, Assistant Professor, Ivey Business School, Canada

Christopher Tang, Professor, University of California Los Angeles, United States

We examine the implications of credit-based MSPs in the presence of both myopic and strategic farmers and when two crops can be either substitutes or complements from consumer's perspective. We find that the myopic farmers' decisions dominate the market and it is beneficial to give MSPs to more complementary crops.

111-1485 Strategies to Sell Imperfect Produce

Haoran Yu, Student, Syracuse University, United States

Burak Kazaz, Professor, Whitman School of Management, United States

Fasheng Xu, Assistant Professor, Syracuse University, United States

We examine a retailer's food ordering process where a random proportion of the order is imperfect. We build a MNL model to determine how to sell fresh and imperfect produce, bundled or separately, with the corresponding optimal prices. We then identify the firm's optimal ordering decisions.

Contributed Session

113	Friday, 11:30 AM - 12:30 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Emerging technologies in supply management	
	Chair(s): Jan Spreitzenbarth	

111-1182 Dealing with uncertainty and adaptivity: Design of an agile procurement process for new product development

Ruth Schuelken, Student, University of Mannheim, Germany

Steffen Kokozinski, Student, University of Mannheim, Germany

Christoph Bode, Professor, University of Mannheim, Germany

Products that are characterized by high uncertainty and adaptivity are often developed with agile new product development processes. Using a design science approach, we propose an agile procurement process that is aligned to the agile development process and supports the attainment of new product development goals.

111-0023 Artificial intelligence and machine learning in supply management: review, practical application, and future research

Jan Spreitzenbarth, Student, Mannheim University, Germany

Christoph Bode, Professor, University of Mannheim, Germany

Heiner Stuckenschmidt, Professor, Mannheim University, Germany

Artificial intelligence is a key technology for procurement and its usage is still in its infancy. This work contributes to the understanding of artificial intelligence and machine learning in supply management from theory and practical insights providing further research direction and an overview to management looking for guidance.

Invited Session

114	Friday, 11:30 AM - 12:30 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Technology and Entrepreneur Based Decisions	
	Chair(s): Hallie Cho	

111-0569 Prototyping in New Product Development

Gaoyu Xie, Student, George Washington University, United States

Janne Kettunen, Associate Professor, George Washington University, United States

We investigate conditions when it is optimal to develop a prototype and the optimal timing of a prototype. The analysis is conducted under uncertainty in product development efforts. We show how the decision to develop a prototype depends on decision makers' risk aversion.

111-1423 Best In Class: The Effect Of Relative Perceived Quality On Demand

Hallie Cho, Assistant Professor, Vanderbilt University, United States

This paper explores which factors drive consumers to consider certain products together and which factors set apart the ultimate choice from the rest. Based on co-occurring product mentions in online customer reviews, we find which products are often considered together and investigate how relative quality amongst similar products influences demand.

111-1711 When and who to hire next? Risk-return tradeoffs in tech startups

Sonia Bagherirad, Student, York University, Canada

Moren Levesque, Professor, York University, Canada

Adam Diamant, Assistant Professor, York University, Canada

We formulate a discrete-time finite-horizon stopping model to examine when and who among the STEM and the non-STEM workforces a founder should hire next to scale up. We identify labor market- and firm-based contingencies whereby the founder should favor a STEM hire over a non-STEM hire or wait to hire.

Invited Session

116	Friday, 11:30 AM - 12:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Topics in Retail Operations 1	
	Chair(s): Monire Jalili Alireza Yazdani	

111-0451 Design of Returnless Refunds in Online Retailing

Eren Cil, Associate Professor, University of Oregon, United States

Alireza Yazdani, Assistant Professor, California State Polytech University Pomona, United States

Monire Jalili, Assistant Professor, Bentley University, United States

Michael Pangburn, Professor, University of Oregon, United States

Online retailers commonly allow customers to return products for a full refund, but occasionally let them keep the products while obtaining a refund. We analyze the optimal structure of such a refund policy and characterize the optimal proportion of returnless refund offers as a function of the return cost.

111-1418 Selling Fewer Better Things: Serving Variety with Durable Products

Monire Jalili, Assistant Professor, Bentley University, United States

Michael Pangburn, Professor, University of Oregon, United States

Alireza Yazdani, Assistant Professor, California State Polytech University Pomona, United States

Slow fashion holds the promise to induce consumption of longer-lasting items. Product reuse may save consumers money, at the expense of occasionally falling behind the latest trend. Facing consumers with heterogeneous fashion sensitivities, we analyze when a seller should offer low or high durability products, or a mix of both.

111-0471 Simulation of Blockchain-enabled Market for Supplier Capacity Trading among Competing Retailers

Kai Wendt, Student, WHU - Otto Beisheim School of Management, Germany

Daniel Hellwig, Student, WHU - Otto Beisheim School of Management, Germany

Arnd Huchzermeier, Professor, WHU - Otto Beisheim School of Management, Germany

Volodymyr Babich, Professor, Georgetown University, United States

We design a behavioral simulation using a blockchain-enabled market for trading suppliers' capacities among competing retailers. Retailers have different valuations for goods and order before knowing their demand. After demand realization, retailers trade among each other to maximize profits. We find that initial order quantities decline when trading is allowed.

Invited Session

117	Friday, 11:30 AM - 12:30 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Operations in Retailing 1	
	Chair(s): Lai Wei	

111-0110 Predicting Individual Treatment Effects of Large-scale Field Experiment in a Ride-sharing Economy

Teng Ye, Assistant Professor, University of Minnesota, United States

In collaboration with a leading ride-sharing platform, we combine counterfactual machine learning and social science theories to unpack the heterogeneous treatment effect of team-contest field experiments at the individual level. Our work identifies actionable insights for contest design that promotes worker revenue and engagement on ride-sharing platforms.

111-0853 Strategic Timing and Pricing For Selling Bonus Actions in Video Games

Lifei Sheng, Assistant Professor, University of Houston Clear Lake, United States

Christopher Ryan, Assistant Professor, University of British Columbia, Canada

Xuying Zhao, Associate Professor, University of Notre Dame, United States

We consider level-based puzzle games where additional "moves" or "times" are sold to help players finish challenging levels. We call these bonus actions. We study the timing and pricing for selling such bonus actions. We show that different selling strategies should be adopted according to the stage of the game.

Contributed Session

120	Friday, 11:30 AM - 12:30 PM, Sports OM	Track: Sports Operations Management
	Contributed Session: Sports Operations Management - Design	
	Chair(s): David Bamford Iain Reid	

111-0279 Research Trends and Agenda in Sports Operations Management: A bibliometric Analysis

Moheeb Abualqumboz, Senior Lecturer, Manchester Metropolitan University, United Kingdom

David Bamford, Professor, Manchester Metropolitan University, United Kingdom

Iain Reid, Reader, Manchester Metropolitan University, United Kingdom

This paper presents a bibliometric analysis of academic publications on sport operations management using Scopus and WOS databases. We aim to present the authorship activity, thematic evolution, and pattern of 'sports operations mapping' on journal, article and author levels over the past 10 years, exploring future research avenues.

111-0050 Servitisation in Sport: fan satisfaction in a UK sports club

David Bamford, Professor, Manchester Metropolitan University, United Kingdom

Benjamin Dehe, Associate Professor, Auckland University of Technology, New Zealand

This research explores what initiatives a UK sports club could take to increase home game attendance. Two questions were developed: i) what are the key components influencing home game attendance?; ii) what could the club do and implement to increase home game attendance?

Invited Session

121	Friday, 11:30 AM - 12:30 PM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: Supply Chain Capabilities To Improve Network Responsiveness 1	
	Chair(s): Andrea Patrucco	

111-1302 Supply chain flows: Literature review and a road map through paradox theory perspective

Muhammad Hasan Ashraf, Student, University of Rhode Island, United States

Mehmet Yalcin, Assistant Professor, University of Rhode Island, United States

Utilizing paradox theory, we aim to refine and propose a theoretical framework to explain how the tensions that emerge due to short-term impact on supply-chain flows (SCF) and the capabilities developed to address long-term impact on SCF can be conceptualized and extend the knowledge about the management of these tensions.

111-1332 Supply Chain Learning: A Conceptual Framework through Grounded Theory Approach

Kiran Patil, Student, University of North Texas, United States

Applying grounded theory, this study explains present perception of supply chain learning with its inherent flaws. The conceptual framework establishes conditions necessary to formulate and evaluate supply chain learning theories. The semiotic structure enables a nuanced interpretation of organizational interactions to exchange knowledge and accomplish organizational objectives.

111-1455 The role of social capital in supply chain agility and resilience

Gokcay Balci, Senior Lecturer, University of Huddersfield, United Kingdom

Meritta u2150635@unimail.hud.ac.uk, Student, University of Huddersfield, United Kingdom

Ebru Surucu Balci, Lecturer, University of Bradford, United Kingdom

Samir Dani, Professor, Keele University, United Kingdom

The research investigates the impact of bridging and bonding social capitals (BRSC, BOSC) on supply chain agility and resilience in the Indian maritime supply chain context. Results of structural equation modelling show agility mediates the relationships between resilience and BRSC and BOSC. BRSC has higher impact on agility than BOSC.

Invited Session

122	Friday, 11:30 AM - 12:30 PM, Supply Chain Management 2	Track: Supply Chain Management 2
	Invited Session: New Methods and New Technology in Supply Chain Management 1	
	Chair(s): Yu Xia	

111-0114 Privacy-Preserving Multi-Target Multi-Domain Recommender Systems

Enmao Diao, Student, Duke, United States

Vahid Tarokh, Professor, Duke, United States

Jie Ding, Assistant Professor, University of Minnesota, United States

This work introduces a novel Multi-Target Multi-Domain Recommender System based on Assisted AutoEncoders and Multi-Target Assisted Learning, which can help organizational learners improve their recommendation performance simultaneously without sharing sensitive assets such as data and tasks.

111-1374 FREIGHT TRIP GENERATION IN SUPERMARKETS AND NANO-STORES

Jhan Gil-Marin, Student, University of Maine, United States

Diana Moreno-Palacio, Assistant Professor, Universidad Nacional De Colombia, Colombia

Ricardo Quintero-Giraldo, Student, Universidad Nacional De Colombia, Colombia

John Posada-Henao, Associate Professor, Universidad Nacional De Colombia, Colombia

Carlos Gonzalez-Calderon, Associate Professor, Universidad Nacional De Colombia, Colombia

The freight trip generation patterns in supermarkets and nano-stores in urban areas is analyzed, taking a case study in developing economies such as Medellin Metropolitan Area, in Colombia. Supermarkets are of interest because the new trend of small-supermarkets into neighborhoods and the Nano-stores because its complex logistic operation model.

111-1392 Data-driven Metaheuristics for a Multi-product Production/Distribution System Design Problem

Jianing Zhi, Lecturer, Penn State University Erie, United States

Burcu Keskin, Professor, University of Alabama Tuscaloosa, United States

Zhifeng Xiao, Associate Professor, Penn State Erie, United States

This paper proposes a data-driven metaheuristic (DDMH) framework that leverages the predictive power of machine learning models, which exploit location information and mine structural knowledge of a supply chain network for intelligent decision making. As a case study, we apply DDMH to a production/distribution network design problem.

Invited Session

123	Friday, 11:30 AM - 12:30 PM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Invited Session: Supply Chain Risks	
	Chair(s): Li Cheng	

111-0556 Firms' Engagement in Climate Change Policy: A Typology and Antecedents

Zhenzhen Yan, Student, Michigan State University, United States

Sriram Narayanan, Professor, Michigan State University, United States

Tobias Schoenherr, Professor, Michigan State University, United States

This study conceptualizes climate change policy engagement, proposes, and validates a typology for engagement strategies, and explores the antecedents of firms' engagement by performing text analysis on firms' self-disclosed information and econometric methods on supply chain relationship data, revealing the multiplicity of public policy implications from an OSCM perspective.

111-1089 The impact and effectiveness of supply chain visibility

Kyle Goldschmidt, Associate Professor, University of St. Thomas, United States

While supply chain visibility has been highly touted as critical to improve responsiveness to supply chain disruptions, there exists little evidence to support these claims. This study empirically explores the impact and effectiveness of supply chain visibility.

111-0351 THE EFFECT OF PLEAS FOR SUPPORT ON INDEPENDENT AND NATIONAL BRAND BUSINESSES DURING A PANDEMIC

Dave Ketchen, Jr., Professor, Auburn University, United States

Li Cheng, Assistant Professor, University of Dayton, United States

Christopher Craighead, Professor, University of Tennessee Knoxville, United States

We examine the possibility that customers may respond differently to the same messaging offered by different types of firms (independent vs. a national brand's local outlet) during a societal crisis, and how the framing and source of the pleas sent by firms could shape customers' responses using four vignette-based studies.

Invited Session

124	Friday, 11:30 AM - 12:30 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Pricing in Energy, Renewables and Environment 1	
	Chair(s): Fariba Farajbakhsh Mamaghani	

111-0487 Distribution Model of Subsidy and Tax: Social Welfare Perspective

Shadi Goodarzi, Assistant Professor, University of Texas Austin, United States

Mohammad Amini, Student, University of Texas Austin, United States

This study aims to provide a tax/subsidy distribution model to promote renewable energy while maximizing social welfare. It develops a game-theoretic model with policymaker, different types of manufacturers, and power plants. To validate the model, results from the game and comparative analysis are compared with the U.S. data in 2009-2019.

111-0648 Data-driven Risk Management for Merchant Energy Storage

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Merchant storage plays a critical role in the trading of energy but faces a tradeoff between average returns and volatility. We consider several data-driven techniques to manage this tradeoff by leveraging financial contracts as well as making changes to dynamic operating policies using regularization and regret minimization.

111-1284 Harvesting Solar Power Fosters Prices in a Vicious Cycle: Breaking the cycle with price mechanisms

Fariba Farajbakhsh Mamaghani, Assistant Professor, Tulane University, United States

Metin Cakanyildirim, Professor, University of Texas Dallas, United States

Distributed solar power generation is growing but not necessarily benefiting the utility firms. Market regulators are challenged to keep prices low within the current pricing mechanisms. We provide a profit maximization formulation for a regulated utility and reveal the interaction between optimal price increases and growing solar power adoption.

Invited Session

125	Friday, 11:30 AM - 12:30 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: CLSC Operations Management 1	
	Chair(s): Mengyun Zhang	

111-0566 Carrots versus Sticks: How do Curbside Feedback Tactics Impact Households' Recycling Performance?

Erin Mckie, Assistant Professor, Ohio State University, United States

Aravind Chandrasekaran, Associate Professor, Ohio State University, United States

Sriram Venkataraman, Associate Professor, University of South Carolina, United States

Friday, 11:30 AM - 12:30 PM

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Much responsibility for advancing the circular economy has been directed towards firms, yet many reuse opportunities are dependent on household-level actions. We thus examine the role of two popular forms of curbside feedback mechanisms in correcting households' curbside recycling behaviors. Our findings have strong implications for both literature and practice.

111-0263 Optimal Remanufacturing Strategy in A Market of Multiple Product Generations

Mengyun Zhang, Student, Texas A&M University, United States

Many firms launch new generations of products regularly to be competitive. This is especially true in high-tech industries. We investigate the optimal remanufacturing strategy in a market of multiple generations of products by modeling the depreciated value, the demand pattern, and the supply of cores from each generation.

Friday, 12:45 PM - 01:45 PM

Invited Session

129	Friday, 12:45 PM - 01:45 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Using Digital Platforms and Adaptive Reading and Practice to teach Operations Management	
	Chair(s): Rakesh Mallipeddi	

111-1874 Using Digital Platforms and Adaptive Reading and Practice to teach Operations Management

Tracie Lee, Lecturer, Boise State University, United States

Please join Tracie Lee, Boise State University, as she demonstrates digital platforms and adaptive reading and practice to teach Operations Management and Supply Chain. She is passionate about interactive learning, and actively engages students in the learning process. Learn tips and tricks for greater student success in your classroom.

Invited Session

131	Friday, 12:45 PM - 01:45 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Empirical Studies on Worker Behavior 1	
	Chair(s): Maria Ibanez	

111-0593 Unlocking algorithm potential: overcoming naïve advice weighting with feature transparency"

Maya Balakrishnan, Student, Harvard Business School, United States

Jordan Tong, Associate Professor, University of Wisconsin-Madison, United States

Kris Ferreira, Assistant Professor, Harvard University, United States

Algorithm aversion often occurs after observing algorithms err. One way algorithms systematically err is by having different performances across unlabeled subclasses of tasks. Through lab experiments we show people judge an algorithm's past performance in aggregate and incorporate its recommendation uniformly in the future based on this aggregate past performance.

111-0889 The Effects of Offered and Required Schedule Flexibility on Job Applications

Maria Ibanez, Assistant Professor, Kellogg School of Management, United States

Using data from job postings across positions and across companies, we investigate how offering or requiring worktime flexibility affects worker attraction.

Contributed Session

132	Friday, 12:45 PM - 01:45 PM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Contributed Session: Empirically Grounded Behavioral Operations 2	
	Chair(s): Tung Nguyen	

111-0893 Order quantity or total consumption? How consumers mode of payment affect gasoline retailer's profitability

Nathan Craig, Assistant Professor, Ohio State University, United States

Ananth Raman, Professor, Harvard University, United States

Ehsan Valavi, Student, Harvard Business School, United States

Gasoline is believed to be an inelastic commodity. Yet, its high price volatility raises questions about how consumers react to its price variation. In this research, we curated a dataset from a large gasoline retailer to study the effect of consumers' mode of payment on their order quantity.

111-0526 Leveraging the human-interface with make-to-order (MTO) management systems

Iain Reid, Reader, Manchester Metropolitan University, United Kingdom

David Bamford, Professor, Manchester Metropolitan University, United Kingdom

Fatima Zamzam, Business Analyst, Russell IPM, United Kingdom

"New management systems for Make-to-Order (MTO) often rely on customer and vendor management engagement, plus some form of employee incentivization. This study empirically examines the impact of behavioural operations for mechanising the adoption of digital technologies in MTO within a UK based manufacturer.

111-0465 Does building trust boost labor productivity? A study of Vietnam's manufacturing SMEs

Tung Nguyen, Student, International University - Vietnam National University HCMC, Vietnam

We use the balanced panel data (2011, 2013 and 2015) of over 2,000 small and medium-sized enterprises in Vietnam. The fixed-effects estimation results indicate that those factors positively affecting firm-level labor productivity include a bundle of human resources management practices such as quality control, fringe benefits, incentives and trust-building.

Invited Session

133	Friday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Disaster management during the Covid-19 Pandemic in vulnerable communities 1	
	Chair(s): Irineu de Brito	

111-0119 Opportunities for small potato-producing units in the challenges of COVID-19 economic reactivation. A multidimensional approach.

Ana Luna, Professor, Universidad del Pacifico, Peru

Mario Chong, Professor, Universidad del Pacifico, Peru

Paolo Lopez, Assistant Professor, Universidad del Pacifico, Peru

In March 2020, the WHO declared the COVID-19 outbreak as a state of a pandemic. This work presents a functional multidimensional approach to Peruvian farming families, to increase the response capacity of small potato-producing units and reduce their vulnerability in the context of the economic reactivation due to the pandemic.

111-0135 A humanitarian distribution model during the COVID19 pandemia in vulnerable zones of influence Purace volcano

Irineu de Brito, Professor, Universidad Estadual Paulista, São José dos Campos, Brazil

Mario Chong, Professor, Universidad del Pacifico, Peru

Helmer Paz, Professor, Corporación Universitaria Comfacaucua, Colombia

Nelson Paz, Professor, Corporación Universitaria Comfacaucua, Colombia

Jhon Segura, Assistant Professor, Corporación Universitaria Comfacaucua, Colombia

During the COVID-19 pandemic, communities suffer from a shortage of essential medical goods and services, especially vulnerable populations living on a daily basis. This proposal examines the scope and effective use of social capital to alleviate and mitigate human suffering in this complex scenario; Pandemic, landslides and possible volcanic activation.

111-1774 Surge Capacity Planning for Dialysis

Michael Klein, Assistant Professor, San Jose State University, United States

John Muckstadt, Emeritus Professor, Cornell University, United States

Nathaniel Hupert, Associate Professor, Weill Cornell Medicine, United States

Kidney failure is commonly treated with dialysis. Challenges during the COVID-19 pandemic include surges in acute care demand for critical dialysis equipment. Furthermore, dialysis supply shortages occurred which impacted chronic dialysis patients in rural areas. We propose capacity planning models to address these dialysis equipment and supply shortfalls.

Contributed Session

134	Friday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Disaster Preparation and Prepositioning	
	Chair(s): Llord Brooks	

111-0440 Trauma and Disaster Planning Integration

Llord Brooks, Student, University of Arkansas - Fayetteville, United States

David Dobrzykowski, Associate Professor, University of Arkansas - Fayetteville, United States

Iana Shaheen, Assistant Professor, University of Arkansas - Fayetteville, United States

We examine antecedents of supply chain integration among humanitarian aid workers in a disaster relief setting. Specifically, we examine how trauma exposure impacts aid worker behaviors and internal integration activities aimed at preparing for a future disaster response.

111-1340 Facility location and capacity expansion for disaster response: a Markov decision process

Kanglin Liu, Assistant Professor, Beijing Jiaotong University, China

In this paper, we consider dynamic facility location and capacity expansion problem by a three-phase framework, where the optimal delivered inventory, transportation policy and facility location strategies are sequentially determined. The model is based on the optimal solutions of a newsvendor problem, a transportation problem and the Markov-decision process.

111-0760 The Impact of Stock Sharing and Postponement Strategies on Prepositioned Relief Stocks

Lamia Gulnur Kasap, Student, Ozyegin University, Turkey

Burcu Balci, Associate Professor, Ozyegin University, Turkey

We consider a collaborative strategy among humanitarian agencies that preposition supplies in a single depot. We develop a simulation model to evaluate the effects of postponement and stock sharing practices. Our results show that significant savings can be obtained in fill rate, response time, and inventory utilization performance.

Invited Session

135	Friday, 12:45 PM - 01:45 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Disruptive Innovation and OM	
	Chair(s): Kejia Hu	

111-0109 Redistributed Manufacturing (RDM) in Healthcare: Developing the Business Case for Innovation

Victor Uwalaka, Student, University of the West of England, United Kingdom
 Wendy Phillips, Professor, University of the West of England, United Kingdom
 Basil Omar, Senior Lecturer, University of the West of England, United Kingdom
 Christopher Howell, Post Doc/Researcher, University of the West of England, United Kingdom

New technologies, small-scale, novel manufacturing processes and flexible manufacturing equipment are disrupting existing business models and supply chain configurations, challenging existing OM theory and practice. Though the use of value stream mapping to compare current production future RDM models, this paper investigates the business case for RDM in healthcare

111-1535 How Supply Chain Complexity Drives the Inventory Record Inaccuracy: Empirical Evidence from Cross-border E-commerce

Ting Wang, Student, Univ of Science and Technology of China, China
 Kejia Hu, Assistant Professor, Vanderbilt University, United States
 Stanley Lim, Assistant Professor, Michigan State University, United States
 Yun Fong Lim, Associate Professor, Singapore Management University, Singapore
 Yugang Yu, Professor, University of Science and Technology of China, China

Accurate inventory records are of paramount importance while greatly challenged in cross-border e-commerce owing to the complexity lied in their supply chains. This study explores how supply chain complexity affects inventory record inaccuracy (IRI) in a cross-border e-commerce context.

111-1631 The Operational Value of Cross-Channel Advertising on E-commerce Marketplaces

Qiyuan Deng, Assistant Professor, Chinese Univ of Hong Kong (Shenzhen), China
 Kejia Hu, Assistant Professor, Vanderbilt University, United States
 Yun Fong Lim, Associate Professor, Singapore Management University, Singapore

E-commerce marketplaces provide various paid advertising services, which promise to increase seller's exposure to potential buyers in different channels. We study the effect of cross-channel advertising on a seller's revenue at an e-commerce marketplace, based on which we develop an optimization model to facilitate the seller's advertising budget allocation.

Invited Session

136	Friday, 12:45 PM - 01:45 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Business Model Innovation and Emerging Technologies 1	
	Chair(s): Nagarajan Sethuraman	

111-0850 Traditional vs Additive (3D) Technology for Prosthesis: Quality, Variety, and Lead Time Competition

Arunima Chhikara, Assistant Professor, University of Kansas, United States
 Arda Yenipazarli, Associate Professor, Georgia Southern University, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States
 Asoo Vakharia, Professor, University of Florida, United States

Motivated by recent reports of additive manufacturing technologies being a viable replacement for traditional methods in the prosthesis industry, this research uses a game theoretic model to capture the key differences in using these technologies to build the prostheses.

111-0994 Incentivizing Farmer Adoption of Agri-Technology Products

Xiao Tan, Student, Washington University in St. Louis, United States
 Fuqiang Zhang, Professor, Washington University St Louis, United States
 Duo Shi, Assistant Professor, The Chinese Univ of Hong Kong, Shenzhen, China

With development of technology, there are many emerging agri-technology products that can help with improving output. We study the impact of agricultural drones on the traditional agriculture supply chain. Farmers' purchasing decisions, firm's pricing strategy and government's subsidy schemes are considered.

Invited Session

138	Friday, 12:45 PM - 01:45 PM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Invited Session: AI and Humans in Modern Operations 2	
	Chair(s): Philippe Blaettchen Park Sinchaisri	

111-0193 Group Size, Content Moderators, and User Engagement in Online Synchronized Content Platforms

Keran Zhao, Assistant Professor, University of Houston, United States

Yili Hong, Professor, University of Houston, United States

How group size affects synchronous interactions, particularly with the presence of bot and human moderators, is unclear. We leverage exogenous increases in live streaming viewers (from the Raid function in Twitch), to empirically examine how group size affects viewers' real-time engagement and how moderators affect this relationship.

111-0870 A Case for Humans-in-the-Loop: Decisions in the Presence of Misestimated Algorithmic Scores

Riccardo Fogliato, Student, Carnegie Mellon University, United States

Maria De-Arteaga, Assistant Professor, University of Texas Austin, United States

Alexandra Chouldechova, Professor, Carnegie Mellon University, United States

We study the adoption of an algorithmic tool used to assist child maltreatment hotline screening decisions. We investigate whether the tool's deployment impacted call workers' decisions, whether call workers engage in corrective overrides when presented with misestimated scores, and whether override likelihood depends on children's race and socioeconomic status.

Invited Session

140	Friday, 12:45 PM - 01:45 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Blockchain Applications in Supply Chains - I	
	Chair(s): Yao Cui	

111-1136 Improving Supply Chain Transparency Through Blockchain: Benefits, Challenges, and Design

Yao Cui, Assistant Professor, Cornell University, United States

Vishal Gaur, Professor, Cornell University, United States

Jingchen Liu, Assistant Professor, Nanjing University, China

In this paper, we consider two applications of blockchain in improving information flow transparency in a supply network: cross-tier cost transparency, and within-tier order transparency. We study when blockchain should be adopted, who should be the initiator of the blockchain, and how firms should design the functionality of blockchain.

111-1291 Nonfungible tokens: how to match supply with demand in the metaverse

Dmitrii Sumkin, Student, INSEAD, Singapore

Pavel Kireyev, Assistant Professor, INSEAD, France, France

Serguei Netessine, Professor, The Wharton School, United States

We study digital collectibles (NFTs) marketplaces analyzing a dataset of transactions from the platform Decentraland. We study the design of the market supply that affects prices and liquidity on the market. We estimate how the production rate of the new collectibles affects the competition, customer surplus, and platform revenue.

Invited Session

142	Friday, 12:45 PM - 01:45 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Innovation in Healthcare Delivery 2	
	Chair(s): Nan Liu	

111-0547 On Scheduling Appointments in Tandem Service Systems

Nan Liu, Associate Professor, Boston College, United States

Guohua Wan, Professor, Shanghai Jiao Tong University, China

Shan Wang, Assistant Professor, Sun Yat-sen University, China

In many healthcare settings, patients receive a series of services during a single visit. Examples include infusion, orthopedic visit, and mammography testing. A key commonality is the tandem structure, where each stage involves a non-trivial random service time. We study how to manage such tandem service systems via appointment scheduling.

111-0550 Appointment Scheduling with offline discretionary work

Bradley Staats, Professor, University of North Carolina Chapel Hill, United States

Sandeep Rath, Assistant Professor, University of North Carolina Chapel Hill, United States

Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States

Physicians spend several hours a day on Electronic Health Record Systems. Scheduling practices which do not incorporate EHR contribute to physician burnout and patient delays. We developed an optimization model that creates schedules that incorporate EHR workload. We show that doing this can reduce physician workload and patient delay.

111-1780 COVID-19 mortality and healthcare capacity

Fardin Ganjkanloo, Student, Johns Hopkins University, United States

Farzin Ahmadi, Student, Johns Hopkins University, United States

Kimia Ghobadi, Assistant Professor, Johns Hopkins University, United States

We investigate factors correlated with COVID-19 mortality in US counties, specifically taking a closer look at healthcare capacity. Counterintuitively, as the pandemic progressed in 2020, higher healthcare capacity shows an increasingly positive correlation with a higher mortality rate which indicates potential factors including policy changes connected with healthcare facilities.

Invited Session

143	Friday, 12:45 PM - 01:45 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Designing Patient-Centric Systems 2	
	Chair(s): David Rea	

111-1069 Telehealth pay parity and patent demand in acute care

Ozden Cakici, Assistant Professor, American University, United States

Alex Mills, Associate Professor, Baruch College, United States

We examine the impact of changing reimbursement policies when providers choose how to divide their time between telehealth and office appointments, and patients choose between those two channels, where telehealth is more convenient but has lower quality. Pay parity policies, which expanded during COVID-19, may reduce overall access to care.

111-1111 Towards a Comprehensive Patient Health: The Role of Primary Care Accessibility

Jane Iversen, Student, Ohio State University, United States

Aravind Chandrasekaran, Associate Professor, Ohio State University, United States

Yingchao Lan, Assistant Professor, University of Nebraska Lincoln, United States

This research explores the cost of quality relationship in healthcare by examining the effect of accessibility to primary care services on preventive care outcomes on a patient level. Using rich patient data, we investigate the relationship between preventive care, unplanned Emergency/Hospital use and overall health outcomes of the patient.

Contributed Session

144	Friday, 12:45 PM - 01:45 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Optimizing Healthcare Providers Schedules	
	Chair(s): Hossein Piri	

111-0663 Optimal physician scheduling solution using the method of Maximum Weighted Independent Set

Kai Sun, Post Doc/Researcher, University of Texas at San Antonio, United States

Arkajyoti Roy, Assistant Professor, University of Texas at San Antonio, United States

Ronald Dravenstott, Director of Perioperative Informatics, University of Texas Health Science Center at San Antonio, United States

Frank Rosinia, Professor, University of Texas Health Science Center at San Antonio, United States

We present a novel graph-based procedure that optimizes physicians' schedules using the Maximum Weighted Independent Set method. It aims to achieve evenly distributed shifts and physicians' planned working days. The solution is applied to scheduling physicians in a local clinic and benchmarked with the conventional mixed-integer program for performance assessments.

111-0235 OPTIMAL SCHEDULING OF A MULTI-CLINIC HEALTHCARE FACILITY IN THE COURSE OF A PANDEMIC

Hossein Piri, Student, Sauder School of Business, UBC, Canada

Mahesh Nagarajan, Professor, Sauder School of Business, UBC, Canada

Steven Shechter, Associate Professor, Sauder School of Business, UBC, Canada

The elevator capacity in high-rise buildings has been reduced by 50-70% during the pandemic, which has increased the elevator queue length. We focus on minimizing the elevator wait time in a multi-clinic facility by controlling the people arriving at the elevator halls, which is possible by optimizing the clinic schedule.

111-1085 Can Employees' Past Helping Behavior be Used to Improve Shift Scheduling? Evidence from ICU Nurses

John Silberholz, Assistant Professor, University of Michigan, United States

Zoey Jiang, Assistant Professor, Carnegie Mellon University, United States

Yixin Iris Wang, Assistant Professor, University of Illinois Urbana-Champaign, United States

Michael Sjoding, Assistant Professor, University of Michigan, United States

Deena Costa, Associate Professor, University of Michigan, United States

We define two measures of past helping behavior for employees assigned to a shift, and use ICU nursing data to show that both predict significantly reduced patient length of stay. Counterfactual analysis shows significant promise of scheduling pairs of employees who have previously helped each other to the same shift.

Invited Session

146	Friday, 12:45 PM - 01:45 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Online Platform	
	Chair(s): Jingxuan Geng	

111-0819 Who Should Surge the Price, Consumer or Platform? Price and Waiting-time Differentiation in Ride Hailing

Masoumeh Shahsavari, Student, Temple University, United States

Subodha Kumar, Professor, Temple University, United States

Emre Demirezen, Assistant Professor, University of Florida, United States

Some ride-hailing platforms allow consumers to offer higher price, determined by the platform, to increase their chance of getting a service and decrease their waiting time. In this paper, we concentrate on the impacts of this option in a monopoly and a duopoly environment with a game theory approach.

111-0858 Traditional vs Cloud-Based Services

Yuan Dong, Student, Temple University, United States
Subodha Kumar, Professor, Temple University, United States

Cloud gaming, as a type of cloud service, is one of the emerging digital technology that came out in recent years. We analyze the competition between this new business model with traditional services and generate practical business insights from it.

111-0881 Strategic blockchain adoption considering brand reputation from a long-term perspective

Jingjing Weng, Student, Temple University, China
Subodha Kumar, Professor, Temple University, United States

In this paper, we investigate the conditions under which legitimate companies should adopt blockchain technology when taking its long-term brand reputation into account. Our study provides implications for how the impact of long-term brand reputation influences its blockchain adoption strategies.

Invited Session

147	Friday, 12:45 PM - 01:45 PM, Inventory Management	Track: Inventory Management
	Invited Session: Economic Models for Service and Process Management	
	Chair(s): Harish Guda	

111-0361 Aligning Gatekeeper Incentives to Balance Delivery Cost and Service Quality

Maqbool Dada, Professor, Johns Hopkins University, United States
Brett Hathaway, Assistant Professor, Carey Business School, United States
Evgeny Kagan, Assistant Professor, Carey Business School, United States

We study when, and how, gatekeepers (front-line workers) should transfer to experts in the service delivery process. We solve the gatekeeper's transfer decision problem under an incentive system and show how managers can choose an incentive system to best align the gatekeeper's transfer decisions with the firm's profit function.

111-1266 The Economics of Process Transparency

Harish Guda, Assistant Professor, Arizona State University, United States
Miliind Dawande, Professor, University of Texas Dallas, United States
Ganesh Janakiraman, Professor, University of Texas Dallas, United States

We propose a novel framework to analyze the role of non-instrumental information-sharing in service operations management. A service firm, organized as a process, shares real-time information about the progress of their flow unit via a process tracker. We analyze when providing such information helps, or can hurt a delay-sensitive consumer.

111-1564 Restaurant Delivery Platforms, Commission Rates, and Delivery Fees

Jaelynn Oh, Assistant Professor, University of Utah, United States
Chloe Glaeser, Assistant Professor, Kenan-Flagler Business School, United States
Xuanming Su, Professor, University of Pennsylvania, United States

We study how fulfillment costs should be considered when deciding restaurant commission rates on food delivery platforms for sponsored display and delivery.

Invited Session

149	Friday, 12:45 PM - 01:45 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Innovation and procurement 2	
	Chair(s): Cuihong Li	

111-0919 Optimal Dynamic Mechanism under Customer Search

Zhenyu Hu, Associate Professor, National University of Singapore, Singapore
Yangge xiao, Student, NUS Business School, Singapore

This paper investigates the seller's revenue maximizing mechanism in face of a customer who searches for outside alternatives over a finite horizon. We show that it is optimal for the seller to offer a menu of American options comprising of a menu of deposits and strike prices.

111-0660 Procurement with Change-Order Renegotiations

Jiawei Li, Student, University of Michigan - Ann Arbor, United States
Damian Beil, Professor, University of Michigan, United States
Izak Duenyas, Professor, University of Michigan - Ann Arbor, United States
Stephen Leider, Professor, University of Michigan Ann Arbor, United States

In sourcing activities, change orders frequently happen after the procurement auction. In those events, the (winning) supplier is usually involved in handling the change orders. We develop a game theoretic model to capture how the expected gain from handling the change orders affects suppliers' incentives to compete in the auction.

Invited Session

150	Friday, 12:45 PM - 01:45 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Advertising and Operations	
	Chair(s): Xiuli He	

111-0125 Cold Start to Improve Market Thickness on Online Advertising Platforms: Data-Driven Algorithms and Field Experiments

Zikun Ye, Student, University of Illinois at Urbana Champaign, United States

Heng Zhang, Assistant Professor, Arizona State University, United States

Dennis Zhang, Associate Professor, Washington University St Louis, United States

Renyu (Philip) Zhang, Assistant Professor, New York University, China

Xin Chen, Professor, University of Illinois at Urbana Champaign, United States

We proposed shadow bidding and learning algorithm to solve cold start problem in online advertising where CTR prediction is inaccurate due to limited data. Unsuccessful cold start even prompt advertisers to leave the platform. Further we design and implement a novel two-side field experiment to show the algorithm's effectiveness.

111-1662 Strategic Advertising Budget Allocation for A New Product Introduction

Vahideh Abedi, Associate Professor, California State University Fullerton, United States

Oded Berman, Professor, University of Toronto, Canada

Dmitry Krass, Professor, University of Toronto, Canada

Fred Feinberg, Professor, University of Michigan, United States

New product introductions typically utilize multiple advertising channels to stimulate customer awareness and word-of-mouth. Strategic allocation decisions must align with other management imperatives while allowing for the best tactical advertising spending. We propose a novel decomposition of the strategic and tactical allocation decisions and study emergent channel interaction patterns.

111-1435 Advertising strategies for the proprietary and open source systems

Yong Zha, Lecturer, University of Science and Technology of China, China

Xiangxiang wu, Student, UTSC, China

Yugang Yu, Professor, University of Science and Technology of China, China

Xiuli He, Professor, University of North Carolina Charlotte, United States

We investigate how the original equipment manufacturers (OEMs) determine advertising strategies for smartphone products with homogeneous operating system (OS) quality. Specifically, we study two popular strategies: informative advertising (IA) and persuasive advertising (PA).

Invited Session

153	Friday, 12:45 PM - 01:45 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Innovative Ideas in Restaurant Operations	
	Chair(s): Mehdi Farahani	

111-0795 The Queue Behind the Curtain: Information Disclosure in Omnichannel Services

Abhishek Ghosh, Assistant Professor, Tulane University, United States

Achal Bassamboo, Professor, Northwestern University, United States

Martin Lariviere, Professor, Northwestern University, United States

With evolving mobile technologies, increasing number of firms are running multiple channels to serve customers. In this paper, we address some of these open questions of design of omnichannel service system, especially focusing on the issue of congestion information disclosure and its impact on customer channel choice behavior.

111-0814 Omni-Channel Services: Self-ordering, Priorities, and Rational Customers

Kang Kang, Student, University of Minnesota, United States

Sherwin Doroudi, Assistant Professor, University of Minnesota, United States

Mohammad Delasay, Assistant Professor, Stony Brook University, United States

Motivated by the popularity of mobile-order-and-pay applications that are especially prevalent in fast casual food restaurants and coffee shops, we study omni-channel service systems---where customers have the option to employ mobile applications for self-ordering---with respect to performance analysis, prioritization policy design choice, and customer strategic behavior.

111-0978 Cloud-Kitchens in High-Density Cities: Economies of Scale Through Co-Location

Ganesh Janakiraman, Professor, University of Texas Dallas, United States

Milind Dawande, Professor, University of Texas Dallas, United States

Arun Kumar Rout, Student, UT Dallas, United States

Cloud kitchens operated by food-delivery platforms are delivery-only facilities that provide better access to customers and facilitate delivery fleet consolidation. However, they come with high rental costs. We identify conditions under which restaurants co-locating at a cloud kitchen benefits all three stakeholders, namely, the delivery platform, restaurants, and customers.

Contributed Session

155	Friday, 12:45 PM - 01:45 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Supply management in global settings	
	Chair(s): ISILAY TALAY	

111-0860 Does Location Matter? A Study of Automotive Clusters in India

Andreas Offenloch, Student, European Business School, Germany

H. Sebastian Heese, Professor, North Carolina State University, United States

Amit Karna, Professor, Indian Institute of Management Ahmedabad, India

Our empirical study analyses the effects of exposure to industry clusters and original equipment manufacturers (OEMs) on supplier performance, focusing on the avoidance of operations disruptions and the support of a smooth production ramp-up at the OEM.

111-1637 Nearshoring versus Offshoring under Uncertain Yield and Tardiness Penalty

ISILAY TALAY, Assistant Professor, Trinity College Dublin, Ireland

Orkun Bayram, Associate Professor, Antalya Bilim University, Turkey

The shipment delays after Covid became unbearable, but have they reached a point where working with a less experienced but closely located supplier with no economies of scale is preferable? To answer, we compare different types of suppliers' underage and tardiness costs under uncertain yield and lead time until delivery.

Invited Session

156	Friday, 12:45 PM - 01:45 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Founding Teams and Project Management 1	
	Chair(s): Janne Kettunen	

111-1626 Micro-foundations of Digitalization Projects

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Harri Lorentz, Professor, University of Turku, Finland

Jagjit Srai, Professor, University of Cambridge, United Kingdom

We build on the theory of dynamic capabilities to explore micro-foundations of digitalization projects in terms of key routines during sensing, seizing and reconfiguration stages. We find that micro-foundations differ by project type: Local (point-solutions), Infrastructure, and System-Wide developments. Theory and practice implications of these findings will be discussed.

111-1748 Preannouncements and Delays of New Product Introductions and Firms' Stock Returns

Matt Mitchell, Student, University of Liverpool, United Kingdom

Hugo Lam, Senior Lecturer, University of Liverpool, United Kingdom

Andrew Lyons, Professor, University of Liverpool, United Kingdom

Using the short-term event study method, we investigate how preannouncements and delays of new product introductions affect firms' stock returns. We find that the market reacts negatively to the delays but insignificantly to the preannouncements. We also reveal the moderating roles played by firm profitability and advertising intensity.

Invited Session

158	Friday, 12:45 PM - 01:45 PM, Retail Operations	Track: Retail Operations
	Invited Session: Topics in Retail Operations 2	
	Chair(s): Olga Pak	

111-1225 Matching User reviews and Product Descriptions on E-Commerce Platforms for Seller Insights

Sadegh AlMahdi Kazemi, Student, Yazd University, Iran (Islamic Republic of)

Sadegh Kazemi, Assistant Professor, University of Houston, United States

Gihan Edirisinghe, Assistant Professor, Western Kentucky University, United States

User reviews on e-commerce platforms have enabled businesses to extensively examine customer perceptions. At the same time, sellers use the product description to communicate a product's marketable characteristics. We develop an approach that provides sellers insights into customer perceptions of specific product features and helps discover new marketable characteristics.

111-0913 How Do consumers Choose between Organic Products and Multiple Other Product Attributes?

Zhihao Zhang, Assistant Professor, University of Missouri At Kansas City, United States

Sriram Venkataraman, Associate Professor, University of South Carolina, United States

Yan Dong, Professor, University of South Carolina, United States

Mark Ferguson, Professor, University of South Carolina, United States

In this study, we use scanner panel data from retailers across the united states to examine how customers evaluate organic products when there are a large number of other product attributes present at the same time. In particular, we estimate own-price and cross-price elasticities under different nesting options.

111-1276 Understanding deliveries in food sector during the pandemic

Feng Cheng, Assistant Professor, Towson University, United States

Chaodong Han, Professor, Towson University, United States

Stella Tomasi, Professor, Towson University, United States

The pandemic has shifted the way customers purchase products, accelerating the rise in shopping, which is especially challenging for perishable goods. Using data from a national company in the food industry, we investigate major factors that affect transportation success in the food sector.

Invited Session

159	Friday, 12:45 PM - 01:45 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Operations in Retailing 2	
	Chair(s): Lai Wei	

111-1223 Online Advertising via Bandit Experiment: A Method Suitable for High-dimensional Problems

Wenjia Ba, Student, Stanford University, United States

Michael Harrison, Emeritus Professor, Stanford University, United States

Harikesh Nair, Professor, Stanford University, United States

We consider models of sequential decision-making by an advertiser, where there exist many possible combinations of user and ads. Adopting the multi-arm bandit framework, we propose and evaluate an approach that helps an advertiser decide, in a sequence of trials, what audience group to choose and the ad to display.

111-1141 Luxury Brands' Fight against Counterfeits -- Public or Dark?

Lai Wei, Assistant Professor, Boston College, United States

Luxury products can face both deceptive and non-deceptive counterfeits at the same time. We look at a market of two groups of customers, naive and sophisticated customers, and they experience negative externalities regarding the counterfeit sales. We study the impact of public fights and private fights in this market.

Contributed Session

162	Friday, 12:45 PM - 01:45 PM, Sports OM	Track: Sports Operations Management
	Contributed Session: Sports Operations Management - Data	
	Chair(s): Iain Reid David Bamford	

111-0768 Fantasy Sports: A Game of Skill or Chance?

Aishvarya Aishvarya, Student, Indian Institute of Management Bangalore, India

Dinesh U, Professor, Indian Institute of Management Bangalore, India

Tirthatanmoy Das, Associate Professor, Indian Institute of Management Bangalore, India

Fantasy Sports is fast-growing online gaming industry. There is ongoing debate whether it is game of skill or chance. Although countries use 'Dominant Factor' test, definition of skill and chance is unclear. Using fixed effect stochastic frontier technique, we model user's skill and chance, concluding it to be significantly skill-dominant.

111-0670 Enhancing learning capabilities with data analytics and technologies in Elite sports

Olatunbosun Olaniyan, Post Doc/Researcher, Manchester Metropolitan University (MMU), United Kingdom

Benjamin Dehe, Associate Professor, Auckland University of Technology, New Zealand

David Bamford, Professor, Manchester Metropolitan University, United Kingdom

Sara Ward, Chief Executive Office, Burnley Football Club, United Kingdom

We explore the utilisation of data analytics and technology in elite sports, and the role it plays in enhancing learning capabilities. In this paper, we answer the research question: how does data analytics and technology enable sports teams to develop organisational learning capabilities and increase their knowledge base?

Contributed Session

163	Friday, 12:45 PM - 01:45 PM, Supply Chain Management 1	Track: Supply Chain Management
	Contributed Session: Supply Chain Management in Practice	
	Chair(s): Ganesh Balasubramanian	

111-1432 Systems Thinking Skills of supply chain professionals

Rishabh Rana, Student, University of North Texas, United States

Our study focuses on assessing Systems Thinking Skills (STS) at different levels of logistics and supply chain professionals to gain a better understanding of STS at different career levels before teaching Systems Thinking.

111-0753 Lessons from Ports of Los Angeles and Long Beach Gridlock

Yuan Hu, Student, University of Toledo, United States

Paul Hong, Professor, University of Toledo, United States

This paper explores emerging issues of supply chain disruptions. We highlight the issues of twin ports in USA. Based on extensive media reports and literature review on supply chain disruptions, a conceptual framework presents macro-perspectives, and a research model specifies micro-issues. Lessons and implications for future research are presented.

111-1219 Clicks vs Bricks: Channel decision for 3D printed customizable products

Ganesh Balasubramanian, Student, Indian Institute of Management Ahmedabad, India
Sachin Jayaswal, Professor, Indian Institute of Management Ahmedabad, India
Benny Mantin, Professor, University of Luxembourg, Luxembourg

We study the channel decision of a manufacturer who may offer 3D printed customizable products along with standard products. We capture the practical nuances of selling custom products through online and retail channels, such as the quality of data collected for customization, and provide insights on the optimal distribution strategy.

Invited Session

164 Friday, 12:45 PM - 01:45 PM, Supply Chain Management 2 Track: Supply Chain Management 2
Invited Session: New Methods and New Technology in Supply Chain Management 2
Chair(s): Yu Xia

111-0147 Impact of Blockchain Data on Supply Chain Decision Making: An Experimental Study

Tingting Chung, Associate Professor, William & Mary, United States
Yu Xia, Associate Professor, College of William and Mary, United States
Nicola Ibba, Director, William & Mary, United States
Pratyush Sharma, Assistant Professor, University of Alabama, United States

Using SimChain, a web-based simulation of using Blockchain versus conventional systems to record supply chain activities, we have designed a randomized controlled experiment to examine conditions in which visualizations of Blockchain-based data improves the effectiveness of managerial decision making in the context of vaccine distribution. Preliminary results will be discussed.

111-0298 Acquiring Heterogeneous Customer Data for Business Analytics

Xiaoping Liu, Assistant Professor, Northeastern University, United States

There is a substantial degree of heterogeneity across individual customers in a customer dataset, but often not enough information about individual customers to infer about the individuals' preferences and to predict the individuals' decisions. We propose an approach for organizations to acquire individual-level data for constructing hierarchical Bayesian.

111-0656 Supply Risk Mitigation in a Decentralized Supply Chain: Price Postponement or Payment Postponement?

Xin Geng, Assistant Professor, University of Miami, United States
Xiaomeng Guo, Assistant Professor, Hong Kong Polytechnic Univ, Hong Kong, China
Guang Xiao, Student, Hong Kong Polytechnic Univ, Hong Kong
Nan Yang, Professor, University of Miami, United States

In a multi-stage model of a bilateral supply chain, we study two postponement strategies. Taking a game theoretic approach, we formulate a Stackelberg game and solve for the equilibrium under different scenarios. These results can be applied in many practical settings to provide guidance to mitigate supply yield risk.

Invited Session

165 Friday, 12:45 PM - 01:45 PM, Supply Chain Risk Management Track: Supply Chain Risk Management
Invited Session: How to Build Your Co-Author Network
Chair(s): Krista Foster

111-1433 Creating a Co-author Network in Operations and Supply Chain Management

Krista Foster, Assistant Professor, University of Notre Dame, United States
Aleda Roth, Professor, Clemson University, United States
Xenophon Koufteros, Professor, Texas A&M University College Station, United States
Feng (Susan) Lu, Associate Professor, Purdue University, United States
Kaitlin Wowak, Associate Professor, University of Notre Dame, United States
Alfonso Pedraza, Professor, Indiana University, United States
Tim Kraft, Assistant Professor, 2801 Founders Dr, United States

In this session, I share my experiences with how to build a co-author network, from how to start a conversation and choose co-authors, to nurturing and managing relationships and how to get to publication. I also discuss opportunities for continuous learning and relationship pitfalls.

Invited Session

166 Friday, 12:45 PM - 01:45 PM, Sustainable Operations 1 Track: Sustainable Operations
Invited Session: Pricing in Energy, Renewables and Environment 2
Chair(s): Fariba Farajbakhsh Mamaghani

Invited Session

167	Friday, 12:45 PM - 01:45 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: CLSC Operations Management 2	
	Chair(s): Mengyun Zhang	

111-0321 Acquisition Of Used Products For Remanufacturing

Akshay Mutha, Assistant Professor, University of Vermont, United States

Saurabh Bansal, Associate Professor, Penn State University University Park, United States

We develop models to analyze the process of acquiring used products for remanufacturing. We perform numerical analyses to show the applicability of our models.

111-0369 Show, Don't Tell: Education and Physical Exposure Effects in Remanufactured Product Markets

Huseyn Abdulla, Student, Texas A&M University College Station, United States

James Abbey, Associate Professor, Texas A&M University College Station, United States

Selin Atalay, Professor, Frankfurt School of Finance & Management, Germany

Meg Meloy, Professor, Penn State University State College, United States

We empirically examine the effectiveness of managerially-relevant, process- and product-related interventions to increase the appeal of and willingness-to-pay for remanufactured consumer products: educating consumers about the remanufacturing process and providing physical exposure to the remanufactured product.

Friday, 02:00 PM - 03:00 PM

Invited Session

173	Friday, 02:00 PM - 03:00 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Empirical Studies on Worker Behavior 2	
	Chair(s): Maria Ibanez	

111-0985 Managing Multihoming in the Gig Economy

Park Sinchaisri, Assistant Professor, University of California Berkeley, United States

Gad Allon, Professor, The Wharton School, United States

Maxime Cohen, Associate Professor, McGill University, Canada

Ken Moon, Assistant Professor, The Wharton School, United States

An increase in the number of work options has resulted in increased competition among gig platforms to attract a mutual pool of workers. We leverage data from a ride-hailing industry and public trip records to develop/estimate a structural model of workers' dynamic decisions in the presence of alternative work opportunities.

111-1095 Eliciting private information from retail merchants: Evidence from a field experiment

Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States

Tarun Kushwaha, Professor, George Mason University, United States

In this talk, I will present a field experiment that was conducted at a spare-parts retail chain where we restructured the human-algorithm interface to elicit private information from their merchants. We show that allowing merchants to override inputs rather than outputs can help improve profitability.

Invited Session

174	Friday, 02:00 PM - 03:00 PM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Invited Session: Behavioral Issues in Workforce Management 1	
	Chair(s): Xiaoyang Long	

111-0327 Enhancing Maintenance Workers: A Controlled Field Experiment with Augmented Reality

James Fan, Assistant Professor, Naval Postgraduate School, United States

Jelle de Vries, Assistant Professor, Rotterdam School of Management, Netherlands

We run a controlled field experiment with naval maintenance workers to test the efficacy of augmented reality and its interaction with worker expertise. We vary the degree of maintenance expertise of subjects and study the impact of AR guidance on service times as compared to traditional instructions.

111-0350 Racial and gender biases in customer satisfaction surveys: Evidence from a restaurant chain

Masoud Kamalahmadi, Assistant Professor, Miami Herbert Busienss School, United States

Qiuping Yu, Assistant Professor, Georgia Institute of Technology, United States

Yong-Pin Zhou, Professor, University of Washington, United States

We explore racial and gender biases in customer satisfaction surveys in a restaurant setting. We find strong evidence consistent with biases against racial minority and female restaurant servers in the customer satisfaction surveys. We investigate whether the patterns of biases are better explained by the taste-based or statistical discrimination theory.

Invited Session

175	Friday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Disaster management during the Covid-19 Pandemic in vulnerable communities 2	
	Chair(s): Irineu de Brito	

111-0136 Exploring COVID- 19 Pandemic using spatial regression analysis . A supportive framework for economic reactivation

Rafael Renteria, Assistant Professor, Universidad Abierta y A Distancia de Colombia, Colombia

Mario Chong, Professor, Universidad del Pacifico, Peru

Ana Luna, Professor, Universidad del Pacifico, Peru

Irineu de Brito, Professor, Universidade Estadual Paulista Julio De Mesquita Filho - Unesp, Brazil

Renato Altamirano, Student, Universidad del Pacifico, Peru

This research proposes a supportive framework for pandemic management and economic reactivation based on communities vulnerability against COVID-19. We conduct a spatial regression analysis to explore which factors determine morbi-mortality in Peruvian provinces.

111-0778 Logistics network to improve coverage for vulnerable populations in Surquillo

Michelle Rodriguez, Professor, Universidad del Pacifico, Peru

Andres Regal , Student, Universidad del Pacifico, Peru

Claudio Ortega, Reader, Universidad del Pacifico, Peru

Analysis the location of Food Banks using a location routing model. The location and collection operations are optimized in conjunction with the vulnerability characteristics to guarantee that the food banks are placed with maximum coverage, collection routes at minimum cost, and vulnerable populations are served with an increased priority

Contributed Session

176	Friday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Impact of COVID-19 on Business	
	Chair(s): Anna Nagurney	

111-0053 The COVID-19 Pandemic and Shareholder Value: Empirical Evidence from the United States and China

Maximilian Klöckner, Student, ETH Zurich, Switzerland

Christoph Schmidt, Post Doc/Researcher, Eth Zurich, Switzerland

Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

We empirically explore the financial consequences of the COVID-19 pandemic. We find that the COVID-19 pandemic is associated with a substantial decrease in shareholder value and identify firm factors to mitigate the effects. We provide insights regarding the recovery from the pandemic and preparation for future large-scale events.

111-1565 Supply Chain Networks, Wages, and Labor Productivity: Insights from Lagrange Analysis and Computations

Anna Nagurney, Professor, University of Massachusetts Amherst, United States

:The COVID-19 pandemic has demonstrated the importance of labor to supply chains. We construct a game theory supply chain network model of competing firms that shows that firms can gain in terms of profits by being willing to pay higher wages, resulting in benefits for them, workers, and consumers.

111-1661 Understanding the Impact of COVID Infections on Volatility of Financial Markets

Hamideh Dariush Hamedani, Assistant Professor, Shahid Beheshti University, Iran (Islamic Republic of)

Vahideh Abedi, Associate Professor, California State University Fullerton, United States

The spread of COVID-19 has increased the uncertainty in stock and cryptocurrency prices, further influencing investment risk. Given the unexpected nature of disease spread, we use continuous wavelet transform analysis to better understand dependency structure of volatility of stock and cryptocurrency prices on new infections.

Invited Session

177	Friday, 02:00 PM - 03:00 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Disruptive Technology and IS/OM Interface	
	Chair(s): Yeongin Kim	

111-0090 When Struggle Is a Good Thing: Service Innovation Through Gig-Economy in Food Delivery Platforms

Geng Sun, Assistant Professor, University of Texas Rio Grande Valley, United States

Yeongin Kim, Assistant Professor, Virginia Commonwealth University, United States

Yinliang (Ricky) Tan, Associate Professor, University of Houston, United States

Geoffrey Parker, Professor, Dartmouth College, United States

This paper studies online food delivery platforms such as Uber Eats and DoorDash in the context of multi-sided markets and gig-economy. We identify the conditions for OFD platforms to improve service level, characterize their optimal strategies, and examine the implications of the three-sided market dynamics.

111-1120 Battle of Genders: A Large-Scale Empirical Analysis on Emotions, Gender, and Donations in Medical Crowdfunding

Yun Young Hur, Assistant Professor, George Mason University, United States

In this study, we examine how the distinct negative emotions influence medical crowdfunding donations and how the impact differs according to patient and donor attributes. We find that a male patient benefits from expressing anxiety, while a female patient benefits the most by expressing sadness.

111-1501 Does When and How Matter? Information Disclosure Strategy in Online Crowdfunding

Xinxue Qu, Assistant Professor, University of Notre Dame, United States

Crowdfunding has become an important financing model to help businesses get financial support. To reduce uncertainty of the investors, businesses can disclose project updates throughout the process. This study examines the strategy of information disclosure behavior in terms of when and how to release projects updates.

Invited Session

178	Friday, 02:00 PM - 03:00 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Business Model Innovation and Emerging Technologies 2	
	Chair(s): Nagarajan Sethuraman	

111-1333 Persuading Skeptics and Fanatics: Information Design of Reviews for New Experience Goods

Soudipta Chakraborty, Assistant Professor, University of Kansas, United States

Huseyin Gurkan, Assistant Professor, ESMT Berlin, Germany

A firm is launching a new experience good in a market where customers have heterogenous prior beliefs about product quality. To persuade customers to buy, the firm can solicit product reviews from experts. We characterize the firm's information design policy and analyze its impact on the firm and the customers.

111-1833 Delegated Customization using Retail 3D Printing: Impact of Congestion and Quality Issues

Nagarajan Sethuraman, Assistant Professor, University of Kansas, United States

Ali Parlakturk, Professor, Kenan-Flagler Business School, United States

Jayashankar Swaminathan, Professor, Kenan-Flagler Business School, United States

We study the trade-offs involved in delegated customization enabled by 3D printing at retail stores. We develop an analytical model that considers in-store 3D printing as a component of the firm's broader product line strategy.

Contributed Session

180	Friday, 02:00 PM - 03:00 PM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Contributed Session: Supply Chain Resilience and Sustainability	
	Chair(s): Anna Stoll	

111-1247 Blockchain and sustainability: Can blockchain technology improve supply chain sustainability?

Jay Daniel, Senior Lecturer, University of Derby, United Kingdom

Elias Maroun, Student, University of Technology Sydney, Australia

Blockchain technology has a potential to address the United Nation sustainability goals relating to where infrastructure is poor and inadequate levels of transparent supply chain. This research explores blockchain technology and sustainability in supply chain through science mapping review. It reveals some interesting findings of the direction and emerging themes.

111-0538 Ready, Set, Go: Unlocking 'Agile Cultures of Readiness' in Construction Catalyses Resilient SC Decision-Making

Roula Michaelides, Reader, Manchester Metropolitan University, United Kingdom

Anna Stoll, Business Transformation Manager, Manchester Metropolitan University, United Kingdom

Zenon Michaelides, Reader, Manchester Metropolitan University (MMU), United Kingdom

Construction is an industry addled with inertia, inhibiting the ability to navigate and adapt major disruptions and turbulence as exhibited by the COVID-19 pandemic; creating conditions for knee-jerk decision making. Our work explores how mobilising data-enabled behaviours towards a 'agile culture of readiness' facilitates rational, resilient supply chain decision making.

111-0163 Digital Port Supply Chains: A Sustainable and Resilient Perspective

Rafael Diaz, Associate Professor, Old Dominion University, United States

Katherine Smith, Post Doc/Researcher, Old Dominion University, United States

Liuwang Kang, Post Doc/Researcher, University of Virginia, United States

Hector Garcia, Post Doc/Researcher, Old Dominion University, United States

Elizabeth Whiddon, Post Doc/Researcher, Old Dominion University, United States

The evolution of port operations toward cyber-physical systems (CPSs) increases supply chains' complexity and cybersecurity issues. Regrettably, many port systems are not designed against unprotected intrusion, and collectively, may represent a substantial source of systemic supply chain disruption. We built a Port CPS to examine real-world supply chain vulnerabilities.

Invited Session

182	Friday, 02:00 PM - 03:00 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Blockchain Applications in Supply Chains - II	
	Chair(s): Yao Cui	

111-1442 Blockchain-Enabled Deep-Tier Supply Chain Finance

Aaron (Yunzhe) Qiu, Student, Washington University St Louis, United States
 Lingxiu Dong, Professor, Olin Business School, Washington University, United States
 Fasheng Xu, Assistant Professor, Syracuse University, United States

We study the advance payment as a financing instrument in a multitier supply chain to mitigate the supply disruption risk and compare the traditional with the blockchain-enabled system. The main goal of this paper is to shed light on how blockchain adoption impacts agents' operational and financial decisions.

111-1468 Blockchain Adoption in a Supply Chain with Market Power

Garud Iyengar, Professor, Columbia University, United States
 Fahad Saleh, Associate Professor, Wake Forest University, United States
 Jay Sethuraman, Professor, Columbia University, United States
 Wenjun Wang, Energy Trading, SIG, United States

We model a supply chain with a single risk-averse manufacturer who purchases from vendors and sells to consumers. We assume that the manufacturer possesses pricing power and examine associated welfare implications of blockchain adoption for vendors, consumers and manufacturers.

Invited Session

184	Friday, 02:00 PM - 03:00 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Improving Patient Flow in Hospitals	
	Chair(s): Temidayo Adepoju	

111-0264 Investigating the Consequences of Emergency Department Boarding on Downstream Patient Outcomes and Hospital Processes

Huifeng Su, Student, Yale University, United States
 Lesley Meng, Assistant Professor, Yale School of Management, United States
 Rohit Sangal, Assistant Professor, Yale University, United States
 Edieal Pinker, Professor, Yale University, United States

Emergency Department (ED) boarding refers to the delayed transfer of admitted patients from the ED to inpatient units. Prior studies on the impact of boarding on clinical outcomes have shown mixed results. We study this relationship through a causal lens to investigate the consequences of boarding on downstream patient outcomes.

111-1616 A New Era of Care Delivery: Machine-learning Enhanced Hospital Workload Prediction and Resource Allocation

Pengyi Shi, Associate Professor, Purdue University, United States
 Jonathan Helm, Associate Professor, Kelley School of Business, United States

COVID-19 pandemic exacerbated the shortage of nurses and equipment. Compounding the problem, nurse shortages lead to decreased quality of care and worse patient outcomes. We integrate machine learning, stochastic modeling, and optimization to predict patient workload in hospitals and building data-driven decision support to optimize nurse staffing and allocation.

111-0421 Hospital-wide Inpatient Flow Optimization

Dimitris Bertsimas, Professor, MIT Operations Research Center, United States
 Jean Pauphilet, Assistant Professor, London Business School, United Kingdom

We propose a multistage adaptive robust optimization approach combined with machine learning techniques to unify the patient-bed assignment process across all hospital units, while accounting for present and future inpatient flows, discharges and bed requests. On simulations, our approach scales and successfully reduces waiting time and off-service placement.

Invited Session

185	Friday, 02:00 PM - 03:00 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Market Structure and Healthcare	
	Chair(s): Bogdan Bichescu	

111-0367 Implications of structural regulations on hospital operational performance

Jonathan Phares, Assistant Professor, Iowa State University, United States
 David Dobrzykowski, Associate Professor, University of Arkansas, United States

Structural regulations play a substantial role in hospital operations. These regulations can enable and hinder important performance outcomes that affect both the hospital and patients. We examine a multi-year, multi-source archival data set using econometric methods to reveal key relationships among regulatory policy and hospital operational performance.

111-0900 The Effect of Market Reduction on Healthcare Service Delivery

Eunho Park, Assistant Professor, California State University Long Beach, United States

Ramkumar Janakiraman, Professor, University of South Carolina, United States

Justin Kistler, Assistant Professor, University of Tennessee Knoxville, United States

This study examines the impact of a reduction in service offerings on the operational and clinical outcomes at healthcare firms that remain operational in the marketplace.

111-0802 The Effects of Clinical Process Quality and Hospital-Physician Integration on Hospital-Acquired Conditions

Haileab Hilafu, Assistant Professor, University of Tennessee Knoxville, United States

Bogdan Bichescu, Associate Professor, University of Tennessee Knoxville, United States

Hospital-acquired conditions (HACs) represent undesirable complications that occur during a hospital stay that can compromise patient safety and care outcomes. This study examines the association between operational decisions, such as level of clinical process quality and extent of hospital-physician integration, and a patient's risk of exposure to HACs.

Contributed Session

186	Friday, 02:00 PM - 03:00 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Biases in Healthcare Delivery	
	Chair(s): Alison Murphy	

111-0787 Patient Insurance Status, Healthcare Procedures, and Patient Outcomes: A Empirical Study of Physician Behavioural Biases

Subhankar Saha, Student, Indian Institute of Management Bangalore, India

Sriram Thirumalai, Associate Professor, Texas Christian University (TCU), United States

Sarang Sunder, Associate Professor, Texas Christian University (TCU), United States

The absence of standardized diagnostic and treatment routines across patients even within the same diagnostic category has been the bane of efficiency in healthcare. But do physicians' behavioral biases exacerbate this variability? This study examines the impact of patient insurance on physician behavior, and the subsequent impact on care outcomes.

111-1371 Workload and Racial Bias in Healthcare

Alison Murphy, Student, University of Minnesota, United States

Rachna Shah, Associate Professor, University of Minnesota, United States

Several studies have demonstrated the impact of workload and occupancy on decision making and health and operational outcomes in healthcare contexts. This study investigates the impact of workload on racial health disparities using a combination of secondary data and a laboratory experiment.

Invited Session

188	Friday, 02:00 PM - 03:00 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Accounting Interfaces	
	Chair(s): Muktak Krishnachandra Tripathi	

111-1162 CSR Management and its Informativeness during Uncertainty

Tracie Frost, Assistant Professor, Hong Kong Polytechnic Univ, Hong Kong

Xiaohui Gao, Associate Professor, Temple University, United States

Muktak Krishnachandra Tripathi, Student, Temple University, United States

We investigate how superior managers cope with periods of firm-level uncertainty. We specifically suggest - and our results confirm - that managers use CSR activities as a mechanism to protect their firms against uncertainty.

111-0986 Examination of Cost Asymmetries within Bullwhip and Reverse Bullwhip Effects

Tracie Frost, Assistant Professor, Hong Kong Polytechnic Univ, Hong Kong

Subodha Kumar, Professor, Temple University, United States

Hyunjin Oh, Lecturer, Catholic University, South Korea

Muktak Krishnachandra Tripathi, Student, Temple University, United States

We document an asymmetric effect of volume and price changes on cost behavior within the bullwhip and reverse bullwhip contexts. For the bullwhip (reverse bullwhip) effect, we find that firms' costs decrease (increase) less (more) quickly in response to negative demand (supply) shocks than to positive shocks.

111-1184 Accounting Firm: The Role of Managing Partner Ability

Tracie Frost, Assistant Professor, Hong Kong Polytechnic Univ, Hong Kong

Feng Gao, Associate Professor, Rutgers University, United States

Muktak Krishnachandra Tripathi, Student, Temple University, United States

We use data envelopment analysis to estimate audit partner ability. We validate the measure and assess the association of audit partner ability with client outcomes including accrual quality, going concern issuance, and restatements. We find that higher-ability partners work in better-performing firms and preside over more effective audits.

Invited Session

189	Friday, 02:00 PM - 03:00 PM, Inventory Management	Track: Inventory Management
	Invited Session: Stochastic Inventory Models	
	Chair(s): Mayukh Majumdar	

111-0194 Contextual Data-Integrated Newsvendor Solution with Operational Data Analytics (ODA)

Qi Feng, Professor, Purdue University, United States
George Shanthikumar, Professor, Purdue University, United States
Jian Wu, Student, Purdue University, United States

We analyze the inventory decision for an unknown demand that may be learned from historical data of the demand and related covariates. We apply the operational data analytics (ODA) framework to formulate the data-integration model and validation model. The ODA solution demonstrates superior performance with a finite sample size.

111-0806 Safety Stock Management under Uncertain Demand: A Stochastic Optimization Approach using Five Point Approximation

Mayukh Majumdar, Student, Texas A&M University College Station, United States
Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States
Anupam Agrawal, Associate Professor, Texas A&M University College Station, United States
Bala Shetty, Professor, Mays Business School, United States

We investigate the allocation of safety stock in a network of fulfillment centers with the possibility of lateral transshipments. We formulate a stochastic optimization model, incorporating demand uncertainty using a five-point approximation approach. For larger networks, we propose a hub-and-spoke approach for safety stock allocation with lateral transshipments.

Invited Session

191	Friday, 02:00 PM - 03:00 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Manufacturing Operations	
	Chair(s): Xueze Song Mili Mehrotra	

111-0080 A Closed-Loop Machine Learning and Compensation Framework for Geometric Accuracy Control in 3D Printing

Wenbin Zhu, Student, Purdue University, United States
Arman Sabbaghi, Associate Professor, Purdue University, United States

Geometric accuracy control is essential for 3D printing. One strategy for accuracy control is to compensate nominal CAD models for future shapes. However, developing compensation plans is difficult due to the wide variety of geometries and materials. We demonstrate a closed-loop machine learning and compensation framework for 3D printing.

111-0096 Agile Contracting: Managing Incentives Under Uncertain Needs

Shivam Gupta, Assistant Professor, University of Nebraska Lincoln, United States
Anupam Agrawal, Associate Professor, Texas A&M University College Station, United States
Jennifer Ryan, Professor, University of Nebraska Lincoln, United States

We capture key features of an agile software development project (e.g., project can be modularized via independent stories; stories are developed in time-boxed sprints; project's requirements can change over time) and characterize an optimal contract. We also compare the performance of the popular T&M contracts with the optimal contract.

111-1605 Horizontal Information Sharing in Omnichannel Operations: Impact of Information Errors

Jizhou Lu, Associate Professor, University of South Carolina Aiken, China
Leela Nageswaran, Assistant Professor, University of Washington, United States
Jinpeng Xu, Associate Professor, Xidian university, China
Jin Kyung Kwak, Associate Professor, Ewha Womans University, South Korea
Srinagesh Gavirneni, Professor, Cornell University, United States

As information often tends to be error-prone, a firm may want to re-evaluate their information sharing strategy in the presence of erroneous information. We construct and analyze a multi-period inventory management model with autoregressive uncertain demands that are linked between the two channels of an omnichannel firm.

Invited Session

192	Friday, 02:00 PM - 03:00 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Consumer and Platform Strategies in the "New Retail"	
	Chair(s): Ha Ta	

111-0455 For the fashion or the environment: The role of sustainable impact disclosure on resale platforms

Feng Cheng, Assistant Professor, Minnesota State University Moorhead, United States
 Lina Wang, Assistant Professor, Georgia Southern University, United States
 ChunSheng Li, Assistant Professor, Macao University of Science and Technology, Macao

Online resale platforms are emerging as a solution to address intensive environmental costs in the fast fashion industry by facilitating a market for pre-owned fashion products. We study the effectiveness of such resale platform by evaluating its impact on extending the lifetime of the products sold on the platform.

111-0552 Factors that affect on-time orders in online retailing

Nicolo Masorgo, Student, University of Arkansas, United States
 Thu Trang Hoang, Student, University of Tennessee, United States
 David Dobrzykowski, Associate Professor, University of Arkansas - Fayetteville, United States
 John Bell, Associate Professor, University of Tennessee Knoxville, United States

Online retailers execute order fulfillment and transportation processes to avoid late deliveries. However, process flow is often disrupted by operational delays. Combining the Theory of Swift with Even Flow with Queuing Theory and using actual retail order data, this study investigates how fulfillment and transportation performance impact order delays.

111-1181 Improving SC Transparency with Blockchain Technology: The Role of Consumer Trust

Ha Ta, Assistant Professor, Florida International University, United States

One promising application of blockchain is in food supply chains (SC) where customers have high demand for food information. This study examines blockchain offerings as a means for organizations to influence customers' trust and the effects on subsequent outcomes in a blockchain-enabled food retail supply chain post crisis.

Invited Session

195	Friday, 02:00 PM - 03:00 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Sustainability and Efficiency in Food Value Chain (1)	
	Chair(s): Sriram Venkataraman Necati Tereyagoglu	

111-1100 Effects of Mobile Farming on Agricultural Yield: Evidence from India

Campbell Clarkson, Student, University of South Carolina, United States
 Necati Tereyagoglu, Associate Professor, University of South Carolina, United States
 Sriram Venkataraman, Associate Professor, University of South Carolina, United States

Although information and communications technologies (ICTs) in agricultural settings have been shown to improve market efficiency and price dispersion, the effects on agricultural production are less clear. In this paper, we study the implications of the introduction of an ICT platform on the agricultural production using quasi-experimental data from India.

111-1426 Regenerative Operations: A Paradigm Shift Towards True Value Chain Creation

Aleda Roth, Professor, Clemson University, United States

We present a research agenda for Regenerative Operations that accounts for spillover costs in conventional operations and supply chains. Drawing on Roth and Zheng (2021), we show "quadruple aim performance" (e.g., 1) financial 2) ecological, 3) human and 4) socio-economic well-being is possible and can be translated to other sectors.

Contributed Session

197	Friday, 02:00 PM - 03:00 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Emerging topics in procurement and supply management	
	Chair(s): Baofeng Huo	

111-1028 The impact of digital capability asymmetry on supplier unethical behavior: a moderated mediation model

Yanming Zhang, Student, Zhejiang University, China
 Mingu Kang, Associate Professor, Zhejiang University, China
 Baofeng Huo, Professor, Tianjin University, China

This research explores the impact of digital capability advantage (DCA) on supplier unethical behavior (SUB). Based on two-wave survey data from 224 manufacturing firms, we found DCA had negative effect on SUB, with a partial mediating effect of relationship transparency. When relational capital was low, the mediating effect become weaker.

111-1520 First-party Content Decision under Competitive Hardware/Software Platforms: Free VS. Charge

Hua Tang, Student, University of Electronic Science and Technology of China, China
 Xingzheng Ai, Professor, University of Electronic Science and Technology of China, China
 Haojia He, Student, University of Electronic Science and Technology of China, China
 Songbo Guo, Student, University of Electronic Science and Technology of China, China

Content is king. Based on the distinction between the first-party content and the third-party content, this paper studies the strategic choice of free and charge for the first-party content of competing hardware/software platforms and identifies dominant Nash equilibrium strategy and existence conditions, which have important guiding significance for enterprise decision-making.

111-1592 Platform Operation Strategy Choice of Heterogeneous Service Quality: Direct Sales, Reselling or Hybrid Platform

Songbo Guo, Student, University of Electronic Science and Technology of China, China
 Xingzheng Ai, Professor, University of Electronic Science and Technology of China, China
 Haojia He, Student, University of Electronic Science and Technology of China, China
 Hua Tang, Student, University of Electronic Science and Technology of China, China

The article studies how to choose the platform operation strategy of direct sales, resale or hybrid platforms for the same product. Few literature studies hybrid platforms. The article uses a game model to study the choice of equilibrium platform operation strategy, commission contract and wholesale price decision.

Invited Session

198	Friday, 02:00 PM - 03:00 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Founding Teams and Project Management 2	
	Chair(s): Janne Kettunen	

111-0083 How diversified should our founding team be? Tradeoff between performance and the risk of disruption

Vivek Sundriyal, Assistant Professor, Linköping University, Sweden
 Karl Wennberg, Professor, Stockholm School of Economics, Sweden
 Axel Norgren, Student, Stockholm School of Economics, Sweden
 Moren Levesque, Professor, York University, Canada

We formulate a simulation model formalizing how founding team diversity may influence venture performance and team disruption over time. We demonstrate how team diversity acts as a double-edged sword, where more diverse teams are more likely to create high-performing ventures, but they are more exposed to the risk of disruption.

111-1486 Adapting to Unknown Unknowns: Shepherding Radical Innovations to Market

Gulru Ozkan-Seely, Assistant Professor, University of Washington Bothell, United States
 Surya Pathak, Professor, University of Washington Bothell, United States
 Mohan Tatikonda, Professor, Indiana University, United States

We investigate the adaptive mechanisms employed by managers of novel innovation projects with high levels of uncertainty and ambiguity. Analysis of an impulsive control model and data collected from sixteen new product development projects reveal distinct adaptation strategies, varying from taking no action to modifying the goals of the project.

Contributed Session

200	Friday, 02:00 PM - 03:00 PM, Retail Operations	Track: Retail Operations
	Contributed Session: Customer Choice, Stockouts and Substitution	
	Chair(s): Olga Pak	

111-1588 The Effect of Stockout Based Substitution on Fill Rates

Alan Pritchard, Assistant Professor, Texas Tech University, United States
 Kevin Sweeney, Associate Professor, Sam Houston State University, United States
 Heidi Celebi, Student, Georgia Southern University, United States
 Philip Evers, Associate Professor, University of Maryland, United States

We construct a series of decision trees and a simulation model to examine the impact of stockout-based product substitution on fill rate measures in a continuous review inventory system.

111-1175 Stockouts and Sales in the Retail Store: Horizontal Differentiation and the Substitution Effect

Robert Jensen, Student, University of Arkansas, United States
 Saif Mir, Assistant Professor, Lehigh University, United States
 John Aloysius, Professor, University of Arkansas, United States

On shelf stockouts are detrimental to retailer sales. However, these adverse effects can be mitigated when consumers substitute products. We present the results of a field study involving seven product categories that tests theoretical predictions for the impact of focal SKU and substitute SKU stockouts on focal SKU sales.

111-1586 Identifying, Estimating, and Testing Consumer Decision Trees Using Aggregate Scanner Data

Olga Pak, Assistant Professor, Penn State, United States
 Mark Ferguson, Professor, University of South Carolina, United States
 Olga Perdikaki, Associate Professor, University of South Carolina, United States
 Su-Ming Wu, Scientist, Oracle, United States

We offer a decision support tool that identifies, estimates, and evaluates the multilevel demand structure to guide a retailer's assortment reduction effort in a given product category using available point-of-sale retail data

Contributed Session

201	Friday, 02:00 PM - 03:00 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Contributed Session: Dynamic Pricing in Revenue Management	
	Chair(s): Yufeng Cao	

111-0458 Dynamic Pricing in Advanced Booking Platforms

Neha Sharma, Student, Kellogg School of Management, United States

Milind Sohoni, Professor, Indian School of Business, India

Achal Bassamboo, Professor, Northwestern University, United States

Sumanta Singha, Assistant Professor, Indian School of Business, India

Advanced booking platforms allow their customers to make asset reservations ahead of the rental period. However, the supply is self-scheduling. We show that the asset providers may withhold availability information when the platform uses dynamic pricing. We find conditions when the advanced booking platform breaks down.

111-0645 Dynamic Pricing for Two-Sided Marketplaces with Offer Expiration

Yufeng Cao, Assistant Professor, Antai College of Economics & Management, China

We consider a two-sided marketplace in which a market operator sells services to clients and buys services from vendors and formulate an infinite horizon long-run average reward Markov decision process (MDP) model of the market operator's pricing problem. We examine a simple static pricing policy and show its asymptotic optimality.

Invited Session

202	Friday, 02:00 PM - 03:00 PM, Service Operations	Track: Service Operations
	Invited Session: Designing Fair Service Systems (1)	
	Chair(s): David Rea	

111-0205 Balancing Fairness and Efficiency in a Mathematical Programming Model

Violet (Xinying) Chen, Student, Carnegie Mellon University, United States

John Hooker, Professor, Carnegie Mellon University, United States

We propose a principled method for balancing fairness and efficiency. We define a set of social welfare functions to combine Rawlsian leximax fairness and utilitarianism, and design a procedure to sequentially maximize these functions. We demonstrate the method on problems of realistic size involving healthcare resource allocation and disaster preparation.

111-0572 Equitable and Effective Distribution of Perishable Items in a Food Bank Supply Chain

Irem Sengul Orgut, Assistant Professor, University of Alabama, United States

Emmett Lodree, Professor, University of Alabama Tuscaloosa, United States

Food insecurity has been an increasing threat to people's health status and quality of life. Based on our partnership with a food bank, we present a Capacitated Network Flow Problem to facilitate the equitable and effective distribution of perishable food donations among the food-insecure population and perform a case study.

Contributed Session

205	Friday, 02:00 PM - 03:00 PM, Supply Chain Management 1	Track: Supply Chain Management
	Contributed Session: Environmental Issues in Supply Chains	
	Chair(s): Yakun Li	

111-0665 Benefiting from Green Supplier: Knowledge Spillover, Legitimacy Spillover and the Role of Buyer-Supplier Proximity

Baofeng Huo, Professor, Tianjin University, China

Xingze Zhao, Student, Tianjin University, China

This is a large-scale empirical study linking the green spillover and supply chain management together. We examine whether the green knowledge and legitimacy from green suppliers can spillover to buyers and how this relationship is moderated by the buyer-supplier proximity. Exogenous variations in abnormal temperatures drive the increased spillover effects.

111-1385 ANALYSIS OF A NATIONAL FREIGHT TRANSPORTATION POLLUTION SCHEME

John Posada-Henao, Associate Professor, Universidad Nacional De Colombia, Colombia

Carlos Gonzalez-Calderon, Associate Professor, Universidad Nacional De Colombia, Colombia

Paula Penagos-Rodriguez, Student, Universidad Nacional De Colombia, Colombia

Juan Galeano-Gallego, Student, Universidad Nacional De Colombia, Colombia

Ricardo Quintero-Giraldo, Student, Universidad Nacional De Colombia, Colombia

To contribute information about pollution in freight transportation, applying the Ordinary Least Square method according with secondary information gathered from the Colombian Government, authors propose models pursuing estimate carbon dioxide emissions produced by intercity freight trucking between any Origin-Destination pair using distance, topography, and cargo as variables.

111-0343 Evolutionary game of CEA purchase when supply chain has no CEA under the cap-and-trade mechanism

Haiju Hu, Associate Professor, Yanshan University, China

Yakun Li, Student, Yanshan University, China

This research attempts to use evolutionary games to solve the carbon emission allowances (CEA) purchase decision-making problem of supply chain members without CEA. As the initial conditions change, nine evolutionarily stable strategies will appear. The findings of this study provide the decision-making basis for suppliers and manufacturers to purchase CEA.

Invited Session

206

Friday, 02:00 PM - 03:00 PM, Supply Chain Management 2 Track: Supply Chain Management 2

Invited Session: **Strategic Collaboration and Competition in Supply Chains 1**

Chair(s): Abhishek Roy

111-0560 An Economic Analysis of Handmade Goods

Karthik Kannan, Assistant Professor, Southern Methodist University, United States

Amit Basu, Professor, Southern Methodist University, United States

Sreekumar Bhaskaran, Associate Professor, Southern Methodist University, United States

Using a stylized model, we analyze the price and assortment tradeoffs facing makers wanting to list their handmade goods (unique and limited products made by artisans) on online e-Commerce platforms like Amazon and Etsy. We also empirically test the model using data from the two platforms.

111-0728 How Market Conditions Affect Firms' Participation in Cooperative Ventures

Hao Jiang Jiang, Student, Temple University, United States

Abhishek Roy, Assistant Professor, Temple University, United States

Joydeep Srivastava, Professor, Temple University, United States

Subodha Kumar, Professor, Temple University, United States

We investigate the impact of boom and bust conditions of the market and the spillover effect of the efforts on two firms' voluntary participation decisions, when they face the prospect of cooperating with their competitor.

111-1156 Choice of work structures: An analysis under project collaboration

Tarun Jain, Associate Professor, Indian Institute of Management Bangalore, India

Prashant Chintapalli, Assistant Professor, Ivey Business School, Canada

The outbreak of COVID-19 pandemic largely disrupted labor markets and forced organizations to switch to remote work style. In this paper we address the questions: Should companies allow workers to operate remotely? What should the most appropriate work structure be: work-from-office, work-from-home, or a mixture of both?

Contributed Session

207

Friday, 02:00 PM - 03:00 PM, Supply Chain Risk Management

Track: Supply Chain Risk Management

Contributed Session: **Supply Chain Disruptions During Covid**

Chair(s): Nishat Choudhury

111-1142 Impact of pandemic-caused supply chain risk on shareholder value

Nishat Choudhury, Student, Indian Institute of Management Raipur, India

M Ramkumar, Assistant Professor, Indian Institute of Management Raipur, India

The coronavirus pandemic is a rare disruptive event for global supply chain. To understand the severity of pandemic-caused supply chain risks we attempt to provide evidence of its impact on shareholder value. Using event study methodology, we measure the abnormal stock returns on the announcement of pandemic-caused supply chain glitches.

111-0380 Are Disclosures of Pandemics as a Source of Risk Informative? Evidence from the Covid-19 pandemic

Keno Theile, Student, Kuehne Logistics University, Germany

Kai Hoberg, Professor, Kuehne Logistics University, Germany

Vinod Singhal, Professor, Georgia Institute of Technology, United States

In this paper, we identified a set of firms that disclosed pandemics as a source of risk in their financial reports before the pandemic set in using a textual analysis. We show that these firms indeed suffer more from the pandemic also when controlling for industry, slack and size.

111-0706 Blurred lines: the timeline of supply chain resilience strategies in the grocery industry upon Covid-19

Maria Concetta Carissimi, Student, LIUC - Università Carlo Cattaneo, Italy

Lorenzo Bruno Prataviera, Assistant Professor, Cranfield School of Management, United Kingdom

Alessandro Creazza, Associate Professor, LIUC - Università Carlo Cattaneo, Italy

Fabrizio Dallari, Professor, LIUC - Università Carlo Cattaneo, Italy

While existing research provides a narrow view of the temporal dimension of resilience, different layers are needed to properly disentangle it. Our taxonomy elaborates previous theory by introducing two new dimensions related to the strategies' timing ("when?" and "how long?"), offering an original viewpoint to interpret strategies' proactivity or reactivity.

Invited Session

208	Friday, 02:00 PM - 03:00 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Analytical Approaches to Sustainable Operations 1	
	Chair(s): Wei Wei	

111-0302 Plastic Recycling in Agriculture Industry

Wenli Xiao, Assistant Professor, University of San Diego, United States

In this study, we compare three prevailing forms of agricultural film recycling: Penalty Scheme, Reward Scheme and Service Scheme. Our results suggest the social planner should set a sufficiently high penalty if the manufacturer is responsible for collection and a moderate penalty if the farmer is responsible for collection.

111-0301 Allocation of Funds in Bilevel Subsidy Welfare Programs

Wei Wei, Student, University of Massachusetts Amherst, United States

Priyank Arora, Assistant Professor, University of Massachusetts Amherst, United States

Senay Solak, Associate Professor, University of Massachusetts Amherst, United States

We analyze an optimization-based funding method used to equitably distribute limited funds within bi-level subsidy welfare programs (e.g., child care and housing voucher programs). Specifically, our model captures divergent objectives of the various entities (a funding agency and multiple service agencies), and geographic and socioeconomic differences.

Invited Session

209	Friday, 02:00 PM - 03:00 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Reducing Waste and Pollution through Sustainable Operations 1	
	Chair(s): Karthik Murali	

111-1477 Pricing and Returns in the Era of Big Tech: Implications of Information Asymmetry Reversal

Anton Ovchinnikov, Professor, Queens University, Canada

Murray Lei, Assistant Professor, Queen's University, Canada

Kiarash Mohammad Hassani, Student, Queen's University, Canada

We present a model to optimize the return policy of a monopolistic seller, who may have better information about consumers' tastes than the customers themselves. We analyze how return policy and tech-enabled superior information affect the firm's profit and consumer surplus. The results show that Pareto-improving situations exist.

111-0737 Joint Inventory and Pricing Optimization for Resale Firms

Emily Barbee, Student, University of Alabama Tuscaloosa, United States

Burcu Keskin, Professor, University of Alabama Tuscaloosa, United States

Recent growth in e-commerce and sustainability has fueled demand for resale. Resale firms source used goods from consumers. Supply is uncertain and item quality varies. We model this unique context as a joint inventory and pricing problem. We investigate various inventory and pricing strategies under price and quality dependent demand.

Friday, 03:15 PM - 04:15 PM

Invited Session

213	Friday, 03:15 PM - 04:15 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Panel: Operations Management in the ESG (Environmental, Social, and Governance) Era	
	Chair(s): Christopher Tang	

111-1821 Panel: Operations Management in the ESG (Environmental, Social, and Governance) Era

Christopher Tang, Professor, University of California Los Angeles, United States

Charles Corbett, Professor, UCLA Anderson School of Management, United States

Tinglong Dai, Professor, Johns Hopkins University, United States

Hau Lee, Professor, Stanford University, United States

As ESG (environmental, social, and governance) movement is gaining momentum, it is a new opportunity for OM researchers to explore innovative research agendas. Our panelists will share their observations and their insights about different research agendas that Operations Management researchers can explore.

Invited Session

215	Friday, 03:15 PM - 04:15 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Operations Junior Scholar Paper Competition 1	
	Chair(s): Javad Nasiry Yinghao Zhang	

111-1822 Finalist 1: Spatial Information Sharing on On-Demand Service Platforms: A Behavioral Examination

Swanand Kulkarni, Student, Georgia Institute of Technology, United States

Basak Kalkanci, Associate Professor, Georgia Institute of Technology, United States

Abstract: We examine how spatial characteristics of demand-supply mismatch information sharing influence a platform's matching efficiency. Motivated by practice, we compare sharing demand-supply mismatch information publicly (with all drivers) or locally (with only nearby drivers), theoretically and experimentally. Experiments reveal that local information sharing is effective despite being dominated theoretically.

111-1823 Finalist 2: Pricing and Inventory Management When Consumers' Emotions Run High

Arun Kumar Rout, Student, UT Dallas, United States

Ozalp Ozer, Professor, University of Texas Dallas, United States

A. Serdar Simsek, Assistant Professor, University of Texas Dallas, United States

Abstract: We investigate the impact of consumers' anticipated disappointment-aversion and/or regret-rejoice on demand of products with uncertain consumers' valuation. We analytically show consumers' disappointment aversion decreases product demand. However, if consumers also anticipate regret-rejoice, this negative impact diminishes. We also study firms' optimal pricing and inventory decisions for such products.

Contributed Session

216	Friday, 03:15 PM - 04:15 PM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Contributed Session: Behavioral Issues in Workforce Management 2	
	Chair(s): Xiaoyang Long	

111-1192 Sequential Admission Decisions in Performance Management

Morvarid Rahmani, Assistant Professor, Georgia Institute of Technology, United States

Karthik Ramachandran, Associate Professor, Georgia Institute of Technology, United States

Chris Green, Student, Georgia Institute of Technology, United States

We model the optimal behavior of a manager making sequential performance evaluation decisions with limited room for admission. We conduct an experiment to determine how a participant's behavior replicates the optimal behavior based on the characteristics of the evaluated population.

111-1304 Improving Human Decision-Making with Machine Learning

Park Sinchaisri, Assistant Professor, University of California Berkeley, United States

Hamsa Bastani, Assistant Professor, University of Pennsylvania, United States

Osbert Bastani, Assistant Professor, University of Pennsylvania, United States

Workers spend a significant amount of time learning how to make good decisions. We propose a novel machine-learning algorithm for inferring interpretable tips that can help human workers improve their performance in sequential decision-making tasks. Our behavioral study reveals insights into human compliance and their ability to operationalize tips effectively.

Invited Session

217	Friday, 03:15 PM - 04:15 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: HOCM Best Paper Competition Finalists 1	
	Chair(s): Felipe Aros-Vera Melih Celik	

111-0868 A Queueing-Theoretic Framework for Evaluating Transmission Risks in Service Facilities During a Pandemic

Kang Kang, Student, University of Minnesota, United States

Sherwin Doroudi, Assistant Professor, University of Minnesota, United States

Mohammad Delasay, Assistant Professor, Stony Brook University, United States

Alexander Wickeham, Student, University of Minnesota, United States

We propose a new modeling framework for evaluating the risk of disease transmission during a pandemic in small-scale settings driven by stochasticity in the arrival and service processes, i.e., congestion-prone confined-space service facilities. We propose a novel metric to measure the transmissibility of infectious diseases and explore some interventions.

111-0045 Curbing the Usage of Conflict Minerals: A Supply Network Perspective

Han Zhang, Assistant Professor, Michigan State University, United States

Goker Aydin, Professor, Johns Hopkins University, United States

H. Sebastian Heese, Professor, North Carolina State University, United States

Regulators and NGOs pressure manufacturers to disclose their sources of "conflict minerals"—whose trade may finance armed conflicts. We model a supply network of mines, smelters, and manufacturers with regulatory and NGO interventions. We show that imposing penalties on manufacturers alone is not sufficient to eliminate conflict sources.

Contributed Session

220	Friday, 03:15 PM - 04:15 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Economic Studies in OM	
	Chair(s): Prakash Awasthy	

111-0108 An Endogenous Exogenous-based Economic Growth Model for the US

Reza Gharoie Ahangar, Student, University of North Texas, United States

Human capital investment is one of the productive growth investments, which leads to an increase in the economic growth rate. We introduce an endogenous exogenous-based economic growth model that shows the impact of the enrollment rate of international students on Gross Domestic Product and the economic growth of the US.

111-0933 Operating mode strategy for platform businesses

Prakash Awasthy, Assistant Professor, Indian Institute of Management Nagpur, India

Tanushree Haldar, Assistant Professor, Indian Institute of Management Nagpur, India

Raj Zunke, Management Trainee, Pidilite Industries Ltd., India

We create an analytical model to compare platform business's (service provider) choice of operating mode for a platform business. We analyze a specific case of bike-sharing businesses to model the service provider's decision problem. We extend our model to the case where multiple service providers compete for higher market share.

Invited Session

221	Friday, 03:15 PM - 04:15 PM, Elections & Political Mgmt	Track: Elections and Political Management
	Invited Session: Election and Political Management	
	Chair(s): Charles Thraves	

111-0726 Pooling Polls and Parametric Estimation under Diffuse Observations

Charles Thraves, Assistant Professor, Universidad De Chile, Chile

Sebastián Morales, Student, Universidad De Chile, Chile

Given a set of polls at each state prior to an election, the goal is to aggregate these while also considering their error/uncertainty in the likelihood function. We show a method to incorporate polls uncertainty and show results with the US 2020 President Elections.

111-0896 Democracy on the Line

Gerard Cachon, Professor, The Wharton School, United States

Dawson Kaaua, Assistant Professor, Georgetown University, United States

Using difference-in-difference, we estimate that Georgia's average wait time to vote increased 78% in the 2016 election due to polling place closures that were encouraged in the state following the removal of the Voting Rights Act. This suggests that Georgia significantly reduced voting capacity in addition to closing locations.

Invited Session

223	Friday, 03:15 PM - 04:15 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Fintech-driven supply chain finance - I	
	Chair(s): Lima Zhao	

111-0527 Competitors or Frenemies? Strategic Investment in Competitive Channels

Nina Yan, Professor, Central University of Finance And Economics, China

Yang Liu, Student, Central University of Finance And Economics, China

Jing Chen, Professor, Dalhousie University, Canada

We develop a duopoly model with an e-tailer and a brick-and-mortar (BM) retailer to identify the conditions under which one member of the duopoly should invest in the other. The impact of the investment decision on the duopoly's leadership structure, prices, demands, and profits are also investigated.

111-0673 Accounts Receivable Tokenization in Supply Chain

Jing Hou, Student, Nanjing University, China

Fasheng Xu, Assistant Professor, Syracuse University, United States

Blockchain technology enables the tokenization of accounts receivable from downstream creditworthy buyers, which can be used as payment instruments from tier-1 to tier-2 suppliers. We study the impacts of tokenization adoption on participants' profits under multi-tier supply chain structures and explore the mechanism to coordinate participants' incentives to adopt tokenization.

Invited Session

224

Friday, 03:15 PM - 04:15 PM, Finance & OM 2

Track: Finance and Operations Management 2

Invited Session: OM Finance Empirical

Chair(s): Qi Wu

111-0166 Labor Coordination and Division: Human Capital Investment in Supply Chains

Ling Cen, Associate Professor, The Chinese University of Hong Kong, Hong Kong

Michael Hertz, Professor, Arizona State University, United States

Zi'ang Wang, Student, The Chinese University of Hong Kong, Hong Kong

Jing Wu, Assistant Professor, The Chinese University of Hong Kong, Hong Kong

We document a human capital coordination framework between supply chain partners. We establish a causality claim using the H-1B lottery as an exogenous instrument variable. Supply chain partners coordinate by hiring common, labor-intensive, general occupations while pursuing labor division for positions of specialized, technology-intensive, and specialized skills.

111-0353 Performance Impacts of Supply Chain Relationship Turnovers

Kevin Mayo, Student, Indiana University, United States

Christopher Chen, Assistant Professor, Indiana University, United States

George Ball, Assistant Professor, Indiana University Bloomington, United States

Kurt Bretthauer, Professor, Indiana University, United States

We examine the operational performance consequences of supply chain turnover. Analyzing a panel of buyer-supplier turnovers in the pharmaceutical and medical device industries, increasing turnover increases the consumer complaints to the Food and Drug Administration (FDA), signaling a decrease in product quality, offsetting the decreased costs associated with turnover

111-1704 Pricing Inequity in Disaster Operations Management (invited to OM Finance Empirical session)

William Schmidt, Assistant Professor, Cornell University, United States

Xabier Barriola, Post Doc/Researcher, Aalto University, Finland

We show that low-income communities in disaster-zones endure higher average percentage price increases within grocery categories compared to high-income communities. Such differences can sap the purchasing power of those communities that are least able to absorb it. We establish the presence of several mechanisms that contribute to these results.

Invited Session

226

Friday, 03:15 PM - 04:15 PM, Healthcare Analytics

Track: Healthcare Analytics

Invited Session: CHOM Best Paper Competition 1

Chair(s): Vikram Tiwari

111-1876 1) Hospital-wide Inpatient Flow Optimization

Dimitris Bertsimas, Professor, MIT Operations Research Center, United States

Jean Pauphilet, Assistant Professor, London Business School, United Kingdom

We propose a multistage adaptive robust optimization approach combined with machine learning techniques to unify the patient-bed assignment process across all hospital units, while accounting for present and future inpatient flows, discharges and bed requests. On simulations, our approach scales and successfully reduces waiting time and off-service placement.

111-1877 2) Contextual Learning with Online Convex Optimization: Theory and Applications to Chronic Diseases

Esmaeil Keyvanshokoh, Assistant Professor, Mays Business School, United States

Mohammad Zhalechian, Student, University of Michigan - Ann Arbor, United States

Cong Shi, Assistant Professor, Department of Industrial Engineering, United States

Mark Van Oyen, Professor, University of Michigan, United States

Pooyan Kazemian, Student, Harvard University, United States

We formulate a new contextual multi-armed bandit model under a two-dimensional control in the context of medical decision-making. We develop a new contextual bandit and stochastic gradient optimization algorithm for this model and prove its regret. We illustrate the effectiveness of our methodology by using case on type-2 diabetes

111-1878 3) Can Employees' Past Helping Behavior be Used to Improve Shift Scheduling? Evidence from ICU

John Silberholz, Assistant Professor, University of Michigan, United States

Zoey Jiang, Assistant Professor, Carnegie Mellon University, United States

Yixin Iris Wang, Assistant Professor, University of Illinois Urbana-Champaign, United States

Michael Sjoding, Assistant Professor, University of Michigan, United States

Deena Costa, Associate Professor, University of Michigan, United States

We define two measures of past helping behavior for employees assigned to a shift, and use ICU nursing data to show that both predict significantly reduced patient length of stay. Counterfactual analysis shows significant promise of scheduling pairs of employees who have previously helped each other to the same shift

Contributed Session

227	Friday, 03:15 PM - 04:15 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Healthcare Practice 1	
	Chair(s): E. David Zepeda	

111-1761 Local Physician Practice Migration and Changes in Practice Style: Inappropriate Diagnostic Imaging in Primary Care

Gary Young, Professor, Northeastern University, United States
 E. David Zepeda, Associate Professor, Boston University, United States
 Stephen Flaherty, Data Scientist, Harvard Pilgrim Health Care, United States
 Md Mahmudul Hasan, Research Scientist, Federal Drug Administration, United States

We track physician migrations to new practice settings. Drawing from contextual shift and social contagion theories, we examined changes in the practice style of primary care physicians at two levels, the practice organization and practice site. For practice style, we focused on inappropriate use of diagnostic imaging.

111-0998 Strategic Price Control Under External Reference Pricing in the Presence of a Tactical Firm

Yingxin Zhang, Student, Dalian University of Technology, China
 Shubham Gupta, Student, Temple University, United States
 Subodha Kumar, Professor, Temple University, United States
 Xiangpei Hu, Professor, Zhejiang University, China

Healthcare expenditures are increasing worldwide, and spending on pharmaceutical drugs is a major contributor to this trend. Many countries are responding by implementing external reference pricing (ERP) to contain drug prices. However, past research has not considered the strategies a firm uses to counter ERP while studying its effects

111-0684 Pharma 4.0 - Operations Excellence in Digitalized Pharma Operations

Christian Woelbeling, Executive Industry Advisor, Körber Pharma Software GmbH, Germany

Digitalization is the key to Operations Excellence in Pharmaceutical Manufacturing, Development Supply Chain and Advanced Pharma Operations Quality processes. The ISPE Pharma 4.0TM Operating Model provides the Elements and Enablers, which are adding to the ICH Q10 Pharmaceutical Quality Systems Elements and Enablers.

Contributed Session

228	Friday, 03:15 PM - 04:15 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Resource Allocation in Healthcare	
	Chair(s): Lina Song	

111-0960 The Allocation of Funds in healthcare: Investment Decisions under Access-Quality Trade-Off

Lina Song, Assistant Professor, UCL School of Management, United Kingdom
 Soroush Saghaian, Assistant Professor, Harvard University, United States

We provide an analytic framework to allocate funding to U.S. hospitals. The policies considered are hospital quality investment and hospital bailouts. We provide heuristics for allocation based on the hospitals' location and quality. Using a dataset of Medicare patients, the performances of heuristics are compared to existing financing policies.

111-0286 Competitive position and efficiency progression

Xin Ding, Assistant Professor, Rutgers Business School, United States

This paper examines the relationship between a hospital's relative competitive position and its efficiency progression. We provide evidence that competitive position is negatively associated with efficiency progression and that the relationship is better mitigated by focus strategy as the degree of competition increases.

111-0273 Split Liver Transplantation: An Analytical Decision Support Model

Yanhan Tang Tang, Student, Carnegie Mellon University, United States
 Alan Scheller-Wolf, Professor, Carnegie Mellon University, United States
 Sridhar Tayur, Professor, Carnegie Mellon University, United States

Split liver transplantation (SLT) can potentially save two lives using one liver. To facilitate increased SLT usage, we formulate a multi-queue fluid model, incorporating size matching specifics, dynamic health conditions, transplant type, and fairness. We find the optimal organ allocation policy, and evaluate its performance versus other common allocations.

Invited Session

230	Friday, 03:15 PM - 04:15 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Showrooming and Digital Payment	
	Chair(s): Samayita Guha	

111-0399 The Business Value of Online Showrooming

Nasim Mousavi, Student, Emory University, United States

Sina Golara, Assistant Professor, Kennesaw State University, United States

Subodha Kumar, Professor, Temple University, United States

Jesse Bockstedt, Associate Professor, Emory University, United States

Introduction of virtual showrooming is a novel omnichannel strategy in the automobile industry, whereby consumers can access rich information online before visiting the stores. This study investigates the multifaceted business value of virtual showrooms by using a rich dataset related to the dealers' business across the US.

111-1353 Effects of Consumer Showrooming and Supplier Encroachment on an Omnichannel Retailer

Samayita Guha, Student, Temple University, United States

Abhishek Roy, Assistant Professor, Temple University, United States

Subodha Kumar, Professor, Temple University, United States

Popularity of retail e-commerce has enabled many upstream manufacturers to encroach their downstream retailers' market through online direct channels. In this paper, we study how the interaction of consumer showrooming and supplier encroachment impact the omnichannel retailer and the manufacturer.

111-0643 Breadth and depth of usage: Impact of digital payment technology on performance of unorganized retailers

Ravi Srinivasan, Associate Professor, Loyola University Maryland, United States

Shubham Singh, Student, Indian Institute of Management Bangalore, India

Krishna Sundar Diatha, Professor, Indian Institute of Management Bangalore, India

Using data from 400 bottom-of-the-pyramid retailers, we investigate the breadth and depth of digital payment technology usage on their performance. We also test the impact of cash usage and consumer credit availability on these relationships. Finally, we investigate whether there are systematic differences among urban and rural customers.

Contributed Session

231	Friday, 03:15 PM - 04:15 PM, Inventory Management	Track: Inventory Management
	Contributed Session: Inventory Management in Supply Chains	
	Chair(s): Mamta Sahare	

111-0539 Role of supply chain visibility on inventory efficiency- profitability relationship: evidence from United State

Mamta Sahare, Student, Indian Institute of Management Indore, India

Saurabh Chandra, Assistant Professor, Indian Institute of Management Indore, India

This work examines the role of supply-chain visibility between inventory efficiency and profitability. The hypothesis is based on the argument that more visibility of supply chain partners enhances a firm's operational capability and increases financial return. This work adds more insights into lean theory and inventory control theory.

111-1397 Is it really optimum? Traditional Inventory Policies under Competition

Camil Martinez, Professor, University of Los Andes, Colombia

Carlos Erazo, Student, University of Los Andes, Colombia

Using a quasi-real simulated market with capacity limitations and shared resources, this study seeks to understand how traditional inventory policies, that claim to achieve optimum results, behave under different scenarios with competition. The experiments are conducted using SAP game simulator ERPSIM.

Invited Session

233	Friday, 03:15 PM - 04:15 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Stochastic Problems in Manufacturing	
	Chair(s): Anand Paul	

111-0094 Managing On-demand Capacity for Make-to-Order Products

Xu Sun, Assistant Professor, University of Florida, United States

Shiwei Chai, Student, University of Florida, United States

Anand Paul, Associate Professor, University of Florida, United States

Lingjiong Zhu, Associate Professor, Florida State University, United States

We consider a make-to-order production system with externally procurable on-demand capacity to minimize order cancellation costs. We analyze this problem under a suitable asymptotic regime and reveal the optimal capacity management policy. When dynamic pricing is available, we show the two control levers can be coordinated in a non-trivial manner.

111-0586 Optimal Process Planning in LED Manufacturing

Vashkar Ghosh, Assistant Professor, University of North Carolina Greensboro, United States

Anand Paul, Associate Professor, University of Florida, United States

Zhechao Yang, Student, University of Florida, United States

Lingjiong Zhu, Associate Professor, Florida State University, United States

This paper studies the challenges involved in LED production planning. We formulate a stochastic profit optimization problem and determine the optimal production setting analytically. We complement our analytical results by Monte Carlo simulation to obtain the batch sizes that meet a target service level.

Invited Session

237	Friday, 03:15 PM - 04:15 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Sustainability and Efficiency in Food Value Chain (2)	
	Chair(s): Sriram Venkataraman Necati Tereyagolu	

111-0537 An Empirical Study of Food Waste in U.S. Food Banks

Fan Zou, Student, University of South Carolina, United States
 Luv Sharma, Assistant Professor, University of South Carolina, United States
 Pelin Pekgun, Associate Professor, University of South Carolina, United States
 Sanjay Ahire, Professor, University of South Carolina, United States

Reducing waste in food distribution is critical in improving the performance and efficiency of food banks. In this study, we use data from 200 food banks to identify operational factors that can help food banks reduce food waste, enabling them to better manage in-kind donations and allocate their scarce resources.

111-1228 OM Forum – Reducing Food Waste: An Operations Management Research Agenda

Arzum Akkas, Assistant Professor, Boston University, United States
 Vishal Gaur, Professor, Cornell University, United States

Food waste is a critical problem with implications for global hunger and the environment. To address this problem, we propose a research agenda in Operations Management that is organized around five themes: supply chain technology, business model innovation, behavioral operations, supply chain logistics, and incentives and coordination.

Invited Session

239	Friday, 03:15 PM - 04:15 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Coordination, competition and contracting	
	Chair(s): Ryan Choi	

111-0315 An Oddity of Triad Relationship in Supply Chain

Ryan Choi, Associate Professor, Eastern Michigan University, United States
 Hyun Chul Maeng, Assistant Professor, Indian Institute Of Management-Bangalore, India
 Jae-Young Oh, Assistant Professor, Central Washington University, United States

We study a tiered purchasing and supply management model that the finished goods consist of multiple sub-assemblies that must comply with stringent quality standard and complex manufacturing process. Employing the bargaining theory, we compare three relationships: (1) traditional (e.g., system leadership), (2) direct buy, and (3) triad (e.g., provided material).

111-0528 Impact of Fairness Concerns in a Sustainable Supply Chain Coordination

Samantha Park, Student, Chung-Ang University, South Korea
 Yong Won Seo, Professor, Chung-Ang University, South Korea

We present a work-in-progress which explores how fairness concerns of supply chain members and consumers affect the decision-making outcomes in the two-echelon supply chain with sustainability innovation efforts.

Invited Session

240	Friday, 03:15 PM - 04:15 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Product and Process Innovation in Healthcare 1	
	Chair(s): Zhili Tian	

111-0730 Antecedents of Data Breaches in Hospitals: The Perspective of Information Technology Capability

Kyung Seon Ahn, Student, Rensselaer Polytechnic Institute, United States
 Christopher McDermott, Professor, Rensselaer Polytechnic Institute, United States
 Luv Sharma, Assistant Professor, University of South Carolina, United States

The relationship between hospital IT investment and data breaches is controversial. This paper uses the concept of IT capability as a theoretical frame to explore and to better understand this issue. The speed of EMR adoption and HIT bundles are suggested as the possible antecedents of data breaches.

111-1099 Collaboration in Development of New Drug

Zhili Tian, Assistant Professor, Coastal Carolina University, United States

We model the collaboration versus competition decision problem for two firms using a game-theoretic model. Our research demonstrates that development cost and uncertainties in drug treatment efficacy and patient enrollment drive the collaboration or competition decision for firms. We establish conditions under which the firms collaborate.

Invited Session

242	Friday, 03:15 PM - 04:15 PM, Retail Operations	Track: Retail Operations
	Invited Session: Sustainability Considerations in Retail Supply Chains 1	
	Chair(s): Olga Perdikaki	

111-1084 Green E-commerce: Environmental Impact of Fast Delivery

Chenshan Hu, Student, Washington University in St. Louis, United States
 Xiaoyang Long, Assistant Professor, University of Wisconsin Madison, United States
 Jiankun Sun, Assistant Professor, Imperial College London, United Kingdom
 Dennis Zhang, Associate Professor, Washington University in St. Louis, United States

In this paper, we empirically investigate how an increase in delivery speed influences customer purchasing behavior and evaluate how this leads to environmental issues. Then, we develop an analytical model to explain our empirical results and accordingly, propose delivery pricing policies to achieve both environment benefits and decent company revenue.

111-0126 Is Adopting Mass Customization a Path to Environmentally Sustainable Fashion?

Aydin Alptekinoglu, Professor, Penn State University University Park, United States
 Adem Orsdemir, Assistant Professor, University of California Riverside, United States

In high-product-variety businesses like fashion, mass production (MP) systems create environmental waste in the form of overproduction on a colossal scale. Mass customization (MC) has been proposed (without solid evidence) as a solution. In this paper, we analyze whether MC can indeed offer a win-win solution.

111-0325 A Comparison Of Fast-fashion And Traditional Approaches To Apparel Retail - Profits & Environmental Impact

Aditya Balam, Student, University of South Carolina, United States
 Olga Perdikaki, Associate Professor, University of South Carolina, United States
 Mark Ferguson, Professor, University of South Carolina, United States

Apparel retailers have typically followed either the traditional (long lead times and more durable products) or fast-fashion approach (shorter lead times and less durable products). We compare these two approaches in terms of profitability and environmental impact, identifying win-win (more profitable and lower environmental impact) outcomes for both approaches.

Contributed Session

243	Friday, 03:15 PM - 04:15 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Contributed Session: Optimization Problems in Revenue Management	
	Chair(s): Mengxin Wang	

111-0935 Joint Product Design and Assortment Optimization

Mengxin Wang, Student, University of California Berkeley, United States
 Paat Rusmevichientong, Professor, University of Southern California, United States
 Heng Zhang, Assistant Professor, Arizona State University, United States
 Max Shen, Professor, University of California Berkeley, United States

Motivated by applications in managing product returns and product promotion campaigns, we study the joint product design and assortment optimization problem. We establish computational complexity and develop an effective heuristic for solving the problem. Numerical experiments based on sales data from a major retailer show that our method performs well.

111-0041 Multistage Stochastic Optimization for Cruise Production Planning during Uncertainties

Tianyu Pan, Student, University of Florida, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States
 Rachel Fu, Professor, University of Florida, United States

Cruises' operations are highly affected by uncertainties (disease, crisis, natural disaster). Production planning is essential for companies to manage inventory and operations to generate revenues. The objective of this study is to determine the inventory, on-board supplies, and services in each period so that the aggregate production cost is minimized.

Invited Session

244	Friday, 03:15 PM - 04:15 PM, Service Operations	Track: Service Operations
	Invited Session: Designing Fair Service Systems (2)	
	Chair(s): David Rea	

111-0678 Rationing Scarce Healthcare Capacity: A Study Of The Ventilator Allocation Guidelines During The Covid-19 Pandemic

Tolga Aydinliyim, Associate Professor, Baruch College, United States
 Eren Cil, Associate Professor, University of Oregon, United States
 Margret Bjarnadottir, Assistant Professor, University of Maryland, United States
 David Anderson, Assistant Professor, Villanova University, United States

Michaela Restivo, MD, Columbia University, United States

Using NYS as an example, we study the existing approaches to allocate scarce ventilator capacity and propose alternatives. We show that, by taking into account both mortality risk and resource use duration, triage teams can improve expected survival rates as well as allocate capacity more equitably across different racial demographics.

111-1078 The Equity-Equality Tradeoff in Multi-Stakeholder Routing Problems

David Rea, Assistant Professor, Lehigh University, United States

Loenardo Lozano, Assistant Professor, University of Cincinnati, United States

Craig Froehle, Professor, University of Cincinnati, United States

We present a framework for balancing two forms of fairness: equity and equality. Through extensive computational experiments on two routing problems --- last-mile delivery and interhospital transport --- it is shown that equity and efficiency can form a symbiotic relationship. This finding contrasts the common conceptualization of the fairness-efficiency tradeoff.

Contributed Session

247	Friday, 03:15 PM - 04:15 PM, Supply Chain Management 1	Track: Supply Chain Management
	Contributed Session: Demand, Relationship Orientation in Supply Chain	
	Chair(s): Jay Daniel	

111-0387 Estimating Demand in the Absence of Sales and Inventory Information

Aditya Jain, Assistant Professor, Baruch College, United States

Sripad Devalkar, Associate Professor, Indian School of Business, India

Sarang Deo, Associate Professor, Indian School of Business, India

The retail sector in emerging economies is dominated by unorganized retail stores which lack data capturing systems. Thus suppliers often lack visibility into sales information. We develop a demand estimation methodology using replenishments-to-stores data, which is often the only information available to a supplier.

111-1449 Barriers in forecasting uncertain product demand in the supply chain

Elias Abou Maroun, Program Manager Digital Transformation, University of Technology Sydney, Australia

Jay Daniel, Senior Lecturer, University of Derby, United Kingdom

An exploratory, qualitative approach is adopted within an Australian Electrical manufacture. The study reveals the reason for poor forecast performance is that the forecast is intertwined between cultural, product, technological and communication barriers. The outputs inform supply chain practitioners of the barriers and their inter-dependencies when forecasting uncertain product demand.

111-0959 The impact of relationship orientation on supply chain vision communication and economic performance

Lu Yang, Student, Zhejiang University, China

Baofeng Huo, Professor, Tianjin University, China

Siyu Li, Assistant Professor, Xi'an Jiaotong University, China

By building a resources-capabilities-performance framework in terms of the antecedents and consequences of SC vision communication, this study reveals the relationships among long-term relationship orientation, vision communication, and economic performance. Furthermore, this study examines the moderating role of environmental dynamism.

Invited Session

248	Friday, 03:15 PM - 04:15 PM, Supply Chain Management 2	Track: Supply Chain Management 2
	Invited Session: Strategic Collaboration and Competition in Supply Chains 2	
	Chair(s): Abhishek Roy	

111-0961 An Empirical Analysis of Sequential Diagnostic Decisions for Bike Returns

Hailong Cui, Assistant Professor, University of Minnesota, United States

Guangwen Kong, Assistant Professor, Temple University, United States

Raj Rajagopalan, Professor, Marshall School of Business, United States

We study diagnostic decisions for bike maintenance in which a judge and a worker sequentially decide whether to replace or repair a part of a bike. We examine the impact of decisions on repair or replacement of parts on bike return and find factors that impact repair or replacement choice.

111-0966 An empirical analysis of online food delivery on small-business restaurants during COVID-19 in California

Hailong Cui, Assistant Professor, University of Minnesota, United States

Rui Niu, Student, University of Florida, United States

Xin Tong, Assistant Professor, University of Southern California, United States

We use econometric methods to study the impact of online food delivery on small-business restaurants in California during COVID-19. To do this, we collect and analyze two types of data (proprietary data from a food distributor supplying to these restaurants and restaurant-level data via surveys and web-crawling).

111-1487 The Role of Supply Chain Agility and Collaborative Activities on Firms Operational Performance

Suman Niranjani, Assistant Professor, University of North Texas, United States

Timothy Hawkins, Associate Professor, University of North Texas, United States

Katrina Savitskie, Assistant Professor, University of West Florida, United States
Seock Hong, Associate Professor, University of North Texas, United States
Saad BaniHani, Student, University of North Texas, United States

We conduct empirical research to understand the role of supply chain agility and collaborative activities on firms operational performance using data collected from 320 mid-level to senior level supply chain managers in U.S and Canada. We also assess the mediating role of logistics efficiency and supply chain integration.

Invited Session

250	Friday, 03:15 PM - 04:15 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Analytical Approaches to Sustainable Operations 2	
	Chair(s): Wei Wei	

111-0127 Rent-to-Own Models with Uncertain Income for Developing Markets

Gonzalo Romero, Assistant Professor, University of Toronto, Canada
Hosain Zaman, Post Doc/Researcher, University of Toronto, Canada
Jose Guajardo, Assistant Professor, University of California Berkeley, United States

In this paper we study Rent-to-own business models applied by companies commercializing solar lamps in developing countries. We investigate how liquidity constraints and hassle costs affect customers' payment behaviour. We also analyze payment flexibilities firms offer to their customers to minimize their expected time to ownership.

111-0130 Dynamic Resource Allocation with Cross-Subsidization in Nonprofit Setting

Poyraz Bozkurt, Student, Purdue University, United States
Gokce Esenduran, Assistant Professor, Purdue University, United States

A nonprofit organization (NPO) usually operates with a limited budget and is thus sensitive to the risk of loss. In this paper, NPO provides both for-profit and non-profit services and uses the revenue to cross-subsidize non-profit activities provided. We identify the key challenge of allocating resources under cash flow constraints.

Invited Session

251	Friday, 03:15 PM - 04:15 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Reducing Waste and Pollution through Sustainable Operations 2	
	Chair(s): Karthik Murali	

111-0596 Environmental regulation design: Motivating firms' investments with environmental penalties and consumer subsidies

Mina Mohammadi, Student, North Carolina State University, United States
H. Sebastian Heese, Professor, North Carolina State University, United States
Tim Kraft, Assistant Professor, 2801 Founders Dr, United States

A critical challenge when designing a new environmental regulation is determining when and how to use penalties and/or market incentives to motivate firms' investments. Using an asymmetric duopoly, we study the effect of competition and development uncertainty on a regulator's optimal choice of environmental penalty and consumer subsidy.

111-1320 Effects of a recycling export ban on the US recycling market

Christian Blanco, Assistant Professor, Ohio State University, United States
Suvrat Dhanorkar, Associate Professor, Penn State University State College, United States
Mateus Ferreira-Lima, Student, Ohio State University, United States

We examine the impact of the Sword policy, a recycling export ban, on the US recycling market.

Invited Session

257	Friday, 04:30 PM - 05:30 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Operations Junior Scholar Paper Competition 2	
	Chair(s): Javad Nasiry	

111-1824 Finalist 3: Does What Happens in the ED Stay in the ED?

Mohamad Soltani, Assistant Professor, University of Alberta, Canada
Robert Batt, Associate Professor, University of Wisconsin-Madison, United States
Hessam Bavafa, Associate Professor, University of Wisconsin-Madison, United States
Brian Patterson, Assistant Professor, University of Wisconsin-Madison, United States

Abstract: We study the effects of ED crowding on post-ED care utilization and explore the mediating effects of physician test-ordering behavior as a mechanism for this effect. We show physicians respond to crowding by ordering more tests for less severe patients. This generates “extra” post-ED care utilization for these patients.

111-1825 Finalist 4: Should We All Work in Sprints? How Agile Project Management Improves Performance

Tobias Lieberum, Student, Technical University of Munich, Germany
 Sebastian Schiffels, , Tum School Of Management, Germany
 Rainer Kolisch, Professor, Technische Universität München, Germany

Abstract: We newly explore the “Progression Fallacy”: People spend too much time on early tasks at the expense of later ones, when they are free to progress at their paces is common in traditional project management. Agile sprints mitigate these effects and help to achieve a balanced performance.

Contributed Session

258	Friday, 04:30 PM - 05:30 PM, Behavioral OM 2	Track: Behavioral Operations Management 2
	Contributed Session: Behavioral Operations and Performance	
	Chair(s): Gyula Vastag	

111-0574 Management Practices in Fragmented Natural Systems: How Far Integration Can Help?

Mani Poshdar, Senior Lecturer, Auckland University of Technology, New Zealand
 Nariman Ghodrati, Lecturer, Auckland University of Technology, New Zealand
 Francisco Moreno, Lecturer, Universidad Panamericana Mexico, Mexico

Although the formal structure of a system is important, often individuals do not adhere to established procedures. We conduct a series of laboratory experiments to measure the effectiveness of different levels of integration on the overall performance of a fragmented system where participants are pursuing multiple, sometimes conflicting interests.

111-1724 Supply chain disruptions and firm response: the role of collective emotions.

Jose Matas, Student, University of Granada, Spain
 Francisco Javier Llorens-Montes, Professor, University of Granada, Spain
 M^a Nieves Perez-Arostegui, Associate Professor, Universidad de Granada, Spain

This work explores empirically how top managers' perception of collective emotions (CEs) in the company's supply environment affects the firm's response to disruptions. Proactive responses may be oriented to consolidating existing relations (bridging) or seeking external alternatives (buffering). We also analyze the role of supply chain resilience in the model.

111-0958 Load Effects on Service Times in Government Centers

Gyula Vastag, Professor, Corvinus University of Budapest, Hungary
 Carmela Di Mauro, Associate Professor, University of Catania, Italy

The paper aims to test a recently proposed LEST framework. Specifically, it shows the impact of behavioral “mechanisms” that explain how variations in workload affect total service processing time. The database used for this study consists of 3.5 million service encounters in 300 government service centers in Hungary.

Invited Session

259	Friday, 04:30 PM - 05:30 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: HOCM Best Paper Competition Finalists 2	
	Chair(s): Felipe Aros-Vera Melih Celik	

111-0943 Reinforcing Schooling Access for The Syrian Refugee Children in Turkey

Feyza Sahinyazan, Assistant Professor, Beedie School of Business, Canada
 Sebnem Manolya Demir, Student, Department of Industrial Engineering, Turkey
 Bahar Y. Kara, Professor, Bilkent University, Turkey
 Elfe Buluc, Supply Associate, UNHCR Turkey, Turkey

There are over 21 million refugee children without access to education. We formulate an adapted version of the Capacitated Maximum Covering Problem to improve schooling rates without burdening the host country's capacity. Our numerical analyses with data of Syrian children in Turkey illustrate that schooling accessibility can be improved significantly.

111-1114 Donations for Disaster Response: Earmarking, Competition, and Joint Fundraising

Arian Aflaki, Assistant Professor, Joseph M. Katz Graduate School of Business, United States
 Alfonso Pedraza, Associate Professor, Indiana University, United States

Most humanitarian organizations (HOs) allow donors to earmark their donations. While earmarking may increase donors' willingness to donate and reduce fundraising costs, it causes operational inefficiencies that hurt HO performance. We study the impact of HOs' competition and joint fundraising on earmarking and fundraising decisions.

111-0621 Treatment Planning of Victims with Heterogeneous Time-sensitivities in Mass Casualty Incidents

Yunting Shi, Student, Shanghai Jiao Tong University, China
 Nan Liu, Associate Professor, Boston College, United States

Guohua Wan, Professor, Shanghai Jiao Tong University, China

Mass casualty incidents lead to a sudden jump in patient demand, making it inevitable to ration medical resources. Informed by a unique timestamps dataset collected during a large-scale earthquake, we develop data-driven approaches to plan treatment of victims with heterogeneous time-sensitivities to do the greatest good to the greatest number.

Contributed Session

260	Friday, 04:30 PM - 05:30 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Performance Measures and Efficiency of Humanitarian Operations	
	Chair(s): Ruth Banomyong	

111-1366 Developing Humanitarian Supply Chain Service Performance Framework

Ruth Banomyong, Professor, Thammasat University, Thailand

Puthipong Julagasigorn, Student, Thammasat University, Thailand

Paitoon Varadejsatitwong, Post Doc/Researcher, Thammasat University, Thailand

This paper proposes a Humanitarian Supply Chain Service Performance Framework (HUMSERVPERF). A performance-based framework from commercial supply chains was adapted based on humanitarian supply chain literature and practitioners' suggestions. A case of flood was used to illustrate the implementation of HUMSERVPERF. Directions for developments and validations of HUMSERVPERF are proposed.

111-1382 Measuring Performance in Humanitarian Operations

Matthew Sabol, Student, University of Maryland, United States

There is a shortage in humanitarian operations research in the recovery phase of disasters and in identification of performance measures. This paper's contribution is establishing a new measure of recovery by using local GDP panel data to measure the mitigating effects of the responses to natural disasters by FEMA.

Contributed Session

262	Friday, 04:30 PM - 05:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Supply Chain Studies	
	Chair(s): Karthik Murali	

111-0715 Informal Cross-Border Trade in Africa: Operations, Policy, and Opportunities

Michael Lim, Associate Professor, Seoul National University, South Korea

Karthik Murali, Assistant Professor, Oregon State University, United States

Jimin Park, Student, Seoul National University, South Korea

Using a game-theoretic model, we analyze the operations and market dynamics of the informal cross-border trade (ICBT) value chain. We examine policy implications of three UN directives to governments for formalization of ICBT. We supplement our analysis with a case study based on export data for agricultural commodities in Uganda.

111-1649 Search with information persuasion in a competitive market

Ailing Xu, Student, HKUST, China

Qiaochu He, Associate Professor, Southern University of Sci and Tech, China

Ying-Ju Chen, Professor, Hong Kong University of Science and Technology, Hong Kong, China

In a competitive market with search frictions, retailers can use price-setting and information disclosure to impact consumers' behaviors. We use the Bayesian persuasion framework to model information provision about competitors' product. We investigate the optimal pricing decisions and/or persuasion strategies when consumers are bounded rational or fully rational.

111-1749 Show Big Logos or Not in Luxury Fashion Products? Impacts of Counterfeits and Copycats

Yingjia WANG, Student, The Hong Kong Polytechnic University, Hong Kong, China

Tana Siqin, Student, The Hong Kong Polytechnic University, Hong Kong, China

Xiaoyan Xu, Student, The Hong Kong Polytechnic University, China

We analytically explore how consumers' preferences for brand prominence affect luxury fashion retailer's logo strategy. We uncover that when the proportion of patricians who dislike big logo is small enough, showing big logo is beneficial to the luxury fashion supply chain, its members and the consumers.

Invited Session

263	Friday, 04:30 PM - 05:30 PM, Elections & Political Mgmt	Track: Elections and Political Management
	Invited Session: Information in Politics	
	Chair(s): Charles Thraves	

111-0761 Multidimensional Apportionment

Victor Verdugo, Assistant Professor, Universidad de O'Higgins, Chile

In this work we initiate the study of multidimensional proportional apportionment. We first formalize a notion of multidimensional proportionality. By means of analyzing an appropriate integer linear program we provide existence, complexity and algorithmic results. We evaluate 3-dimensional methods using the data from the 2021 Chilean Constitutional Convention Election.

111-1350 Learning in a Post-Truth World

Mohamed Mostagir, Assistant Professor, University of Michigan, United States

James Siderius, Student, Massachusetts Institute of Technology, United States

Misinformation has emerged as a major societal challenge. We examine how the cognitive sophistication of people impacts their ability to fall for misleading content in a social learning setting. Our main result shows sophisticated agents can be *more* likely to fall for misinformation and characterize the environments where this happens.

Invited Session

265	Friday, 04:30 PM - 05:30 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Fintech-driven supply chain finance - II	
	Chair(s): Lima Zhao	

111-0469 Retailer's trade credit and ordering decisions under considering consumer credit rate

Pingfan Wang, Student, University of Science and Technology of China, China

Gongbing Bi, Professor, University of Science and Technology of China, China

This paper divides consumers into those with good credit and with poor credit, and then studies the optimal trade-credit decision and ordering decision under the loan-differentiation contract and delay-period-differentiation contract. The results show that both differentiation contracts can effectively reduce the default risk and increase the retailer's profits.

111-0942 Financing Buyers through Captive Finance

Tingyi Yu, Student, Shanghai Jiao Tong University, China

Yan Zeng, Professor, Sun Yat-sen University, China

Wenhui Zhao, Professor, Shanghai Jiao Tong University, China

Linfei Miao, Student, Shanghai Jiao Tong University, China

A captive finance company is a wholly-owned subsidiary that finances purchasing requirements of the parent firm, which is popular in auto industry such as Toyota Financial Services. Our work studies whether and how the captive finance can help to improve the performance of a supply chain

Contributed Session

266	Friday, 04:30 PM - 05:30 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Contributed Session: Supply Chain Finance	
	Chair(s): Yiyi Fan	

111-0450 Peer-to-Peer Lending Business Model as an Implementation of Lean Management

Mousumi Munmun, Student, Metropolitan State University Minnesota, United States

Dongli Zhang, Associate Professor, Fordham University Gabelli School of Bus, United States

Changyue Luo, Assistant Professor, Metropolitan State University Minnesota, United States

The purpose of this study is to examine whether the Peer-to-Peer (P2P) lending business model can be theorized according to the principles of lean management. The findings of this study will help P2P lending, a new industry, become more sustainable by learning from lean management principles and quality management strategies.

111-0702 The effect of mandatory payment disclosure

Yiyi Fan, Lecturer, Lancaster University, United Kingdom

Fang Li, Post Doc/Researcher, University of Oxford, United Kingdom

Mark Stevenson, Professor, Lancaster University, United Kingdom

Shantanu Banerjee, Professor, Lancaster University, United Kingdom

We study whether and how mandatory payment disclosure affects supplier performance. By using a supplier-customer matched sample, we find that the payment disclosure is positively associated with accounts receivable in supplier firms. We also analyze the effect of supply chain finance and e-invoicing using the payment disclosure sample.

111-0379 Cooperative Financing from a Risk-Averse Bank under a Competitive Market

Chenglin Ma, Student, College of Management and Economics, China

Ruiqing Zhao, Professor, Tianjin University, China

Recently, financing institutions have pushed out an emerging but unpopular financing mode for small and medium-sized enterprises (SMEs), i.e., group lending (GL), under which competing SMEs cooperate in financing by bearing joint liability. We develop a model to reveal the intrinsic reasons behind GL's unpopularity and provide a modified one.

Invited Session

268	Friday, 04:30 PM - 05:30 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: CHOM Best Paper Competition 2	
	Chair(s): Vikram Tiwari	

111-1879 4) The Spillover Effects of Capacity Pooling in Hospitals

Jong Myeong Lim, Student, Wharton School, United States

Hummy Song, Assistant Professor, The Wharton School, United States

Julius Yang, Director of Medical Services, Beth Israel Deaconess Medical Center, United States

We examine the spillover effect that patients who are placed on service experience when other patients belonging to the same service are placed off service. Using an instrumental variables approach, we find there are substantial negative spillover effects, manifesting as longer lengths of stay and lower quality of care.

111-1880 5) Continuity of Care Increases Clinical Productivity in Primary Care

Harshita Kajaria-Montag, Student, University of Cambridge, United Kingdom

Michael Freeman, Assistant Professor, INSEAD, Singapore

Stefan Scholtes, Professor, Cambridge University, United Kingdom

Relational Continuity (RC) in primary care confers many reported benefits, yet it has been in sharp decline. Using multiple econometric techniques on a large consultation-level dataset, we find that RC has a significant productivity benefit, with operational and strategic implications for primary care practices and third-party payers.

111-1881 6) Stockpiling Medicines During COVID-19 Pandemic: An Empirical Analysis of National Drug Sales and Prices

Minje Park, Student, Boston University, United States

Anita Tucker, Professor, Boston University, United States

Erin Fox, PharmD, University of Utah, United States

Rena Conti, Professor, Boston University, United States

We leverage a quasi-experimental design on IQVIA's national prescription drug sales data from 2018- 2020 with a focus on medicines related to US hospital-based COVID-19 treatment and a set of control medicines not used for COVID-19, to demonstrate stockpiling among US medical providers in the early phase of the pandemic

Contributed Session

269	Friday, 04:30 PM - 05:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Healthcare Practice 2	
	Chair(s): Heng (John) Xie	

111-1300 Comparison of Different Semantic Analysis Methods in Measuring Patient Satisfaction

Heng (John) Xie, Assistant Professor, The University of Texas Permian Basin, United States

Victor Prybutok, Professor, University of North Texas, United States

Gayle Prybutok, Assistant Professor, University of North Texas, United States

Semantic analysis can analyze unstructured data, such as patient comments on healthcare organizations. This study compares the differences between semantic analysis methods in measuring patient satisfaction. The results can help researchers understand the differences between semantic analysis methods and provide insights for improving patients' satisfaction with healthcare quality management system.

111-1580 A Taxonomy of Enablers and Challenges for IoT/I4.0 Implementation in Healthcare

Renan Santos, Student, Universidade Federal Fluminense, Brazil

Rodrigo Caiado, Associate Professor, Pontifícia Universidade Católica do Rio de Janeiro - PUC-Rio, Brazil

Gilson Lima, Professor, Universidade Federal Fluminense, Brazil

In this work a taxonomy of enablers and challenges for IoT/I4.0 implementation in healthcare in view of the COVID-19 pandemic is developed. The method used relies on a novel approach combining Scoping and Systematic Literature Reviews, taxonomy Development techniques and Multi-Criteria Decision Aid.

111-1553 Automated Notification of Incidental Oncological Findings in Imaging Screening in a Verticalized Healthcare System

Paula Barbosa, Doctor, Prevent Senior Private Operadora de Saúde Ltda, Brazil

Edivaldo Oliveira Filho, Doctor, Prevent Senior Private Operadora de Saúde Ltda, Brazil

Maria Fernanda Almeida, Doctor, Prevent Senior Private Operadora de Saúde Ltda, Brazil

Fabricio Machado, 2, Prevent Senior, Brazil

Fabiano Castello, Data scientist, Prevent Senior Private Operadora de Saúde Ltda, Brazil

This report aims to describe the use of an automated textual mining tool of radiological reports in search of incidental oncological findings, known as Hash System, created to facilitate directing patients to a specific line of care, reducing the waiting time for interventions, consultations, and minimizing delays to treatment.

Contributed Session

270	Friday, 04:30 PM - 05:30 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: General COVID-Related Topics	
	Chair(s): Leela Nageswaran	

111-1416 Lessons from the COVID-19 pandemic: global supply chain strategy for medical device industry

Sangdo Choi, Associate Professor, Bloomsburg University, United States

Jeong Hoon Choi, Associate Professor, University of Nebraska Kearney, United States

Yong-Taek Min, Assistant Professor, Florida Gulf Coast University, United States

By analyzing longitudinal data of global medical device firms, this study aims to identify the industry dynamics of medical device firms and suggest supply chain strategies for the U.S. medical device industry after the COVID-19 pandemic.

111-0104 Implications of Vaccine Shopping during Pandemic

Leela Nageswaran, Assistant Professor, University of Washington, United States

We study whether a policy maker should allow individuals to choose their vaccine during a pandemic. We find that restricting choice leads to more vaccinations when the vaccine supply is low, but fewer vaccines are wasted when patients who are moderately hesitant towards vaccinations are allowed to choose their vaccine.

Contributed Session

272	Friday, 04:30 PM - 05:30 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Contributed Session: Internet of Things	
	Chair(s): Mateus J do Rego Lima	

111-0554 Selling and Renting Mechatronics (Digitally Controlled Physical Goods)

Xianfeng Meng, Student, Queen's University, Canada

Anton Ovchinnikov, Professor, Queens University, Canada

Guang Li, Assistant Professor, Queen's University, Canada

Digital goods firms routinely utilize free-premium-upgrade business models for product differentiation. Recent technological advances allow physical goods firms to do the same. We present a stylized model to explore when physical goods firms should adopt such digitally-enabled product differentiation with renting/subscription as opposed to selling traditional high- and low-end products.

111-1322 A model for condition based maintenance using Internet of Things

Mateus Ferreira-Lima, Student, Ohio State University, United States

Elliot Bendoly, Professor, Ohio State University, United States

Nathan Craig, Assistant Professor, Ohio State University, United States

In this paper we developed an analytical model for condition based maintenance using Internet of things.

111-1402 Strategic Investment of Firms in Edge Computing to Complement the Cloud

Shiva Shekhar, Assistant Professor, University of Passau, Germany

Hooman Hidaji, Assistant Professor, University of Calgary, Canada

we consider the decision of downstream IoT firms to choose an optimal mix of edge computing capacity through costly investment or renting cloud computing services where a cloud service provider prices its cloud service offering. We find that competition increases investment in edge computing and it hurts CSPs.

Invited Session

273	Friday, 04:30 PM - 05:30 PM, Inventory Management	Track: Inventory Management
	Invited Session: Strategic Inventory Management Methods	
	Chair(s): Prashant Chintapalli	

111-0069 Vertical Channels with Manufacturer-Quality and Retailer-Effort Induced Demand in the Presence of Strategic Inventory

Abhishek Roy, Assistant Professor, Fox School of Business, United States

Existing literature on strategic inventory does not consider the effect of the effort exerted by the manufacturer and retailer to stimulate demand. We examine how strategic inventory affects the manufacturer's choice of quality, and the retailer's choice of selling effort, both of which influence the market demand.

111-0366 Mass Customization and the Parts-Procurement Planning Problem

Ali Fattahi, Assistant Professor, Johns Hopkins University, United States

Sriram Dasu, Associate Professor, University of Southern California, United States

Reza Ahmadi, Professor, University of California Los Angeles, United States

We study a new parts-procurement planning problem that is motivated by a global auto manufacturer, where requirements for many parts (up to 60%) are based on the combinations of options in a fully configured vehicle, and the options' forecast maps into ranges for many parts' requirements.

111-0911 The significance of frequency and duration of supplier disruptions on risk mitigation

Vishwakant Malladi, Assistant Professor, Indian School of Business, India

Managing supplier disruption risk is an essential part of modern business management. In this paper, we argue that optimal risk mitigation is determined by both the frequency and duration of supplier disruptions. We do so by showing the explicit dependence of frequency and duration on different risk mitigation strategies.

Contributed Session

275	Friday, 04:30 PM - 05:30 PM, Manufacturing Operations	Track: Manufacturing Operations
	Contributed Session: Empirical Studies of Manufacturing	
	Chair(s): Jason Woldt	

111-1273 Exploring the relationship between insourcing and shareholder returns

Jason Woldt, Assistant Professor, University of Wisconsin Oshkosh, United States

Manufacturing outsourcing has been one of the most influential trends of the twentieth century, and only decades later are organizations realizing the long-term costs and benefits of these decisions. In this study, we use an event-study methodology and transaction cost economics to explore the relationship between insourcing and shareholder returns.

111-1621 Process vs Controls: Insights from the Canadian Resources Sector

Kalinga Jagoda, Associate Professor, University of Guelph, Canada

Saad Hossain, Student, University of Guelph, Canada

This paper identified theoretical constructs which drive functional level strategic process. Using questionnaire, we surveyed 284 managers in Canadian resource sector. Data was analyzed by conducting EFA, serial mediations and moderated serial mediations. Findings suggest alternative forms of process, its stages and relationship with performance priorities and controls.

111-0847 Aggregate Production Planning Framework based on the Theory of Constraints

Lucas Adamatti, Production Manager, Federal University of Rio Grande do Sul, Brazil

Ricardo Cassel, Associate Professor, Univ Federal Do Rio Grande Do Su, Brazil

Daniel Lacerda, Associate Professor, Unisinos University, Brazil

This study presents a framework for developing aggregate production plans based on the Theory of Constraints, which was developed using Design Science Research. The framework is suitable to the S&OP process.

Invited Session

282	Friday, 04:30 PM - 05:30 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Product and Process Innovation in Healthcare 2	
	Chair(s): Zhili Tian	

111-1625 Optimal Payment for the Long-Term Care Hospitals Discharging

Wei Zhang, Student, City University of Hong Kong, Hong Kong, China

Frank Chen, Professor, City University of Hong Kong, Hong Kong, China

The LTCH provides medical needs for post-acute patients. The existing payment breeds LTCH's strategically discharging. We design the optimal contract for Medicare to regulate LTCH's strategic discharging with information asymmetry and capacity effect. Information asymmetry incurs longer LOS, and the capacity effect leads to both longer or shorter LOS.

111-0324 Adaptive Seamless Dose-finding Trials

Ningyuan Chen, Assistant Professor, University of Toronto, Canada

Amin Khademi, Assistant Professor, Clemson University, United States

We propose a nonparametric online-learning framework to conduct early-stage dose-finding clinical trials with simultaneous consideration of efficacy and toxicity. It has two major benefits: efficient use of patient responses and immunity to model misspecifications. We propose two rate-optimal algorithms in terms of regret for their special setting.

Invited Session

284	Friday, 04:30 PM - 05:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Sustainability Considerations in Retail Supply Chains 2	
	Chair(s): Olga Perdikaki	

111-0871 Are Fast Supply Chains Sustainable?

Robert Swinney, Associate Professor, Duke University Durham, United States

Ali Kaan Tuna, Student, Duke University Durham, United States

We consider the environmental implications of a firm's efficient-vs.-responsive supply chain choice and analyze a model wherein responsiveness increases costs, decreases leadtimes, and changes the per-unit environmental impact of production. We find that fast supply chains are not inherently unsustainable, but may cause a misalignment of profit and environmental performance.

111-0691 The Flexibility to be Available: Impact of Availability on Performance of Gig Workers in Online Retail

Reeju Guha, Student, IE BUSINESS SCHOOL, Spain
Daniel Corsten, Professor, IE BUSINESS SCHOOL, Spain

Gig-contractor model of service-oriented platforms is shifting towards part-time jobs, to ensure quicker service and enhanced service quality. Using data from an online grocer, we observe that shoppers with similar level of experience, but higher flexibility to work longer, perform significantly better than their counterparts, controlling for task, worker characteristics.

111-0746 Introduction of a Sustainable Firm: Effect on Customer Shopping Patterns and Channel Choices

H. Sebastian Heese, Professor, North Carolina State University, United States
Eda Kemahlioglu-Ziya, Associate Professor, North Carolina State, United States
Olga Perdikaki, Associate Professor, University of South Carolina, United States

We consider two retail stores that offer two generic product categories and examine the effect of the introduction of a sustainable firm on customers shopping patterns and existing retailers' product category sales.

Contributed Session

285	Friday, 04:30 PM - 05:30 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Contributed Session: Retailing and Revenue Management Interface	
	Chair(s): Weifen Zhuang	

111-0987 Mixed-effects Demand Estimation under Choice-based Models from Panel Transaction Data

Weifen Zhuang, Professor, Xiamen University, China
Surui Wang, Student, Xiamen University, China

We develop a novel mixed-effects demand estimation routine based on Multinomial Logit Model to capture the fixed customer preference effect and random customer population effect sequentially among multiple times series transaction data. The empirical study conducted on real world single-leg airline data shows our methods outperform the benchmark methods.

111-0459 Designing Subscription Contracts for two sided markets

Neha Sharma, Student, Kellogg School of Management, United States
Milind Sohoni, Professor, Indian School of Business, India
Achal Bassamboo, Professor, Northwestern University, United States

To operate at scale, platforms in emerging markets often finance assets and offer revenue share supply contracts. We find the optimal contract in such settings where the platform decides on revenue share to offer and monthly fee to charge the users. We also compare this to centralized platforms.

111-1521 Assortment Decisions With All-at-once Returns And Heterogeneous Customers

Sahika Sahan, Student, Washington University in St. Louis, United States
Jacob Feldman, Associate Professor, Washington University St Louis, United States

In this paper, we study the assortment problem in a setting where heterogeneous customers can return the products that they ordered. We first fully characterize the dynamics of the model and show that the assortment problem is NP-hard. We then provide polynomial-time approximation scheme for the retailer's assortment problem.

Contributed Session

286	Friday, 04:30 PM - 05:30 PM, Service Operations	Track: Service Operations
	Contributed Session: Models and Heuristics in Services	
	Chair(s): Vincent Slaugh	

111-0461 Trade-offs between quality and speed in customer-intensity services: free or not free under customers' rating

Yuqiong Jiang, Student, Tianjin University, China
Zhaofang Mao, Professor, Tianjin University, China
Yuqing Han, Student, Tianjin University, China

We consider under the influence of rating, how service providers provide free services and paid services to customers with heterogeneous waiting costs on the on-demand service platform. In the queuing framework, we develop a single-stage model without free services and a two-stage model with free services under comments.

111-0494 Maximizing the Number of Users or Revenue or Both? Development of a Freemium Model

Hisashi Kurata, Professor, Yokohama National University, Japan

Premium service users generate revenue, while free service users enhance network effects of the service using a freemium model, a common strategy for internet services. In this study, the optimal free service quality and premium pricing, as well as the optimal free freemium strategy according to market environments,

111-1357 Staffing to Service Shared Resources

Vincent Slaugh, Assistant Professor, Cornell University, United States

Buyun Li, Student, Indiana University, United States

Motivated by hotel housekeeping, we study shift timing decisions for systems where workers service resources between successive customer uses. We demonstrate that the rostering decision is M-Convex. We show the potential to improve upon a common industry heuristic to reduce staffing costs and guest room wait times.

Contributed Session

289

Friday, 04:30 PM - 05:30 PM, Supply Chain Management 1

Track: Supply Chain Management

Contributed Session: Firm/Supply Chain Resilience

Chair(s): John Posada-Henao

111-1391 Freight Tour Synthesis based on Entropy - Fuzzy Logic

Diana Moreno-Palacio, Assistant Professor, Universidad Nacional De Colombia, Colombia

Carlos Gonzalez-Calderon, Associate Professor, Universidad Nacional De Colombia, Colombia

Hector Lopez-Ospina, Associate Professor, Universidad del Norte, Colombia

Jhan Gil-Marin, Student, University of Maine, United States

John Posada-Henao, Associate Professor, Universidad Nacional De Colombia, Colombia

To estimate aggregate pick-up/delivery tour flows, the fuzzy logic is applied into the formulation of a Freight Tour Synthesis (FTS) model. This model uses secondary data as traffic counts and have flexible constraints of trip production, and link-volume using triangular membership functions. Also include constraints of costs/tour and non-negativity.

111-1289 A Grounded Theory Investigation of the firms' preparation for post COVID-19 world

Muhammad Hasan Ashraf, Student, University of Rhode Island, United States

Mehmet Yalcin, Assistant Professor, University of Rhode Island, United States

This research aims to follow a grounded theory approach and seeks to identify what improvements are expected and understand how the consequent paradoxes are managed by the firms as they prepare for post COVID-19 world. By connecting our research findings with the supply chain literature, we derive theoretical propositions.

111-1210 Performance analysis of blood bank merger in the COVID-19 pandemic

Amir Masoumi, Assistant Professor, Manhattan College, United States

Min Yu, Associate Professor, University of Portland, United States

Michelle Li, Assistant Professor, Babson College, United States

We present and apply a SC network model with capacity overflow, outsourcing option, aggregated supply zones, and clustered demand regions, to a real-world blood bank merger case. Performance of the merger is examined under multiple scenarios, including pre-COVID conditions, early weeks of the pandemic, and a return to normal scenario.

Contributed Session

292

Friday, 04:30 PM - 05:30 PM, Sustainable Operations 1

Track: Sustainable Operations

Contributed Session: Energy Storage Operations

Chair(s): Emre Nadar

111-0774 Optimal Hour-Ahead Commitment Decisions of Wind Power Producers with Storage Option

Ece Cigdem Karakoyun, Student, Bilkent University, Turkey

Harun Avci, Student, Northwestern University, United States

Ayse Selin Kocaman, Assistant Professor, Bilkent University, Turkey

Emre Nadar, Assistant Professor, Bilkent University, Turkey

We study the energy commitment, generation, and storage problem for a wind power producer. Modeling this problem as a Markov decision process under wind speed and price uncertainties, we characterize the optimal policy structure. We leverage our structural results to construct heuristic solution methods that can provide significant computational benefits.

111-0775 Integration of pumped hydro energy storage and wind energy generation

Emre Nadar, Assistant Professor, Bilkent University, Turkey

Harun Avci, Student, Northwestern University, United States

Ece Cigdem Karakoyun, Student, Bilkent University, Turkey

Ayse Selin Kocaman, Assistant Professor, Bilkent University, Turkey

Parinaz Toufani, Student, Bilkent University, Turkey

We study the energy generation and storage problem for a hybrid energy system that includes a wind farm and a pumped hydro energy storage facility. We model the problem as a Markov decision process under uncertainty in energy sources and price, and characterize the optimal policy structure.

Contributed Session

293	Friday, 04:30 PM - 05:30 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Contributed Session: Sustainability in Apparel and Fashion	
	Chair(s): Surya Pathak	

111-1639 WILL SUSTAINABILITY WEED OUT FAST FASHION: AN ECOLOGICAL THEORY PERSPECTIVE

Rohit Geethesh, Student, Indian Institute of Management Kozhikode, India

Ecological theory of organizations is used to understand the shift of modern fashion industry-based supply chains from efficient design, focusing on profits, to a more responsible design focusing on the triple bottom line in tune with the changes in environmental conditions and consumer preferences.

111-1237 CSR in the apparel industry: an empirical investigation

Piera Centobelli, Assistant Professor, Università degli Studi di Napoli Federico II, Italy

Stefano Abbate, Student, Università degli Studi di Napoli Federico II, Italy

Roberto Cerchione, Associate Professor, Università degli Studi di Napoli Parthenope, Italy

The supply chain of the apparel industry significantly contributes to global pollution (e.g., wastes and CO2 emissions). A multiple case study is conducted to examine the CSR strategies and emerging technologies employed by 21 companies in response to the stakeholders' awareness of the industry's environmental and social implications and challenges.

111-0976 Designing a Greenwashing Index for Firms

Surya Pathak, Professor, University of Washington Bothell, United States

Jayanth Jayaram, Professor, University of Oklahoma, United States

Naveen Kumar, Assistant Professor, University of Oklahoma, United States

Arushi Choudhury, Student, Woodinville High School, United States

In recent times, greenwashing by firms has become an area of concern. Combining a case-based approach with text mining and topic modeling, we attempt to construct a greenwashing index for firms. We share our initial findings from the apparel industry.

Friday, 05:45 PM - 06:45 PM

Invited Session

299	Friday, 05:45 PM - 06:45 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Business Meeting: College of Behavioral Operations Management	
	Chair(s): Javad Nasiry Yinghao Zhang	

111-1865 Business Meeting: College of Behavior in Operations Management

Javad Nasiry, Associate Professor, McGill University, Canada

Business Meeting: College of Behavior in Operations Management

Invited Session

301	Friday, 05:45 PM - 06:45 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Business Meeting: College of Humanitarian Operations and Crisis Management	
	Chair(s): Erica Gralla	

111-1866 Business Meeting: College of Humanitarian Operations and Crisis Management

Erica Gralla, Associate Professor, George Washington University, United States

Business Meeting: College of Humanitarian Operations and Crisis Management

Invited Session

310	Friday, 05:45 PM - 06:45 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Business Meeting: College of Healthcare Operations Management	
	Chair(s): David Dobrzykowski	

111-1867 Business Meeting: College of Healthcare Operations Management

David Dobrzykowski, Associate Professor, University of Arkansas - Fayetteville, United States

Business Meeting: College of Healthcare Operations Management

Invited Session

320	Friday, 05:45 PM - 06:45 PM, Operational Excellence	Track: Operational Excellence
	Invited Session: Business Meeting: College of Operational Excellence	
	Chair(s): Morgan Swink	

111-1868 Business Meeting: College of Operational Excellence
Morgan Swink, Professor, Texas Christian University, United States
Business Meeting: College of Operational Excellence

Invited Session

324	Friday, 05:45 PM - 06:45 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Business Meeting: College of Product Innovation and Technology Management	
	Chair(s): Svenja Sommer	

111-1869 Business Meeting: College of Product Innovation and Technology Management
Svenja Sommer, Associate Professor, Hec Paris, France
Business Meeting: College of Product Innovation and Technology Management

Invited Session

328	Friday, 05:45 PM - 06:45 PM, Service Operations	Track: Service Operations
	Invited Session: Business Meeting: College of Service Operations	
	Chair(s): Jie Zhang	

111-1871 Business Meeting: College of Service Operations
Jie Zhang, Associate Professor, University of Victoria, Canada
Business Meeting: College of Service Operations

Invited Session

331	Friday, 05:45 PM - 06:45 PM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: Business Meeting: College of Supply Chain Management	
	Chair(s): Lauren Lu	

111-1870 Business Meeting: College of Supply Chain Management
Lauren Lu, Associate Professor, Dartmouth College, United States
Business Meeting: College of Supply Chain Management

Invited Session

334	Friday, 05:45 PM - 06:45 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Business Meeting: College of Sustainable Operations	
	Chair(s): Suresh Muthulingam	

111-1872 Business Meeting: College of Sustainable Operations
Suresh Muthulingam, Associate Professor, Penn State University University Park, United States
Business Meeting: College of Sustainable Operations

Invited Session

337	<p>Saturday, 09:00 AM - 10:00 AM, 1- Meetings & Programs - All are Welcome</p> <p>Track: All Plenaries and Special Events: Open to Everyone</p> <p>Invited Session: POMS International Conference Organizers' Recognition</p> <p>Chair(s): Nagesh Murthy</p>
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111-1861 POMS International Conference Organizers' Recognition
 Nagesh Murthy, Professor, University of Oregon, United States
 POMS International Conference Organizers' Recognition

Invited Session

338	<p>Saturday, 09:00 AM - 10:00 AM, 2- Meetings & Programs - By Invitation</p> <p>Track: All Special Events & Programs: By Invitation</p> <p>Invited Session: Doctoral Consortium-1</p> <p>Chair(s): Anthony Ross</p>
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111-1855 Doctoral Consortium - 1
 Anthony Ross, Professor, University of Missouri Columbia, United States
 Max Shen, Professor, University of California Berkeley, United States
 Vijay Kannan, Professor, Utah State Univ, United States
 Jennifer Ryan, Professor, University of Nebraska Lincoln, United States
 This session is by invitation only, for those doctoral students who have been registered. The purpose of the POMS Doctoral Consortium is to help doctoral students maximize their chances of having a successful academic career in our globally competitive environment.

Invited Session

339	<p>Saturday, 09:00 AM - 10:00 AM, 3- POMS Tutorials, Panels, & Workshops</p> <p>Track: All Tutorials, Invited Panels, and Workshops</p> <p>Invited Session: Operations Management Mobile Simulation Game</p> <p>Chair(s): Rakesh Mallipeddi</p>
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111-1875 Operations Management Mobile Simulation Game
 Javier Chan, CEO, processimlabs.com, Switzerland
 Used by MIT for their annual operations simulation competition. We'll introduce you to newest features we have added to our best selling simulation game, show you how to setup a simulation for your students to play, monitor their performance and how to incorporate this innovative teaching tool into your course.

Invited Session

341	<p>Saturday, 09:00 AM - 10:00 AM, Behavioral OM 1</p> <p>Track: Behavioral Operations Management</p> <p>Invited Session: Research Opportunities for Nudging Behavior within the Retail Sector</p> <p>Chair(s): Karen Donohue Yuanyuan Ding</p>
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111-1845 Research Opportunities for Nudging Behavior within the Retail Sector
 Karen Donohue, Professor, University of Minnesota, United States
 Yuanyuan Ding, Student, University of Minnesota, United States
 Wedad Elmaghraby, Professor, Robert H. Smith School of Business, United States
 Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States
 Tim Kraft, Associate Professor, 2801 Founders Dr, United States
 Anton Ovchinnikov, Professor, Queens University, Canada
 This interactive panel session brings together top scholars to discuss research trends, opportunities, and challenges in the field of behavioral research within the retail sector. We aim at exploring what we as academics can do to lead and inform retailers through nudging customers, workers, or managers toward better retail-specific outcomes.

Invited Session

343	<p>Saturday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 1</p> <p>Track: Crisis/Disaster Management and Covid-19 Pandemic</p> <p>Invited Session: Managing Public Health Supply Chains 1</p> <p>Chair(s): Amir Karimi</p>
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111-0811 Incentivizing Group Testing In The Covid-19 Pandemic

Tong Wang, Student, London Business School, United Kingdom
 Kamalini Ramdas, Professor, London Business School, United Kingdom
 S. Alex Yang, Associate Professor, London Business School, United Kingdom

We propose group testing with an incentive scheme to boost the efficiency and uptake of mass testing during the pandemic. A screening contract is applied to reveal the private information, such that individuals of different risk levels will voluntarily join groups of different sizes.

111-1293 Provider-focused Initiatives to Manage the Last-mile Stock-out of Health Commodities: Empirical Evidence from Indonesia

Amir Karimi, Assistant Professor, University of Texas at San Antonio, United States
 Anant Mishra, Associate Professor, University of Minnesota, United States
 Karthik V. Natarajan, Assistant Professor, University of Minnesota, United States
 Kingshuk Sinha, Professor, University of Minnesota, United States

Applying difference-in-differences estimation on novel data from Indonesia, we investigate whether improving the inventory management skills of healthcare providers leads to a meaningful reduction in the likelihood of stock-outs.

111-1305 Optimal Scheduling to Minimize Time Risk in Multi-Product Order Fulfillment: Health Equipment in a Pandemia

Leili Soltanisehat, Assistant Professor, University of Tulsa, United States
 Kash Barker, Professor, University of Oklahoma, United States
 Andres Gonzalez, Assistant Professor, University of Oklahoma, United States

Managing the time risk in order fulfillment is a critical but complex task, particularly during disasters contexts, such as pandemic-related crisis. The proposed scheduling framework allows decision-makers to determine key production parameters to minimize the propagation of time risk in multiproduct contexts, resulting in more responsive and resilient supply chains.

Invited Session

345	Saturday, 09:00 AM - 10:00 AM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Empirical Research in Service and Technology Management (TBD)	
	Chair(s): Fan Zou Yan Dong	

111-0790 Artificial intelligence and domain brokering: A deeper look into the user content generation behavior

Pankaj Kumar, Assistant Professor, Virginia Tech, United States
 Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States

Artificial intelligence (AI)-induced content generation can act as a double-edged sword. AI may stimulate content generation via topic suggestions. But AI may also dampen the intrinsic human motivation to lead and be creative. In this study, we examine how human interaction with AI influences domain brokering and content generation behavior.

111-1795 Cents of Urgency: How Opening an Urgent Care Center Affects Emergency Department Arrivals?

Simin Li, Assistant Professor, Tulane University, United States
 Martin Lariviere, Professor, Northwestern University, United States
 Achal Bassamboo, Professor, Northwestern University, United States

How the opening of an urgent care center affects EDs is unclear. In this paper, we find three main effects. The number of nonurgent to urgent ED encounters decreases. Among the urgent encounters, the proportion of hospitalization increases. The door-to-doctor's time decreases for severe encounters and increases ED efficiency.

111-1796 Merchant Payment Services and Mobile Network Operator Performance

Sining Song, Assistant Professor, University of Tennessee Knoxville, United States

Mobile merchant payment services (MMP) are provided by mobile network operators (MNO) to transfer user payments to merchants in exchange for goods and services. We explore the relationship between offering MMP services and MNO revenues, along with the moderating roles of the mobile network technology, complementary services, and bank partnerships.

Invited Session

346	Saturday, 09:00 AM - 10:00 AM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Economic Models and Applications in Supply Chain Management	
	Chair(s): Xi Shan	

111-0255 Dynamic Pricing and Procurement with Buy-One-Get-One Promotions

Yuefeng Li, Post Doc/Researcher, Shanghai JiaoTong University, China
 Moutaz Khouja, Professor, University of North Carolina Charlotte, United States
 Jing Zhou, Professor, University of North Carolina Charlotte, United States

In this paper, we seek to investigate how promotion-caused consumers' stockpiling alters the retailer's strategic inventory in the presence of retailer BOGO. We find that the retailer has a strong motivation to unload inventory to consumers under certain conditions. Our findings hold in some alternative model settings.

111-1279 Pricing Decisions in Crowdfunding

Wen Zhang, Assistant Professor, Baylor University, United States

We explore a reward-based crowdfunding campaign in which backers arrive following a non-homogeneous Poisson process. We characterize the optimal pricing strategies for different scenarios and summarize situations where no strategy achieves the campaign target. We also offer an algorithm that guarantees to find the optimal price or report no solution.

Contributed Session

348	Saturday, 09:00 AM - 10:00 AM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Contributed Session: Technology and Logistics	
	Chair(s): Laura Heuser	

111-0157 Logistics Preparedness for Disease Outbreaks in Uganda: Technology Acceptance and Process Improvements

Laura Heuser, Student, ETH Zurich, Switzerland

Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

Snjolaug Heimisdottir, Student, ETH Zurich, Switzerland

For better response to future disease outbreaks, the Ministry of Health of Uganda aims to improve its logistics preparedness with better order processes. Building on lean principles and information technology, as well as empirical insights from interviews and focus groups, we will expose how the Ministry can achieve its goal.

111-0072 Electric Vehicle Fleet Charging Management at a Depot with Non-homogeneous Chargers with Multiple Connector Support

Ehsan Mahyari, Student, University of Alabama Tuscaloosa, United States

Nickolas Freeman, Associate Professor, University of Alabama Tuscaloosa, United States

The trade-off between charging cost and service level is an important factor for Charging as a Service (CaaS) companies that manage EV fleet charging for a contracted rate. We propose an online optimization approach that employs prediction models to minimize charging costs for non-homogeneous chargers that support multiple connectors.

111-1415 Serving E-commerce Last Mile Deliveries using Public Transit Smart Mobile Lockers

Si Liu, Student, McMaster University, Canada

Elkafi Hassini, Professor, McMaster University, Canada

A prototype to serve the last mile deliveries of e-commerce B2C parcels supplementarily is presented. The prototype is attached to buses and is mobilized using the public bus transit network. It serves customers at bus stops during berthing time. The optimization of customers' and lockers' assignment is studied.

Invited Session

351	Saturday, 09:00 AM - 10:00 AM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: Healthcare, quality, and compliance operations management	
	Chair(s): In Joon Noh	

111-0103 Changing Standards and Drug Shortages in the Pharmaceutical Industry

Ivan Lugovoi, Post Doc/Researcher, Ohio State University, United States

Enno Siemsen, Professor, University of Wisconsin, United States

Using a proprietary dataset, we examine the relationship between changes in the manufacturing standards of drugs and drug shortages through the lens of competition. We encode US-Pharmacopeia monograph changes to documents changing manufacturing standards in drug markets.

111-0551 Impact of Supply Chain Disruptions on Service Quality: Evidence from a Natural Experiment

Minje Park, Student, Boston University, United States

Anita Tucker, Professor, Boston University, United States

Rena Conti, Professor, Boston University, United States

We investigate the impact of supply chain disruptions on service quality by studying a drug shortage case caused by Hurricane Maria in 2017. By applying the synthetic control method, we measure the increase in medication errors after the drug supply chain disruption.

111-1227 Quality-Speed Trade-off in Pharmaceutical Review

In Joon Noh, Assistant Professor, Penn State University, United States

Hessam Bavafa, Associate Professor, University of Wisconsin-Madison, United States

Christian Blanco, Assistant Professor, Ohio State University, United States

In this research, we examine the extent to which the faster generic drug application review process, enabled by Generic Drug User Fee Amendments (GDUFA) implemented in October 2012, may have compromised generic drug quality, as measured by drug recalls.

Invited Session

352	Saturday, 09:00 AM - 10:00 AM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Analytics for Patient Care 1	
	Chair(s): Deepa Goradia	

111-1104 Improving Access to Care and Patient Outcomes: The Efficacy of Telemedicine Adoption

Jane Iversen, Student, Ohio State University, United States

Aravind Chandrasekaran, Associate Professor, Ohio State University, United States

The Covid-19 pandemic has accelerated the adoption of telemedicine by providers and their patients, but its efficacy is still unknown. This research uses data from a natural experiment on e-Health adoption and investigates the efficacy of Telemedicine on both patient and provider outcomes.

111-0101 Distribution Services Efficiency and Customer Segmentation: A Model Application in the Medical Supplies Industry

Jeff Shockley, Associate Professor, Virginia Commonwealth University, United States

Jason Merrick, Professor, Virginia Commonwealth University, United States

Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States

Jeffery Smith, Professor, Virginia Commonwealth University, United States

This project develops a data-driven customer segmentation approach for a wholesale distributor in the medical supplies industry. The analysis reveals how a firm can use data clumpiness from its customers' order patterns to generate important insights about how customer ordering behaviors are affecting its downstream distribution services efficiency.

111-0265 Study Of Health Outcomes In A Technology Enabled Virtual Setting

Maxim Terekhov, Student, University of Florida, United States

This paper presents an empirical analysis of health insurance claims data to explore telemedicine outcomes. Specifically, I utilize causal forests and a retrospective matched case control study design to demonstrate statistically significant changes in costs, utilization, and medication adherence of telehealth users.

Invited Session

353	Saturday, 09:00 AM - 10:00 AM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Efficiency in Healthcare Operations 1	
	Chair(s): Brandon Lee	

111-0229 Deadline Effect in Stroke Patient Care

Brandon Lee, Assistant Professor, University of Dayton, United States

Seokjun Youn, Assistant Professor, University of Arizona, United States

Lawrence Fredendall, Professor, Clemson University, United States

TPA (Tissue Plasminogen Activator) for stroke patients should be administered within 4.5 hours of symptom onset. The clinicians' time for the administration of TPA depends on how much time is remaining before the 4.5 hours are fully spent (i.e., deadline effect). We examine the circumstances that mitigate such deadline effect.

111-0854 Applying Design Science to Surgical Flow for Operating Room Efficiency and Patient Safety Improvement

Yann Ferrand, Assistant Professor, Augusta University, United States

Lawrence Fredendall, Professor, Clemson University, United States

Jaeyoung Kim, Student, Clemson University, United States

Dee San, Consultant, ?, United States

Kevin Taafe, Associate Professor, Clemson University, United States

This study used a design science approach to study the effects of separate support rooms for patient induction, case setup and breakdown, with the goal of improving patient safety and satisfaction, and operating room utilization. The new induction room was associated with a reduction in next case preparation time.

Contributed Session

354	Saturday, 09:00 AM - 10:00 AM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Scheduling and Capacity Management for Surgery	
	Chair(s): Eojin Han	

111-0433 Dynamic Capacity Management for Deferred Surgeries

Eojin Han, Assistant Professor, Southern Methodist University, United States

Kartikey Sharma, Post Doc/Researcher, Zuse Institute Berlin, Germany

Omid Nohadani, Director of Data Science and AI, Benefits Science Technologies, United States

The COVID-19 pandemic has necessitated widespread deferrals of elective surgeries. These delays result in increased cost from patients' conditions as well as decreased revenue from departing patients. We develop a framework to optimally manage the dynamic expansion of surgical capacity under uncertain backlogs and patient departure.

111-0201 The Impact of Introducing Release Times for Operating Rooms on Surgery Waiting Times

Guang Cheng, Student, National University of Singapore, Singapore

Mitchell Tsai, Associate Professor, University of Vermont, United States

Joel Goh, Associate Professor, NUS Business School, Singapore

Allocating limited operating room (OR) capacity is an important problem in perioperative service management. This study aims to analyze how the introduction of such policies affect surgery waiting times. Using difference-in-difference method, we find that the 7-day release time policy can significantly reduce surgery waiting time.

111-0729 A Pareto Improvement Bumping-Rescheduling Policy for Operating Room Scheduling

Hung Do, Associate Professor, University of Vermont, United States

We model and analyze a bumping policy called First-In-First-Out (FIFO) Bump Policy in the context of Operating Room Scheduling. For hospitals using shared operating rooms for scheduled and emergent cases, a bumping policy is needed to facilitate emergent cases when they arrive, but it often operates with competing objectives.

Invited Session

355	Saturday, 09:00 AM - 10:00 AM, Information Systems & OM 1 Track: Information Systems and Operations Management
	Invited Session: Panel: Future of Work
	Chair(s): Alok Gupta

111-1849 Future of Work

Alok Gupta, Professor, University of Minnesota, United States
 Prithwiraj Choudhury, Professor, Harvard University, United States
 Marios Kokkodis, , ,
 Andreas Fügener, Student, Technische Universität München, Germany
 Balaji Padmanabhan, Professor, University of South Florida, United States

Past few years have given us a glimpse of a significant change in the future of work both from how the work would be done and by whom. While there are many changes on the horizon in terms of where and how the work would be performed and coordinated, to how technology will facilitate and even perform some of the work that was performed by humans, the gorilla in the room is indeed the question of how artificial intelligence (AI) will influence the workplace of the future, and thereby, the human working condition. While some of the focus of this discussion has been on the rather tautological conclusion that many current jobs will eventually be performed by machines, recent research is drawing attention to the fact that AI automation may not be that one-sided. The participants on this panel will discuss the future of work from a variety of perspectives. The five panelists will each provide a five-minute presentation of exigent ideas that they believe merit consideration, will have a profound impact on future of work, and how we can prepare the future workforce to be ready for the new order. The panelists are: 1) Prithwiraj Choudhury - Harvard University, 2) Marios Kokkodis - Boston College, 3) Andreas Fügener - University of Cologne, and 4) Balaji Padmanabhan, University of South Florida.

Invited Session

356	Saturday, 09:00 AM - 10:00 AM, Information Systems & OM 2 Track: Information Systems and Operations Management 2
	Invited Session: Economics of Information Systems 1
	Chair(s): Kyung Sun (Melissa) Rhee

111-1495 Compatibility decision of a new innovative product to duopolistic competition

Kenny Cheng, Professor, University of Florida, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States
 Youhyun Lee, Student, University of Florida, United States

This study examines a firm's strategic decision of whether to make its new innovative product compatible with its rival's product in another duopoly market. A compatible strategy generates more sales of the new product, whereas an incompatible strategy sells more of its existing product. What would be better?

111-1629 How Local Competition Reshapes Consumers' Review Behavior: An Empirical Investigation

Xinyu Zang, Student, University of Florida, United States
 Xiang Wan, Student, University of Florida, United States
 Naveen Kumar, Assistant Professor, University of Oklahoma, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States

Leveraging a comprehensive Yelp dataset, we investigate how (offline) local competition of a restaurant might affect its consumers' propensity to write two types of influential reviews: informative reviews and negative reviews. We also explore how the focal restaurant's characteristics could moderate such relationships.

111-0011 How to Slow Down the Revolving Door for IT Professionals: Keep them Engaged

Saif Bhuiyan, Assistant Professor, University of Northern Iowa, United States
 Kailing Deng, Assistant Professor, University of Tulsa, United States
 Dan Bumblauskas, Associate Professor, University of Northern Iowa, United States

Turnover among information technology (IT) professionals is higher than many sectors. IS literature has yet to look at the role of engagement as an antecedent for individual work outcomes. Using social exchange theory, we surveyed 113 IT professionals finding that organization engagement plays an important role in worker turnover.

Invited Session

358	Saturday, 09:00 AM - 10:00 AM, Logistics Management	Track: Logistics Management
	Invited Session: Online Platforms and Operations	
	Chair(s): Lina Wang	

111-0376 A reassessment of e-LSQ in crowdsourced delivery context

Ha Ta, Assistant Professor, Florida International University, United States

We conduct a content analysis of a dataset consisting of customers' reviews of a single online retailer's delivery service prior and post CD incorporation in its portfolio. Our findings suggest a reassessment of the central concept of e-LSQ in crowdsourced delivery.

111-0717 Pedaling Our Way to Clean Air: An Empirical Investigation of Bike-Sharing Platforms and Air Quality

Ecem Basak, Assistant Professor, Baruch College, United States

Ali Tafti, Associate Professor, University of Illinois at Chicago, United States

Mary Beth Watson-Manheim, Professor, University of Illinois at Chicago, United States

We examine the effect of the bike-sharing platforms on air pollution. We implement a fixed-effects difference-in-differences analysis to examine the impact entry of bike-sharing platforms on PM2.5 concentrations between 2010 and 2018. Our results show that cities experience a decrease in air pollution followed by bike-share entry.

111-1186 Modeling Drivers' Choices in a Crowdsourced Delivery System

Hyunsuk Baek, Student, Arizona State University Tempe, United States

Stanley Lim, Assistant Professor, Michigan State University, United States

Elliot Rabinovich, Professor, Arizona State University Tempe, United States

Lina Wang, Assistant Professor, Georgia Southern University, United States

Rui Yin, Associate Professor, Arizona State University Tempe, United States

We model the choices crowdsourced drivers make when selecting order bundles for last-mile delivery. We apply the model empirically to the operations of a crowdsourced delivery platform in order to identify crowdsourced driver, order bundle, and pick-up location attributes contributing to these choices, and show insights for its management.

Invited Session

360	Saturday, 09:00 AM - 10:00 AM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Platform Marketing	
	Chair(s): Tianxin Zou	

111-1786 Pricing Strategies of Platform with Private Parking Slot Sharing

Jian Li, Student, University of Electronic Science and Technology of China, China

Jingming Pan, Professor, University of Electronic Science and Technology of China, China

Jing Zhou, Professor, University of North Carolina Charlotte, United States

Parking sharing has become an effective way to solve the parking problem in big cities. We develop the model to set optimal prices and subsidies to encourage travelers with private parking slots to share them with the parking platform, so as to improve travel efficiency and profit of the platform.

111-1059 Economic Analysis of AlaaS on Digital Platforms

Zhe Wang, Student, Tsinghua School of Economics and Management, China

Hong Guo, Professor, University of Notre Dame, United States

Dengpan Liu, Professor, Tsinghua University, China

Artificial Intelligence as a Service (AlaaS) provided by digital platforms is an emerging service for firms. In this paper, we investigate the firms' incentives to adopt AlaaS and how AlaaS shapes their competition. We also examine the tradeoffs between the digital platform's AlaaS and other existing services.

111-1411 Less is More? Operations and Incentives of On-demand Medical Crowdsourcing Platforms

Jingxuan Geng, Student, Temple University, United States

Guangwen Kong, Assistant Professor, Temple University, United States

Marco Qin, Assistant Professor, Temple University, United States

Online medical crowdsourcing platforms enable patients to seek multiple opinions from doctors. We consider such a medical crowdsourcing platform that designs the optimal price and operational leverages such as a control limit on doctors' entry. We also collect data and empirically validate the results of the analytical model.

Invited Session

362	Saturday, 09:00 AM - 10:00 AM, Operational Excellence	Track: Operational Excellence
	Invited Session: Resilient Operations in Just-In-Time Low Buffer Environments (1)	
	Chair(s): Maneesh Kumar Guilherme Tortorella	

111-1809 Resilient Operations in Just-In-Time Low Buffer Environments

Matthias Thurer, Professor, Jinan University, China

Guilherme Tortorella Tortorella, Associate Professor, University of Melbourne, Australia

Maneesh Kumar, Professor, Cardiff University, United Kingdom

Chipageddon and other disruptions highlight that firms need to become more resilient, but they also need to stay profitable. Nada Sanders, Tyson Browning and Mohan Sodhi discuss traditional and emerging solutions, exploring trade-offs in resilience and buffering costs. The panel clarifies pros and cons, outlining promising research directions.

Invited Session

363

Saturday, 09:00 AM - 10:00 AM, POM in Food & Agriculture Track: POM in Food and Agriculture

Invited Session: Emerging Topics in Food and Agricultural Supply Chains

Chair(s): Somya Singhvi

111-0443 Direct Trade and Specialty Coffee: Sourcing and Pricing under Uncertainty

Scott Webster, Professor, Arizona State University Tempe, United States

Burak Kazaz, Professor, Whitman School of Management, United States

Shahryar Gheibi, Assistant Professor, Siena College, United States

Leading specialty coffee roasters rely on direct trade (DT) to source premium coffee beans. We study how characteristics of the operating and market environment affect the optimal sourcing strategy for single-origin beans.

111-0652 Traceability Technology Adoption in Supply Chain Networks

Philippe Blaettchen, Assistant Professor, City University - London, United Kingdom

Andre Calmon, Assistant Professor, Scheller College of Business, United States

Georgina Hall, Assistant Professor, INSEAD, France

Modern traceability systems enable unprecedented levels of visibility into supply chains. It is unclear, however, under which conditions they are adopted. We develop a new technology diffusion model that captures the specificities of the supply chain context: a firm's benefits depend on adoption by other firms within its supply chains.

111-1159 Crop Minimum Support Price versus Cost Subsidy: Farmer and Consumer Welfare

Christopher Tang, Professor, University of California Los Angeles, United States

Prashant Chintapalli, Assistant Professor, Ivey Business School, Canada

Governments use Minimum support price (MSP) as an alternative subsidy scheme to (i) safeguard farmers' incomes, and (ii) ensure sufficient crop production. However, Given cost subsidy is common, will MSP outperform cost subsidy in terms of value creation in the presence of market and crop yield uncertainties?

Invited Session

364

Saturday, 09:00 AM - 10:00 AM, POM in Practice Track: POM in Practice

Invited Session: Innovations, Data, and New Technology I

Chair(s): Jiayi Yu

111-0215 Offline-Channel Planning in Omnichannel Retailing

Jian Chen, Professor, Tsinghua University, China

Yong Liang, Associate Professor, Tsinghua University, China

Hao Shen, Assistant Professor, School of Business, Renmin University of China, China

Max Shen, Professor, University of California Berkeley, United States

Mengying Xue, Associate Professor, School of Management, University of Science and Technology of China, China

We study the problem of determining offline store locations and location-dependent assortment for an omnichannel retailer. We apply an effective estimation-optimization approach including a channel-product choice model and an MISOCOP-optimization model. We empirically reveal the significance of jointly determining locations and assortments, and incorporating the online channel in offline-channel planning.

111-0217 Consumer Choice Modeling via Operational Data Analytics

Qi Feng, Professor, Purdue University, United States

George Shanthikumar, Professor, Purdue University, United States

Mengying Xue, Associate Professor, School of Management, University of Science and Technology of China, China

An operational data analytics (ODA) framework is presented to estimate the general consumer choice model using data. This framework, generalizing the existing estimation methods for specific structural models, strikes a delicate balance between the (likely imprecise) structural knowledge and the data.

111-0504 A Resilient Supply Chain Design for Managing Future Public Health Emergencies and Other Disruptions

Musen Li, Assistant Professor, Shanghai University, China

Manmohan Sodhi, Professor, City University - London, United Kingdom

Christopher Tang, Professor, University of California Los Angeles, United States

Jiayi Yu, Assistant Professor, Fudan University, China

The response to COVID-19 flagged the need for redesigning a resilient supply chain for medically critical items. We examine if and when a "proactive" three-tiered supply chain design that uses stockpile inventory, backup capacity and standby capability is resilient in terms of cost and shortfall related performance.

Contributed Session

366	Saturday, 09:00 AM - 10:00 AM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Contributed Session: Innovation Across Industries 1	
	Chair(s): Kalinga Jagoda	

111-0480 New Product Development (NPD): Effects of National Culture on Practices and Performance

Debasish Mallick, Professor, University of St. Thomas, United States
 Soheli Ahmad, Professor, St. Cloud State University, United States
 Janine Sanders Jones, Associate Professor, University of St. Thomas, United States
 Roger Schroeder, Emeritus Professor, University of Minnesota, United States

This paper explores the effects of national culture on new product development (NPD) practices, and performance. Analysis of a sample of 317 NPD projects collected from three major industries across ten countries separates those NPD practices that are invariant to national culture and therefore, easier to transfer across national

111-1252 An Investigation into the Frugal Characteristics of Modular Construction in relation to Conventional Construction

Alexander Ebolor, Student, Friedrich-Alexander Universitat Erlangen-Nurnberg, Germany
 Nivedita Agarwal, Assistant Professor, University of Stuttgart, Germany
 Alexander Brem, Professor, University of Stuttgart, Germany

Cost is one benefit shown by research on modular construction. As cost is a criterion of frugal innovation, this study investigates the frugal innovation characteristics of modular construction, and whether it intrinsically fulfills the three defining criteria of substantial cost reduction, concentration on core functionalities, and optimised performance level.

111-0123 Managing the Crowdfunding Platform Ecosystem: The Role of Experienced Kickstarters Versus First-timers

Seoungwoo Lee, Assistant Professor, A.B. Freeman School of Business, United States
 Hyung Sup (Zack) Bhan, Assistant Professor, Tulane University, United States
 Hyoryung Nam, Assistant Professor, Syracuse University, United States
 Joon H. Ro, Senior Applied Scientist, ., United States

The study investigates the role of new and experienced entrepreneurs and investors in the crowdfunding ecosystem. The authors examine the dynamic relationships among the activities of new and experienced entrepreneurs and investors, project diversity, the concentration of funds, and the platform's revenue under open and closed platform policies.

Invited Session

368	Saturday, 09:00 AM - 10:00 AM, Retail Operations	Track: Retail Operations
	Invited Session: Empirical Research in Retail Operations	
	Chair(s): Huseyn Abdulla	

111-1251 Can We Improve Analytical Models Through Judgement And Local Information

Han Oh, Student, Texas A&M University College Station, United States
 Rogelio Oliva, Professor, Texas A&M University College Station, United States

Using data from a large retailer, we identify the triggers for managers modifying re-stocking order recommendations from a centralized information system and evaluate the performance of such modifications.

111-0016 Trade Credits: the Benefits of Going Cashless

Rafael Escamilla Aragon, Student, Tilburg University, Netherlands
 Jan Fransoo, Professor, Tilburg University, Netherlands
 Santiago Gallino, Assistant Professor, The Wharton School, United States

Millions of nanostores pay for products from their suppliers with cash every day. In this setting, we investigate the operational advantages that suppliers may gain by granting trade credits. In particular, we capture the effect on product rejection, visit duration, order size and assortment.

111-0281 Restrictive Changes to Long-Established Lenient Return Policies and Consumer Reactions to Them

Huseyn Abdulla, Student, Texas A&M University College Station, United States
 James Abbey, Associate Professor, Texas A&M University College Station, United States
 Michael Ketzenberg, Professor, Texas A&M University College Station, United States
 Gregory Heim, Professor, Texas A&M University College Station, United States

We experimentally examine how consumers react to restrictive changes to long-established lenient return policies of the retailers and a strategy to mitigate the potential negative reactions to such changes, motivated by several recent cases in the U.S. retail industry.

Invited Session

369

Saturday, 09:00 AM - 10:00 AM, Revenue Management & Pricing

Track: Revenue Management and Pricing

Invited Session: Consideration Set Choice Models 1

Chair(s): Ashwin Venkataraman Sajad Modaresi

111-0740 Upselling in Hospitality Industry

Natalia Kosilova, Student, Penn State University University Park, United States

Aydin Alptekinoglu, Professor, Penn State University University Park, United States

Andrew Vakhutinsky, Consulting Member of Technical Staff, Oracle, United States

We propose a simple and tractable framework based on the Multinomial Logit model that employs the information about the customer's initial choice to understand their reaction to an upsell offer. We estimate the model on a dataset provided by our industry partner and demonstrate that it adequately explains consumer behavior

111-1087 Revenue Management under the Boundary Logit Model

Sajad Modaresi, Assistant Professor, University of North Carolina Chapel Hill, United States

Ashwin Venkataraman, Assistant Professor, University of Texas Dallas, United States

Mohammad Amin Farzaneh, Student, University of Texas Dallas, United States

Jagabathula et al. (2020) recently showed the existence of "boundary" logit types that exhibit more nuanced substitution patterns than standard logit (MNL) types. We study RM problems such as assortment and pricing optimization under the boundary logit choice model.

Invited Session

371

Saturday, 09:00 AM - 10:00 AM, Social Media & Internet of Things

Track: Social Media and Internet of Things

Invited Session: Economics of IoT and social network enabled business

Chair(s): Arunima Chhikara

111-1264 What Do Twitter Users Talk about Supply Chain During the Pandemic? Thematic and Sentiment Analysis.

Tianling Xie, Student, University of Toledo, United States

Benjamin George, Assistant Professor, University of Toledo, United States

COVID-19 disrupted the global supply chain significantly. In this study, tweets from February 1st of 2020 to December 15th of 2021 with the keyword "supply chain" will be analyzed for dynamics through time, word clouds, sentiment, and thematic analysis, to reflect the public opinions about the supply chain disruption.

111-0580 Are investor sentiments still predictive during highly volatile markets? Evidences from the COVID-19 Pandemic

Michael Lash, Assistant Professor, University of Kansas, United States

Shaobo Li, Assistant Professor, University of Kansas, United States

Karthik Srinivasan, Assistant Professor, University of Kansas, United States

Xiaorui Zhu, Student, University of Cincinnati, United States

Past work has shown that sentiment information extracted from social media text has predictive power on stock returns. In this study, we reevaluate the predictivity of social media-extracted sentiment information on stock returns through the lens of the COVID-19 outbreak in 2020, which produced unprecedented levels of uncertainty and volatility.

111-0809 IoT Platforms and Applications: Role of Collaboration

Anurag Garg, Student, UF, United States

Emre Demirezen, Assistant Professor, University of Florida, United States

Kutsal Dogan, Associate Professor, University of Florida, United States

Kenny Cheng, Professor, University of Florida, United States

There exists both privacy and security concerns in consumers' minds when it comes to the use of Internet of Things (IoT) products. We study the interaction between an IoT platform provider and application developers and their efforts for improving the quality and security of users' experience.

Invited Session

373

Saturday, 09:00 AM - 10:00 AM, Supply Chain Management 1

Track: Supply Chain Management

Invited Session: College of SCM Student Paper Competition (1)

Chair(s): Shiliang Cui Sripad Devalkar

111-1840 Right to Repair: Pricing, Welfare, and Environmental Implications

Cungen Zhu, Student, National University of Singapore, Singapore

Chen Jin, Assistant Professor, National University of Singapore, Singapore

Luyi Yang, Assistant Professor, University of California, Berkeley, United States

The "right to repair" (RTR) movement calls for government legislation that requires manufacturers to provide repair information, tools, and parts so that consumers can independently repair their own products with more ease. This paper employs an analytical model to study the pricing, welfare, and environmental implications of RTR.

111-1841 Profit or Growth? Dynamic Order Allocation in a Hybrid Workforce

Eryn Juan He, Student, National University of Singapore, Singapore

Joel Goh, Associate Professor, NUS Business School, Singapore

Several firms augment their traditional labor supply of employees by engaging freelancers from on-demand platforms. How should demand be allocated between employees and freelancers to reach the system's long-run sustainability? We develop a discrete-time, stochastic dynamic program that captures the system's profit and the platform's growth dynamics.

Invited Session

374	Saturday, 09:00 AM - 10:00 AM, Supply Chain Management 2	Track: Supply Chain Management 2
	Invited Session: Information, Incentive, and Risk Issues in Supply Chain Management 1	
	Chair(s): Xin Geng Guang Xiao	

111-0364 Data-Driven Agricultural Network Optimization: A Predictive, Prescriptive, Dynamic Programming Approach

Seung Hwan Jung, Assistant Professor, Yonsei University, South Korea

Aaron (Yunzhe) Qiu, Student, Washington University St Louis, United States

We study a multi-tiered agricultural supply chain wherein a firm procures raw material from a pool of farms and processes it in preparation to sell to a list of dealers. We examine an online inventory allocation problem in the selling season, which involves initial inventory planning as a precursor.

111-0516 A distribution-free solution to a multi-period newsvendor problem with perishable inventory and backlogged demand

Yun Zhou, Assistant Professor, McMaster University, Canada

In this work, we study a multi-period newsvendor problem with perishable inventory and backlogged demand. Assume that the distribution of demand is not fully known to the planner but only the first two moments are available, we analyze the performance of a near-optimal ordering quantity.

111-1248 Investigating knowledge diffusion in triadic supply chain relationships

Piera Centobelli, Assistant Professor, University of Naples Federico II, Italy

Roberto Cerchione, Associate Professor, University of Naples Parthenope, Italy

Emilio Esposito, Professor, University of Naples Federico II, Italy

Eugenio Oropallo, Student, University of Naples Federico II, Italy

Renato Passaro, Professor, Università degli Studi di Napoli Parthenope, Italy

This paper proposes a hybrid model for understanding the knowledge diffusion process within the triadic relationship between customer, first-tier supplier, and second-tier supplier. The model is based on two main approaches, the Analytic Hierarchy Process and the Fuzzy Set Theory, and tested in a sample of 18 supply chains.

Invited Session

375	Saturday, 09:00 AM - 10:00 AM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Invited Session: Improving Resilience in Healthcare Operations	
	Chair(s): Claudia Rosales	

111-1355 Sensing and Responding to Personalized Support Needs in Mental Healthcare Delivery via Smartphone Mobile Applications

Yi Tang, Student, University of Minnesota, United States

Adam Moen, Founder and Principal, RealEmpowerment Solutions, United States

Kingshuk Sinha, Professor, University of Minnesota, United States

In this study, we develop a machine learning algorithm that captures the risk level of mental health mobile application users by mining text-based user generated contents and provides them with real-time recommendations to care options which take into consideration of their socio-demographic backgrounds, core topic of concern, and other factors.

111-0771 Responsive, Resilient, Restored: How Analytics Can Help Healthcare in Pandemic/Epidemic Outbreaks

Raktim Pal, Professor, James Madison University, United States

Elham Torabi, Assistant Professor, James Madison University, United States

Claudia Rosales, Assistant Professor, University of Arkansas - Fayetteville, United States

Baback Vaziri, Assistant Professor, James Madison University, United States

We develop a framework, supported by systematic literature review, to investigate the role of analytics in healthcare management in face of pandemic/epidemics. It illustrates the interrelationships among data, technology, methods, and decisions as they relate to three outcomes: responsiveness, resilience, and restoration. We discuss contributions, gaps, and future research directions.

111-1619 Managing Supply Chain Security of Prescription Opioids

Jingwen Yang, Student, University of Minnesota, United States

Kevin Linderman, Professor, Penn State University University Park, United States

Saturday, 09:00 AM - 10:00 AM

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This study investigates opioid security risks within pharmaceutical supply chains. It utilizes one of the largest supply-side intervention-i.e., OxyContin Reformulation-to evaluates buyer purchase behavior changes, therefore contributing to supply chain management of prescription opioids.

Invited Session

376 Saturday, 09:00 AM - 10:00 AM, Sustainable Operations 1 Track: Sustainable Operations
Invited Session: **Business and Climate Change 1**
Chair(s): Christian Blanco

111-0674 Consumer behavior towards different carbon footprint reductions

Nils Roemer, Student, Universitaet Hamburg, Germany

Guido voigt, Professor, Universitaet Hamburg, Germany

Chrstian Tröster, Professor, Kühne Logistics Univesity, Germany

Gilvan Souza, Professor, Indiana University Bloomington, United States

Responding to demands for sustainable products and services, many firms have the goal to become "net zero" carbon emissions. With different options to achieve this goal, such as buying offsets or switching to renewables, it is unclear how consumers perceive them. We empirically investigate this through surveys and incentivized experiments.

111-1278 Antecedents of firm GHG emission goals

Kevin Dooley, Professor, Arizona State University Tempe, United States

Kang Hsu, Assistant Professor, Georgia Southern University, United States

Firms are aware of growing external pressures to address global warming. This study utilizes empirical analysis with CDP data to investigate how firms are setting GHG emissions goals.

Contributed Session

377 Saturday, 09:00 AM - 10:00 AM, Sustainable Operations 2 Track: Sustainable Operations 2
Contributed Session: **Emerging Issues in Sustainable Operations**
Chair(s): Armagan Ozbilge

111-1599 Green or Non-green Products? Analysis on Competition and Market Share Threshold

Gurmeet Singh, Student, Indian Institute of Management Lucknow, India

Indranil Biswas, Associate Professor, NEOMA Business School, France

Samir Srivastava, Professor, Indian Institute of Management Lucknow, India

We analyzed substitutable products supply chain with incentive compatibility and rationality constraints. Under high competition, the manufacturer can always sell higher total products through the retailer by adding a green channel. The manufacturer is profitable by incorporating a green channel, provided green product market share is above a certain threshold.

111-0289 How Effective are Tax Incentives to Induce Donation of Fresh Goods?

Armagan Ozbilge, Post Doc/Researcher, McMaster University, Canada

Elkafi Hassini, Professor, McMaster University, Canada

Mahmut Parlar, Professor, McMaster University, Canada

We study the operational planning problem of a food-retailer for a continuously deteriorating inventory over two periods. She plans not only for the pricing and purchase of the goods but also for donating them. Our objective is to gain some policy insights for the government as well as the retailer.

Saturday, 10:15 AM - 11:15 AM

Invited Session

380 Saturday, 10:15 AM - 11:15 AM, 2- Meetings & Programs - By Invitation Track: All Special Events & Programs: By Invitation
Invited Session: **Doctoral Consortium-2**
Chair(s): Anthony Ross

111-1856 Doctoral Consortium - 2

Anthony Ross, Professor, University of Missouri Columbia, United States

Soraya Fatehi, Assistant Professor, University of Texas at Dallas, United States

Sharan Srinivas, Assistant Professor, University Of Missouri Columbia, United States

Elliot Bendoly, Professor, Ohio State University, United States

Tobias Schoenherr, Professor, Michigan State University, United States

This session is by invitation only, for those doctoral students who have been registered. The purpose of the POMS Doctoral Consortium is to help doctoral students maximize their chances of having a successful academic career in our globally competitive environment

Contributed Session

383	Saturday, 10:15 AM - 11:15 AM, Behavioral OM 1	Track: Behavioral Operations Management
	Contributed Session: Behavioral Operations and Inventory Optimization	
	Chair(s): Sergey Naumov	

111-0222 Round Number Bias: An Alternative Anchor In Newsvendor Problem

Rozhin sharifi, Student, Ferdowsi university of Mashhad, Iran (Islamic Republic of)

Ehsan Elahi, Associate Professor, University of Massachusetts Boston, United States

Hamideh Razavi, Associate Professor, Ferdowsi university of Mashhad, Iran (Islamic Republic of)

We study a supply chain including a bounded rational retailer and a rational supplier under revenue sharing contract. The behavior of the retailer is modeled considering random error, adaptive learning, and anchoring. Ordering decisions are found to follow multi-modal distributions that are dependent on round numbers in the ordering options.

111-1020 Censorship bias in deviations from automatic store replenishment proposals and self-inflicted stockouts

Bengu Ozdemir, Student, IE BUSINESS SCHOOL, Spain

Antti Tenhiala, Assistant Professor, IE BUSINESS SCHOOL, Spain

Censorship bias explains a paradox where retailers order less after a stockout. We examine the prevalence and performance implications of this bias with supermarket data. Accounting for the endogeneity of ordering decisions, we show that censorship bias is equally prevalent and detrimental as the well-known anchoring bias of ordering behavior.

111-1268 Circular Economy and Optimal Reordering Under Stochastic Rates of Return

Sergey Naumov, Assistant Professor, Smeal College of Business, United States

Saurabh Bansal, Associate Professor, Penn State University University Park, United States

Daniel Guide, Professor, Penn State University University Park, United States

Circular economy can reduce primary production if stocks and flows of new and used goods are managed effectively. We conduct an experiment where participants choose reordering quantity in a simulated supply chain with stochastic rates of return. The uncertainty often leads to overordering, offsetting benefits of extended lifecycle.

Invited Session

385	Saturday, 10:15 AM - 11:15 AM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Medicine and vaccine shortages in (ab)normal times	
	Chair(s): Marianne Jahre	

111-1067 Total System Preparedness: Designing Vaccine R&D, Manufacturing and Supply Resilient to Future Pandemics

Donovan Gutierrez, Student, KU Leuven, Belgium

Catherine Decouttere, Student, KU Leuven, Belgium

Nico Vandaele, Professor, KU Leuven, Belgium

The response to COVID-19 has been inadequate. The vaccine value chain, within the broader immunization system, needs to better anticipate and respond to pandemics. System dynamics is used to highlight how complex factors impact performance of vaccine R&D, manufacturing, and supply operations in the face of a dynamically evolving outbreak.

111-1146 Responding to massive demand surges in medical emergencies: analyzing policies for response and supply chains

Erica Gralla, Associate Professor, George Washington University, United States

Kiren Ajrawat, Student, George Washington University, United States

Jillian Miles, Student, George Washington University, United States

Christopher Shaffer, Student, George Washington University, United States

Alyson Fintzy, Student, George Washington University, United States

When emergencies create massive surges in the demand for medical supplies, the US Strategic National Stockpile must satisfy the emergency demand and avoid impact on routine healthcare delivery. Before COVID-19, we compared inventory, production capacity, and product substitution policies for the needle and syringe supply chain in an anthrax scenario.

111-1729 Reducing open vial wastage with lateral transshipment in Covid-19 vaccine administration

Cagri Ozmemis, Student, Ozyegin University, Turkey

Burcu Balcik, Associate Professor, Ozyegin University, Turkey

Open vial wastage (OVW) may be inevitable in vaccine administration due to uncertainties in appointment no-shows. This study develops and analyzes different transshipment policies for transferring doses among clinics to minimize the expected OVW over a day. Stochastic optimization models and heuristic algorithms are developed to support transshipment decisions.

Contributed Session

386

Saturday, 10:15 AM - 11:15 AM, Crisis/Disaster Mgmt & Pandemic 2

Track: Crisis/Disaster Management and Covid-19 Pandemic 2

Contributed Session: Policies for COVID-19 Mitigation

Chair(s): Jomon Paul

111-1160 Government Intervention during COVID-19: A Study of Impact on Organizational Performance

Qi Zou, Assistant Professor, West Chester University, United States

Sachin Modi, Professor, Wayne State University, United States

Yuan Wang, Assistant Professor, Higher Education, United States

Governments announced different policies in response to the COVID-19 Pandemic. This study investigates how government intervention influenced the impact of COVID-19 on organizational performance. Specifically, we test the effects of government stringency, economic support, and the interaction effects between these two approaches on the operational and financial impact of COVID-19.

111-1101 Supply Chain Resilience in the Era of the COVID-19 Pandemic

Henry Aigbedo, Associate Professor, Oakland University, United States

The COVID-19 Pandemic started more than 2 years ago. While this initially led to severe business disruptions, many companies are beginning to return back to their pre-pandemic levels of operation. This preliminary study assesses the extent to which some representative supply chains have been resilient during the pandemic.

111-0014 Effectiveness of COVID-19 Policies: A Configurational Approach through FsQCA

Jomon Paul, Professor, Kennesaw State University, United States

Xinfang Wang, Associate Professor, Georgia Southern University, United States

Aniruddha Bagchi, Professor, Kennesaw State University, United States

This study evaluates the impact of state COVID-19 policies such as closures, quarantine, business restrictions on deaths, hospitalizations, and the economy. We employ fuzzy set qualitative comparative analysis (fsQCA) to determine the most effective configurations of public policies for mitigating COVID-19 hospitalizations and deaths.

Invited Session

387

Saturday, 10:15 AM - 11:15 AM, Disruptive Tech & OM

Track: Disruptive Technologies and Operations Management

Invited Session: Disruptive Technology and Platform Business Models

Chair(s): Haiyang Feng Xinxue Qu

111-1608 Outside Payment Option and Pricing Competition on App Platforms

Ying Zhang, Student, Tianjin University, China

Haiyang Feng, Professor, Tianjin University, China

Dengpan Liu, Professor, Tsinghua University, China

Although app developer can adopt outside payment options to avoid high commission fees charged by application platforms, some potential users may still prefer the platform-provided payments due to security concerns. We develop a game-theoretic model to explore whether app developers should adopt the outside payment options under pricing competition.

111-1651 Efficient Mechanisms for Trading Differentiated Service with Two-Sided Information Asymmetry in Sharing Economy

Chenglong Zhang, Assistant Professor, Chinese Univ of Hong Kong (Shenzhen), China

Jianqing Chen, Associate Professor, University of Texas at Dallas, United States

Srinivasan Raghunathan, Professor, UT Dallas, United States

Motivated by the non-uniform pricing on some ride sharing platforms (e.g., Didi), we derived the efficient mechanism for trading differentiated service with information asymmetry on both sides. The mechanisms could be connected with quality differentiation literature and the differences are due to two-sided market features and information asymmetry.

111-1524 Relevance or Profits? Cost-Aware Recommender System Design for Streaming Services

Xinxue Qu, Assistant Professor, University of Notre Dame, United States

In applications of recommender systems, providing the most relevant recommendations does not always lead to the highest profit for firms. This study proposes a cost-aware recommender system design that balances the relevance and cost of recommendations and adjusts the weight placed on cost when recommending items to consumers.

Invited Session

388

Saturday, 10:15 AM - 11:15 AM, Economic Models in OM

Track: Economic Models in Operations Management

Invited Session: Competition and Technological Innovation 1

Chair(s): Tim Kraft Manish Tripathy

111-0293 Optimizing Free-to-Play Multiplayer Games with Premium Subscription

Yunke Mai, Assistant Professor, University of Kentucky, United States

Bin Hu, Associate Professor, Naveen Jindal School of Management, United States

We consider a free-to-play online multiplayer game with premium subscription. Accounting for social-comparison effects between free and premium players, we model the game attracting/losing players with a hybrid of the Bass diffusion model and the replicator equation in evolutionary game theory and characterize optimal dynamic pricing and advertising policies.

111-0937 Supplier Encroachment through an Online Retail Marketplace

Hongseok Jang, Assistant Professor, Tulane University, United States

Quan Zheng, Associate Professor, University of Science and Technology of China, China

Xiajun Pan, Assistant Professor, University of Florida, United States

We study whether a supplier should encroach on an online retail marketplace where both reselling and agency channels are available and its impact on stakeholders in e-commerce. We show that agency encroachment could lead to different results and managerial insights, comparing with traditional supplier encroachment through a direct channel.

Contributed Session

390	Saturday, 10:15 AM - 11:15 AM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Contributed Session: Supply Chain Coordination and Connectedness	
	Chair(s): Marco Bijvank	

111-1417 Informed bidding war for an on-demand service platform with delays

Osman Alp, Associate Professor, University of Calgary, Canada

Serasu Duran, Assistant Professor, University of Calgary, Canada

Marco Bijvank, Associate Professor, University of Calgary, Canada

We model a sharing-economy platform where customers request service by providing price quotes (or bids) as a multi-priority queue where servers (or contractors) can take vacations. Expressions are derived to calculate expected wait times for a given state such that customers can make informed decisions when they place a bid.

111-0521 When and How Supply Chain Finance Helps Buyers and Suppliers over Trade Finance?

Benoit Chevalier Roignant, Associate Professor, EM-Lyon, France

Manmohan Sodhi, Professor, City University - London, United Kingdom

Florian Lucker, Assistant Professor, Cass Business School, United Kingdom

We study the conditions under which a supplier and a buyer may be individually better or worse off using reverse factoring – or dynamic discounting – over their extant trade finance arrangement. Besides cash in hand, one condition is the buyer can misrepresent its creditworthiness using reverse factoring.

111-0456 Managerial Network Connectedness and Cooperative Innovation: Evidence from China

Ruiyang Niu, Student, Northwestern Polytechnical University, China

We document that the cluster effect of managers helps build social trust and convey more information between firms, and further prompts cooperative innovation.

Invited Session

393	Saturday, 10:15 AM - 11:15 AM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: WORKSHOP: Using AI and Machine Learning to Predict Consumers' Behavior	
	Chair(s): Polly Mitchell-Guthrie Masoud Chitsaz	

111-1734 Machine Learning in Practice for Retail

Kanchana Padmanabhan, Director, Data Science, Kinaxis, Canada

Liz Arcila-Osejo, Machine Learning Developer, Kinaxis, Canada

Anneya Golob, Machine Learning Architect, Kinaxis, Canada

Over the last decade the use of ML in the retail space has exploded. We'll provide a view into various applications and discuss what benefits retailers can expect, and the data challenges associated with each.

111-1751 Applying Customer Co-creation Principles to Supply Chain Management for Concurrent Planning and Its Enablers

Andreas M. Radke, Senior Executive Consultant, mSE Solutions, United States

Gabriel Vidor, Professor, University of Caxias do Sul, Brazil

The increasing risks of supply chain disruptions and more dynamic shifts in demand patterns require a step-change in the agility of operations management to achieve resilience. We introduce concurrent planning as an extension of customer co-creation and discuss the required enablers. We include an industry case.

111-1797 Integrated material and transportation planning to optimize efficiency and robustness across supply chains

Ina Goedicke, Director Strategy, 4Flow, Germany

Annette Chmielewski, Managing Director, 4Flow, Germany

Greca Manuzzi, Product Marketing Manager, 4flow AG, Germany

Kinaxis and 4flow partnered to build a native embedded software application that enables automatic integration of transportation optimization within material requirement planning. Despite the traditional S&OP systems, the solution shifts and groups demands to minimize total logistics costs and CO2 emissions while taking into account real logistic constraints.

Invited Session

394	Saturday, 10:15 AM - 11:15 AM, Healthcare Analytics Invited Session: Analytics for Patient Care 2 Chair(s): Deepa Goradia	Track: Healthcare Analytics
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111-1395 Primary Care Regularity Disparity and Its Impact on Inpatient Care Performance

Yingchao Lan, Assistant Professor, University of Nebraska Lincoln, United States

Existing literature has largely focused on healthcare delivery efficiency and effectiveness within the hospitals while ignoring its linkage with primary care. Leveraging a unique patient panel data, we examine the primary care regularity disparity across races, followed by its subsequent impact on inpatient care performance.

111-0230 The Impact of Implementing Full Capacity Protocol on the Operational Performance of an Emergency Department

Lu Wang, Assistant Professor, Ball State University, United States

Mazhar Arkan, Associate Professor, University of Kansas, United States

Suman Mallik, Associate Professor, University of Kansas, United States

Full capacity protocol (FCP) is a set of guidelines that coordinates the movement of patients when the emergency department (ED) is full. We show that the operational performance of an ED is improved after the implementation of FCP. We propose recommendations to further improve the operational outcomes under FCP.

111-0197 Optimal Interventions in Robust Optimization with Time-Dependent Uncertainties

Arkajyoti Roy, Assistant Professor, University of Texas at San Antonio, United States

Shaunak Dabadghao, Assistant Professor, Technische Universiteit Eindhoven, Netherlands

Ahmadreza Marandi, Assistant Professor, Eindhoven University of Technology, Netherlands

Time-dependent uncertainties exist in healthcare, where the condition of the patient (or device) changes during treatment (or operation). Intermediate diagnostics allow for adaptations. However, excessive, and ill-timed diagnostics exposes patients (or devices) to unwarranted side-effects. We develop optimally intervened robust models that improve treatments (or processes), compared to naïve models.

Invited Session

395	Saturday, 10:15 AM - 11:15 AM, Healthcare OM 1 Invited Session: Efficiency in Healthcare Operations 2 Chair(s): Brandon Lee	Track: Healthcare Operations Management
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111-1041 Case Study of Surgical Team Members to Ensure Patient Flow on Day of Surgery

Lawrence Fredendall, Professor, Clemson University, United States

Yann Ferrand, Assistant Professor, Augusta University, United States

Kevin Taaffe, Associate Professor, Clemson University, United States

Anjali Joseph, Professor, Clemson University, United States

Jaeyoung Kim, Student, Clemson University, United States

We conducted a longitudinal case study of the activities of all surgical team members performing tasks within the Operating Room (OR) suite. The purpose was to understand the coordination requirements and how these requirements could be addressed using an interface design for handoffs.

111-1143 Impact of Focus on Efficiency and Financial Performance of Hospitals: Moderating Effect of HIT

Sriram Venkataraman, Associate Professor, University of South Carolina, United States

Rajendra Singh, Associate Professor, University of Oklahoma, United States

We study the impact of an important operations variable--focus--on efficiency and financial performance of hospitals. Furthermore, we examine the moderating impact of HIT bundles on the relationship of focus with efficiency and financial performance.

Contributed Session

396	Saturday, 10:15 AM - 11:15 AM, Healthcare OM 2 Contributed Session: Continuum of Care: Overcoming barriers Chair(s): Sandeep Rath	Track: Healthcare Operations Management 2
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111-1005 Understanding the Patients telemedicine adoption in the era of COVID-19 pandemic

Aarti Singh, Student, Indian Institute of Management Sambalpur, India

Ramakrushna Padhy, Associate Professor, Indian Institute of Management Sambalpur, India

Aditya Sahu, Assistant Professor, Indian Institute of Management Rohtak, India

Government and policymakers have accelerated the deployment of telemedicine services during covid-19 pandemic. However, its adoption by patients in a developing economy like India is still slow. Through cross sectional survey, this study attempts to understand the patients' behavioral perspectives on telemedicine adoption using an integrated TAM and TPB approach.

111-0182 Tele-Follow-Up and Outpatient Care

Wei Gu, Associate Professor, University of Science and Technology Beijing, China
 Meng Li, Associate Professor, University of Houston, United States
 Shujing Sun, Assistant Professor, University of Texas at Dallas, United States

We examine the impact of telemedicine on patient access to follow-up care. We exploit a staggered difference-in-differences design using data from a large Asian hospital that sequentially adopted telemedicine in different departments. We find that telemedicine significantly improves follow-up visits and generates a positive spillover effect on onsite operations.

111-0064 Collaborative Care for Diabetes And Depression

Sandeep Rath, Assistant Professor, University of North Carolina Chapel Hill, United States
 Jayashankar Swaminathan, Professor, Kenan-Flagler Business School, United States
 Charles Coleman, Retired, University of North Carolina Chapel Hill, United States

We formulate a mathematical optimization model for collaborative care for the treatment of patients with both diabetes and depression towards improving clinic profits and patient QALYs. We characterize the optimal allocation of the care manager's time. We also analyze the impact of different insurance payment models.

Invited Session

397	Saturday, 10:15 AM - 11:15 AM, Information Systems & OM 1 Track: Information Systems and Operations Management Invited Session: Theory, Practice, and Data in Information Systems and Operations Management research Chair(s): Anand Paul
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111-1850 Theory, Practice, and Data in Information Systems and Operations Management research

Anand Paul, Associate Professor, University of Florida, United States
 Haldun Aytug, Professor, University of Florida, United States
 Lingjiong Zhu, Associate Professor, Florida State University, United States

This panel discussion is intended to be a wide ranging and discursive discussion on the foundations of analytical and empirical model building, with special reference to - but not limited to - information systems and operations management. We may venture into philosophy, meta-mathematics, artificial intelligence, machine learning, and the theory of knowledge as we probe the question of how new knowledge is created, verified, and used in various domains. How reliable, sound, and useful are our research prescriptions? Are there clear guidelines for improving the theory and practice of model based and empirical research in OM and IS? We do not pretend to be able to comprehensively answer such general and ambitious questions, but we would certainly like to spark an open minded conversation.

Invited Session

398	Saturday, 10:15 AM - 11:15 AM, Information Systems & OM 2 Track: Information Systems and Operations Management 2 Invited Session: Economics of Information Systems 2 Chair(s): Kyung Sun (Melissa) Rhee
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111-1652 Can Crowdsourcing Cure Misinformation? The Impact of Twitter's Birdwatch Program on Content Generation

Sameer Borwankar, Student, Purdue University, United States
 Jinyang Zheng, Assistant Professor, Purdue University, United States
 Karthik Kannan, Professor, Purdue University, United States

Experts have suggested leveraging the "wisdom of crowds" to identify misinformation on social media platforms. We take the first step to investigate the causal effect of participating in the crowdsourcing program on the subsequent activities of the participants, especially on the propensity to generate content and create misinformation.

111-1839 The Effect of Relationship Status on House Purchases: Evidence From Orange County

Sung Joo Kim, Student, Purdue University, United States
 Ralph Siebert, , ,

We study how consumers having different marital status respond to house characteristics differently. We use a structural econometric model and found heterogeneity in how consumers perceive the housing and neighborhood characteristics when purchasing houses. Implications for a better design of a listing platform are discussed.

111-1000 Business analytics applied to S&OP's demand planning step: A case study

Frédéric Nicolas, Student, University of Muenster, Germany
 Bernd Hellengrath, Professor, University of Muenster, Germany
 Antonio Thome, Professor, Pontificia Universidade Católica do Rio de Janeiro - PUC-Rio, Brazil
 Luiz Scavarda, Professor, Pontificia Universidade Católica do Rio de Janeiro - PUC-Rio, Brazil

The purpose of this study is to investigate the application of business analytics to S&OP for a German wholesaler, exploring how the application of business analytics to demand forecasting as part of S&OP's demand planning step open-up new avenues for the S&OP process, affecting the traditional S&OP steps configuration.

Invited Session

400

Saturday, 10:15 AM - 11:15 AM, Logistics Management Track: Logistics Management
 Invited Session: Logistics and Warehouse Management
 Chair(s): Yunxia Zhu

111-0683 A Simulation-based Timber Truck Queuing Time Prediction Model for Sawmills

Chao Meng, Assistant Professor, University of Southern Mississippi, United States

Ali Dogru, Assistant Professor, University of Southern Mississippi, United States

Queuing times at sawmills are critical information for timber suppliers to make loading and scheduling decisions. We propose a simulation-based queuing time prediction model to estimate the current and future queuing times at sawmills. The proposed approach considers material handling activities at sawmills and timber trucks dispatched to destinations.

111-1798 Estimating the Impact of Operations and Logistics Processes on Online Customer Ratings

Rakesh Mallipeddi, Assistant Professor, Tulane University, United States

M. Serkan Akturk, Assistant Professor, Clemson University, United States

Xingzhi Jia, Assistant Professor, Renmin University of China, China

Using a unique dataset, we examine the impact of delays in operational and logistics processes on online customer ratings. We also identify factors that may intensify or mitigate customers evaluation of delivery timeliness.

111-0500 Cross-Dock Terminal Scheduling with Temporary Inventory and Zero Inventory

Yunxia Zhu, Assistant Professor, University of Nebraska Lincoln, United States

Neil Geismar, Professor, Texas A&M University College Station, United States

Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States

We consider scheduling problems in cross-dock terminals. In a general cross-dock scheduling problem, a set of inbound trucks need to be assigned to a fixed number of unload docks to transfer items to outbound trucks that are dispatched to customer locations or retail stores.

Invited Session

402

Saturday, 10:15 AM - 11:15 AM, Marketing & OM Track: Marketing and Operations Management
 Invited Session: Online Reviews and Capacity Management
 Chair(s): Yuhong Li

111-1589 Reselling, Consignment or In-Marketplace Competitive Strategy for Online Retailer when Encountering Online Marketplace

Gaoyan Lyu, Assistant Professor, Beijing Institute of Technology, China

Huaqing Hu, Student, Peking University, China

Within the e-retailers' broader question of how best to counteract the marketplaces, we consider three online sales modes for them, including traditional reselling mode, consignment selling mode, and in-marketplace selling mode. Especially, we investigate the interaction of a supplier's strategy for introducing a marketplace channel and an e-retailer's selling mode.

111-1375 An Online Platform's Warehousing Capacity Allocation Strategy When Competing with Retailers

Dennis Yu, Associate Professor, Clarkson University, United States

Shu Hu, Post Doc/Researcher, Sun Yat-sen University, China

Ke Fu, Professor, Sun Yat-Sen University, China

We consider an online platform's optimal warehousing capacity allocation strategy when the platform manages its limited warehouse capacity for multiple products. We show that the capacity allocated to a product increases in the commission rate and the platform's unit procurement cost while decreasing in the retailer's unit cost.

111-1539 Just Share It: Vendor-Managed, Cross-Platform Nike Reviews

Maneesh Reddy Ajjuguttu, Student, Clemson University, United States

Ahmet Colak, Assistant Professor, Clemson University, United States

Aleda Roth, Professor, Clemson University, United States

This research studies the effects of review sharing on the customers of a brand and the dealers of the brand. Considering Nike as the vendor and its various dealers we analyze the reviews from multiple dealer websites who share reviews with Nike and who do not share reviews with Nike.

Contributed Session

404

Saturday, 10:15 AM - 11:15 AM, Operational Excellence Track: Operational Excellence
 Contributed Session: Resilient Operations in Just-In-Time Low Buffer Environments (2)
 Chair(s): Maneesh Kumar Guilherme Tortorella

111-1835 Resilient Operations in Just-In-Time Low Buffer Environments - Discussion

Matthias Thurer, Professor, Jinan University, China

Guilherme Tortorella Tortorella, Associate Professor, University of Melbourne, Australia

Maneesh Kumar, Professor, Cardiff University, United Kingdom

Chipageddon and other disruptions highlight that firms need to become more resilient, but they also need to stay profitable. Based on the previous panel discussion, Maneesh Kumar, Guilherme Tortorella and Matthias Thüner discuss traditional and emerging solutions with the audience.

Invited Session

405	Saturday, 10:15 AM - 11:15 AM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Sustainability in Food Supply Chains	
	Chair(s): Madeleine Pullman	

111-0745 Resilience of Fluid Milk Supply Chains: Northeast U.S. and Ontario, Canada

Miguel Gomez, Professor, Cornell University, United States

Jury Gualandris, Associate Professor, Ivey Business School, Canada

Deishin Lee, Associate Professor, Ivey Business School, Western University, Canada

Charles Nicholson, Associate Professor, Cornell University, United States

Mustafa Tongarlak, Assistant Professor, Bogazici University, Turkey

What are the key operational and organizational differences between the fluid milk supply chains in Northeast United States and Ontario, Canada? How do these differences affect the ability of the respective supply chains to respond to various types of disruptions? Our study maps and compares these dairy supply chains.

111-0967 The Role of the Hub-Firm in Developing Innovation Capabilities: Looking through the Resource Orchestration Lens

Madeleine Pullman, Professor, Groningen University, United States

Maneesh Kumar, Professor, Cardiff University, United Kingdom

Tatiana Chameeva, Professor, Kedge, France

Vasco Rodrigues, Assistant Professor, Cardiff University, United Kingdom

Using exploratory case studies, this research explores how hub-firms in a regional industrial cluster orchestrate resources to enhance the innovation capabilities of member firms. The results reveal shifting roles and activities related to structuring, bundling and leveraging different resources for innovation capabilities which improved the industry's sustainability and reputation.

111-1010 Biodiversity of the sea and supply chains: Navigating with a new lens

Madeleine Pullman, Professor, Portland State University, United States

Lucy McCarthy, Lecturer, University of Bristol, United Kingdom

There are few areas more neglected in SCM research than sustainability issues related to the sea and its ecosystem. This paper deconstructs the dominant logics of SC research in order to conceptualise broader solutions from new perspectives and sets a new research agenda for sustainable seafood supply chains.

Invited Session

406	Saturday, 10:15 AM - 11:15 AM, POM in Practice	Track: POM in Practice
	Invited Session: Innovations, Data, and New Technology II	
	Chair(s): Jiayi Yu	

111-0337 Dynamic Trade Finance in the Presence of Information Frictions and FinTech

Yuxuan Zhang, Assistant Professor, University of International Business And Economics, China

S. Alex Yang, Associate Professor, London Business School, United Kingdom

Christopher Tang, Professor, University of California Los Angeles, United States

Hau Lee, Professor, Stanford University, United States

The paper focuses on an innovative bank-intermediated trade finance contract, which we call dynamic trade finance (DTF). We examine the value of DTF, the impact of process uncertainties and the associated information frictions on this value, and the strategic interaction between DTF and FinTech.

111-0218 From Imperfect Information to Imperfect Information: A Construct of Search Model

Weiqlan Lu, Student, University of Science and Technology of China, China

Lindong Liu, Professor, University of Science and Technology of China, China

Xiaoshuai Fan, Assistant Professor, Southern University of Sci and Tech, China

Motivated by the live-streaming sales, we introduce a live-streaming channel, which offers consumers imperfect information with negligible search cost, into the classic consumer search model and study how a seller can affect consumers' search and purchase decisions by offering information structure and price discount in the new channel.

111-1598 Salesforce Compensation Design with Delegated Purchasing Task: A Two-Period Principal-Agent Model

Yugang Yu, Professor, University of Science and Technology of China, China

Xiaoting Jiao, Student, University of Science and Technology of China, China

Libo Sun, Student, Univ of Science and Technology of China, China

This paper investigates the optimal linear compensation structure of salesforce by factoring the ending product inventory penalty into the traditional salesforce salesforce compensation structure, i.e., the realized compensation is a linear combination of sales commission and inventory penalty when the firm delegates purchasing task to its salesforce.

Contributed Session

408

Saturday, 10:15 AM - 11:15 AM, Product Innovation & Tech Mgmt

Track: Product Innovation and Technology Management

Contributed Session: **Innovation Across Industries 2**

Chair(s): Kalinga Jagoda

111-0997 Technological Capabilities of ASEAN in the 4th Industrial Revolution: Evidence from Patenting Activities

Bomi Song, Assistant Professor, Korea Aerospace University, South Korea

Moon-Soo Kim, Professor, Hankuk University of Foreign Studies, South Korea

Yuosre Badir, Associate Professor, Asian Institute of Technology, Thailand

The COVID-19 pandemic has been accelerating the digital economy globally, including ASEAN. A core of this transition is technologies, but only few studies focused on the ASEAN's technological capabilities. We investigate ASEAN's patenting activities from country- and technology-levels to understand the technological landscape in ASEAN in the 4th industrial revolution.

111-1140 The Effect of Front-Loading on High-Tech Project Performance

Antoaneta Momcheva, Student, IE BUSINESS SCHOOL, Spain

Juan Madiedo, Assistant Professor, Rotterdam School of Management, Netherlands

Fabrizio Salvador, Professor, IE BUSINESS SCHOOL, Spain

Front-loading is an often-touted strategy for improving project performance. Whilst there is merit in adopting front-loading, we show that reaping its benefits is contingent on project team members' technical expertise and familiarity with each other. Our data comprises 253 R&D projects executed, during a 10-year period, by a high-tech firm

111-1622 Role of decision mapping in stimulating innovation: Case Study

Kalinga Jagoda, Associate Professor, University of Guelph, Canada

Jonathan Parkes, Student, University of Guelph, Canada

The purpose of this study is to identify innovative solutions for product development and management process. Using an integrated framework, a detailed analysis of innovation management process of a Canadian manufacturing company was conducted. The findings offer a unique perspective on adaptive decision making and mitigating supply chain uncertainty.

Invited Session

410

Saturday, 10:15 AM - 11:15 AM, Retail Operations

Track: Retail Operations

Invited Session: **Assortment Planning 1**

Chair(s): Dorothee Honhon Xi Shan

111-1699 Hybrid Model for Sequential and Simultaneous Choice with Search Cost

Ruxian Wang, Associate Professor, Johns Hopkins University, United States

We propose a hybrid model to study sequential and simultaneous choice behavior in the presence of search cost. After examining all products in an assortment, a rational consumer decides whether to continue searching.

111-1696 Assortment Optimization under a Multi-Item Choice Model

Guang Li, Assistant Professor, Queen's University, Canada

Elaheh Fata, Student, Queens University, United States

Milad Mirzaee, , ,

We propose a multi-stage choice model, under which a customer can purchase more than one product in a single shopping incidence. We characterize the structure of the optimal solutions for the space and capacity constrained assortment optimizations under this model and propose efficient algorithms or heuristics to solve these problems.

111-1698 Reducing food waste with optimized retail assortment and inventory planning

Alexander Hübner, Professor, TUM, Germany

Manuel Ostermeier, , ,

Lena Riesenegger, , ,

We develop an approach to reduce food waste by optimizing assortments, shelf-space allocation and replenishment. We apply an optimization-simulation approach and develop a specialized heuristic to determine order-up-to levels that maximizes the retailer's profit and minimizes food waste. We consider, amongst others, age-dependent demand, limited shelf space and substitution.

Invited Session

411

Saturday, 10:15 AM - 11:15 AM, Revenue Management & Pricing

Track: Revenue Management and Pricing

Invited Session: **Consideration Set Choice Models 2**

Chair(s): Ashwin Venkataraman

111-1342 Assortment Optimization under the Multi-Purchase Multinomial Logit Choice Model

Huseyin Topaloglu, Professor, Cornell University, United States

Jacob Feldman, Associate Professor, Washington University St Louis, United States

Danny Segev, Professor, Tel Aviv University, Israel

Yicheng Bai, Student, Cornell University, United States

Laura Wagner, Assistant Professor, Catholic University of Portugal, Portugal

We introduce the Multi-Purchase Multinomial Logit choice model, which extends the random utility maximization framework of the classical Multinomial Logit model to a multiple-purchase setting. We present various algorithmic and structural results related to its assortment optimization problem, where the goal is to select the revenue maximizing product offer set.

111-1155 Customer Loyalty in Online Platforms: Empirical Evidence from Ride-Hailing

Sandeep Chitla, Student, New York University, United States

Maxime Cohen, Associate Professor, McGill University, Canada

Srikanth Jagabathula, Associate Professor, New York University, United States

Dmitry Mitrofanov, Assistant Professor, Boston College, United States

Are customers loyal to specific ride-hailing platform or do they see this service as a commodity? We estimate structural consider-then-choose choice models to understand the trade-offs faced by riders. We find that after controlling for operational factors such as price and waiting time, customers exhibit loyalty to their favorite platform.

Invited Session

413	Saturday, 10:15 AM - 11:15 AM, Social Media & Internet of Things	Track: Social Media and Internet of Things
	Invited Session: New Development in Social Technology	
	Chair(s): Saurav Chakraborty	

111-0777 What Drives Acceptance of a New Technology: A Data-Driven Approach

Aishvarya Aishvarya, Student, Indian Institute of Management Bangalore, India

Dinesh U, Professor, Indian Institute of Management Bangalore, India

Social Media listening and mining collective intelligence can help firms understand customers' spatio-temporal needs. We propose amalgamation of Technology Acceptance, AI using Natural Language Processing involving data collection from social media platforms, topic-modelling and machine learning models. Firms can thus save time, money; evaluate and make changes on real-time basis

111-1387 Social Media Disruptions in Organizational Operations

Saurav Chakraborty, Assistant Professor, University of Louisville, United States

Sandeep Goyal, Associate Professor, University of Louisville, United States

Malicious behavior on social media platforms can have detrimental impact on the organizational operations. Using past literature, we develop a typology that would help organizations identify such malicious behavior. Using agent based modeling, we simulate different types of malicious behavior and propose strategies that can help curb

111-0326 Community-based influential user identification framework for digital social networks

Ali Tosyali, Assistant Professor, Rochester Institute of Technology, United States

Identifying influential users is critical to many social media-centric applications. We propose a framework for identifying community-based influential users in social networks. Unlike prior work, which ignores the existence of variety of communities with different interests within the social network, the proposed framework is premised in the concept of homophily.

Invited Session

415	Saturday, 10:15 AM - 11:15 AM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: College of SCM Student Paper Competition (2)	
	Chair(s): Shiliang Cui Sripad Devalkar	

111-1842 Process modularity, supply chain responsiveness, and moderators: The Medecins Sans Frontieres response to the COVID-19

Félicia SAÏAH, Student, Hanken School of Economics, Finland

Diego Vega, Assistant Professor, HUMLOG Institute, Finland

Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands

Joakim Kembro, Senior Lecturer, Lund University, Sweden

This mixed-method research investigates how Doctors without Borders (MSF) maintained supply chain responsiveness during the Covid-19 pandemic by employing process modularity based on a modular architecture, interfaces, and standards. Our analyses also put forward eight moderators, which can affect the impact of process modularity on supply chain responsiveness.

111-1843 The Value of Smart Contract in Trade Finance (SCM Student Paper Competition Version)

Xiaoyu Wang, Student, Washington University in St. Louis, United States

Fasheng Xu, Assistant Professor, Syracuse University, United States

Smart contract improves the supply chain efficiency by enabling the supplier to commit future financing decisions, which mitigates the bank's lending risk exposure and thereby reduces the financing cost. This paper investigates how smart contract adoption could facilitate the trade finance activities and create value for supply chain firms.

Contributed Session

416

Saturday, 10:15 AM - 11:15 AM, Supply Chain Management 2 Track: Supply Chain Management 2
Contributed Session: **Supply Chain Management Contracts and Coordination**
Chair(s): Mohammad Zolghadr

111-1469 Optimal dynamic mechanism to reduce the variability of deliveries in procurement problems

Mohammad Zolghadr, Student, University of California Riverside, United States

It is well-known that supply uncertainty hurts the performance of the manufacturer and the supply chain overall. To nullify the uncertainty effect, we characterize an optimal dynamic contract designed by the manufacturer which provides long-term incentives to the supplier to keep his promises.

111-1354 Friend or Foe: Search Engine Advertising Strategies When Contracting with an Online Search Infomediary

Siddharth Bhattacharya, Assistant Professor, George Mason University, United States

Abhishek Roy, Assistant Professor, Temple University, United States

Subodha Kumar, Professor, Temple University, United States

Sunil Wattal, Associate Professor, Temple University, United States

The widespread growth of e-commerce has resulted in proliferation of online search infomediaries (OSIs), who provide consumers with information about products and services sold by different firms (Parents), while also referring interested consumers to the Parents' website. In this unique context, how equilibrium payment/advertising strategies affect each firm's decisions.

Invited Session

417

Saturday, 10:15 AM - 11:15 AM, Supply Chain Risk Management Track: Supply Chain Risk Management
Invited Session: **Risk and Sustainability in the Supply Chain Networks**
Chair(s): Sara Saberi

111-0490 Equilibrium in a reverse supply chain network of ventilators

Sahar Ebrahimi Bajgani, Student, Worcester Polytechnic Institute, United States

Sara Saberi, Assistant Professor, Worcester Polytechnic Institute, United States

Motivated by ventilator shortage during Covid19 pandemic, we designed a reverse supply chain network of ventilators with collective centers, 3rd party remanufactures, and recyclers. Collective centers collect qualified and damaged returned ventilators and send them to remanufactures and recyclers. The equilibrium condition is governed using a variational inequality model.

111-0616 An Integrated Multitiered Supply Chain Network Model of Competing Agricultural Firms and Processing Firms

Deniz Besik, Assistant Professor, University of Richmond, United States

Anna Nagurney, Professor, University of Massachusetts Amherst, United States

Pritha Dutta, Assistant Professor, Pace University, United States

The Covid-19 pandemic created many disruptions in the supply chain networks of agricultural firms and processing firms, encompassing production, processing, packaging, storage, and distribution. We develop an integrated multitiered competitive agricultural supply chain network model in which agricultural firms and processing firms compete to sell their differentiated products.

111-0581 Optimal Policies for COVID-19 Types of Pandemics: A Sentiment Analysis

Hamid SAYARSHAD, Post Doc/Researcher, Worcester Polytechnic Institute, United States

Sara Saberi, Assistant Professor, Worcester Polytechnic Institute, United States

Tsan-Ming Choi, Associate Professor, National Taiwan University, Taiwan, Republic of China

We investigate a sentiment analysis to calculate the percentage of individuals who have switching behaviors. The proposed model is used to estimate mask usage over time in the society according to individuals' emotion data. The proposed strategy helps decision makers to find optimal lockdown and exit strategy for each region.

Invited Session

418

Saturday, 10:15 AM - 11:15 AM, Sustainable Operations 1 Track: Sustainable Operations
Invited Session: **Business and Climate Change 2**
Chair(s): Christian Blanco

111-1149 Does Signal of Climate Commitment Make a Real Effect?

Jie Lian, Student, University of South Carolina, United States

Sining Song, Assistant Professor, University of Tennessee Knoxville, United States

Yan Dong, Professor, University of South Carolina, United States

Firms signal commitment to address climate change challenges. The signal can be limited, if the effort and impact are limited to the firm, or misleading, if it shirks and transfers carbon emissions to the supply network. This research uses panel data to investigate the outcome of the signals.

111-0406 Does Renewable Energy Renew the Endeavor in Energy Efficiency?

Amrou Awaysheh, Assistant Professor, Indiana University, United States

Christopher Chen, Assistant Professor, Indiana University, United States

Owen Wu, Associate Professor, Indiana University, United States

We study whether a shift toward using more renewable energy leads to an improvement in energy efficiency. We find that there are benefits to going green, but they are predicated on the provider. Sourcing more from producers and utilities significantly increases energy efficiency, while on-site generation has no effect.

Contributed Session

419	Saturday, 10:15 AM - 11:15 AM, Sustainable Operations 2	Track: Sustainable Operations 2
	Contributed Session: Supply Chain Sustainability Theory	
	Chair(s): Muratcan Erkul	

111-0944 Innovation and Sustainability Implementation: When Industry Matters

Muratcan Erkul, Associate Professor, Kutztown University, United States

Hale Kaynak, Professor, University of Texas Rio Grande Valley, United States

We empirically investigate the effects of industry on the relationship between innovation creation and sustainability practices implementation. The results of our previous case research and literature review uncovered the limited focus on but critical role of industry. Methodological issues and measurements of research variables in our proposed framework are discussed.

111-1581 Sustainability Transitions in Supply Chains: The Role of Political Tensions

Sajad Fayezi, Associate Professor, Memorial University of Newfoundland, Canada

Helena Varkkey, Senior Lecturer, University of Malaya, Malaysia

Lydia Bals, Professor, Mainz University of Applied Sciences, Germany

Our study aims to advance theory of sustainable supply chains by investigating politically induced structural transitions for sustainability. Using a single case study, we explain both the processes and archetypes of sustainability transitions resulting from key stakeholders' efforts to augment their agency for influence in response to political tensions.

111-1752 Digital Technology on Enhancing Sustainability - A Literature Review Perspective

V Krishna Anaparthi, Student, IIM kozhikode, India

Rupesh Pati, Professor, IIM kozhikode, India

Content analysis methodology is used to understand the progress of digital technologies in achieving People-Planet-Profit objective of sustainability. Study analyzes the aspects like progress of literature over time, technologies and geographic focus of studies, major themes investigated. Finally, future research directions have been identified with the help of proposed framework.

Saturday, 11:30 AM - 12:30 PM

Invited Session

422	Saturday, 11:30 AM - 12:30 PM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Doctoral Consortium-3	
	Chair(s): Anthony Ross	

111-1857 Doctoral Consortium - 3

Anthony Ross, Professor, University of Missouri Columbia, United States

Owen Wu, Associate Professor, Indiana University, United States

Elliot Bendoly, Professor, Ohio State University, United States

Nagesh Murthy, Professor, University of Oregon, United States

Funda Sahin, Associate Professor, University of Houston, United States

This session is by invitation only, for those doctoral students who have been registered. The purpose of the POMS Doctoral Consortium is to help doctoral students maximize their chances of having a successful academic career in our globally competitive environment.

Invited Session

423	Saturday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Tutorial: COVID-19 Modeling	
	Chair(s): George Shanthikumar Sridhar Seshadri	

111-1818 COVID-19 Modeling

Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States

The fight against COVID-19 requires multi-faceted actions at both the policy and the operational level. We provide a conceptual overview of modeling strategies for COVID-19. The tutorial is broadly divided into two related sections, (i) modeling and predicting the spread of the disease, and (ii) modeling control actions.

Contributed Session

425	Saturday, 11:30 AM - 12:30 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Contributed Session: Behavioral Operations and Value Generation	
	Chair(s): Rob Basten	

111-0403 Ups & Downs: Shaping Spectators' Sentiment with Prospect Theory

Ming Hu, Professor, University of Toronto, Canada
 Hongqiao Chen, Student, Academia, China
 Jingchen Liu, Assistant Professor, Nanjing University, China
 Yaniv Ravid, Student, Rotman School of Management, Canada

We consider a decision maker who wishes to maximize an audiences' experienced utility under three different settings: releasing songs, news items, and organizing a concert. We describe the audiences' utility under different strategies using prospect theory, and prescribe optimal choices based on their initial references, loss perception, and anchoring tendencies.

111-0564 Defensive pessimism and its effect on the performance of supply chain professionals.

Uchenna Ekezie, Student, University of North Texas, United States
 Seock Hong, Assistant Professor, University of North Texas, United States

This study explores the underlying causes of defensive pessimism commonly referred to as sandbagging and its impact on performance. It does this by investigating roles which motivation research constructs such as task complexity, perceptions of control embedded in job design and employee situatedness play on defensive pessimism in the workplace.

111-0864 The Shadows to Achieving Learning Excellence in the Biopharmaceutical Industry

Lori Richter, Student, Technological University Dublin, United States

Carl Jung referred to 'the shadow' as the unknown dark side of our personalities that thwarts our progress as individuals. This presentation reveals organizational "shadows" within the biopharmaceutical industry that work against the cultivation of an adaptive, innovative learning culture, much needed to keep pace with future industry challenges.

Invited Session

427	Saturday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Analytical Approaches in Humanitarian Operations	
	Chair(s): Iman Parsa	

111-1390 Does Governance Ease the Overhead Squeeze Experienced by Nonprofits?

Mahyar Eftekhari, Associate Professor, Arizona State University Tempe, United States
 Iman Parsa, Student, Arizona State University, United States
 Charles Corbett, Professor, UCLA Anderson School of Management, United States

Nonprofits' performance is often evaluated based on their program spending ratio, an imprecise index of real social impact which creates counter-productive incentives for nonprofits. Studying the tax forms of a large set of nonprofits in social services and relief, we investigate the role of governance in driving donations to nonprofits.

111-1335 Forming a Coalition When Time Is Short: Analyzing the UN Cluster Mechanism

Iman Parsa, Student, Arizona State University, United States
 Mahyar Eftekhari, Associate Professor, Arizona State University Tempe, United States
 Scott Webster, Professor, Arizona State University Tempe, United States

Benefits of coordination in disaster relief operations are widely emphasized. Yet, lack of effective coordination remains a problem. We study the UN cluster mechanism, using noncooperative game theoretical models, to investigate whether humanitarian organizations' focus on maximizing their own individual utilities inhibits them from providing a collectively higher social welfare.

111-0442 Workforce configuration in charity settings

Chao Wu, Student, Arizona State University, United States
 Mahyar Eftekhari, Associate Professor, Arizona State University Tempe, United States
 Joline Uichanco, Assistant Professor, University of Michigan, United States

We study a problem of workforce management in charity settings, and develop an optimization model to enhance the volunteer group configuration under a random volunteer turnout. Our model incorporates the heterogeneity of volunteers, balances understaffing and overstaffing costs, and explicitly connects individuals' time and monetary donation.

Contributed Session

428	Saturday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Impact of COVID-19 on Society	
	Chair(s): Rishabh Rana	

111-1410 Simulation Model for last mile delivery of COVID 19 vaccine using UAVs or drone

Abhijeet Kumar, Student, University of North Texas, United States
M A Shariful Amin, Student, University of North Texas, United States
Rishabh Rana, Student, University of North Texas, United States
Victor Prybutok, Professor, University of North Texas, United States

The poor vaccination rate for COVID 19 Vaccine in developing and underdeveloped countries is due to a lack of proper vaccine distribution strategy. Therefore, the goal of this study is to develop a simulation model for last mile delivery of vaccine kits using unmanned aerial vehicles (UAVs).

111-0252 Modeling of Covid-19 Trade Measures On Essential Products: A Multiproduct, Multicountry Spatial Price Equilibrium Framework

Anna Nagurney, Professor, University of Massachusetts Amherst, United States
Mojtaba Salarpour, Student, University of Massachusetts Amherst, United States
June Dong, Professor, State University of New York at Oswego, United States

In this paper, we develop a unified variational inequality framework in the context of spatial price network equilibrium problems that incorporates a plethora of distinct trade measures, which is particularly important in the pandemic, as PPEs and other essential products are in high demand, but short in supply globally.

111-1728 Trend analysis for interest rate and wealth inequality in COVID-19 pandemic

Donghun Yoon, Assistant Professor, (CIF:ESG50985993), South Korea

This study focuses on the trend analysis for the interest rate and the wealth inequality in South Korea. We discuss and present the interaction between the interest rate and the wealth inequality in the face of the COVID-19 pandemic.

Invited Session

429	Saturday, 11:30 AM - 12:30 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Disruptive Technology and Business Implications	
	Chair(s): Zizheng Liu	

111-0389 Matching Enhancement and Information Revelation Effects of AI on Gig-Economy Platforms

Yi Liu, Student, University of Pennsylvania, United States
Xinyi Zhao, Student, New York University, United States
Bowen Lou, Assistant Professor, University of Connecticut, United States
Xinxin Li, Associate Professor, University of Connecticut, United States

Artificial intelligence has been increasingly integrated into the process of matching between workers and employers on gig-economy platforms. Unlike the conventional wisdom that adopting AI in the matching process always benefits a platform, we discover unintended but possible revenue-decreasing consequences for the AI-adopting platform by building a stylized game-theoretical model.

111-0635 When to Introduce A Live-stream Channel? Implications of Product Return

Liu Yang, Associate Professor, Tsinghua University, China
Laurens Debo, Professor, Dartmouth College, United States
Tianwu Zhou, Student, Tsinghua School of Economics and Management, China

This paper examines an innovative business model, live-stream. A live-stream channel provides information but tempts customers. We propose a stylized model to study when it is profitable for the firm to introduce a live-stream channel and its implications of the product return.

111-1346 Economic Analysis of Unfollow Recommendations on UGC Platforms

Meilin Gu, Student, Tsinghua University, China
Dengpan Liu, Professor, Tsinghua University, China

In this paper, we analytically investigate the impact of unfollow recommendations, a new practice adopted by some User-Generated Content (UGC) platforms. This practice tackles the downsides of the conventional who-to-follow recommendations by making users focus on the creators they are most interested in and incentivizing their exploration of new creators.

Invited Session

430	Saturday, 11:30 AM - 12:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Competition and Technological Innovation 2	
	Chair(s): Tim Kraft	

111-0524 Competitive Implications of Spectrum Sub-Leasing on Price, Quality and Sourcing Decisions

Manish Tripathy, Post Doc/Researcher, Sauder School of Business, UBC, Canada

Tim Kraft, Assistant Professor, 2801 Founders Dr, United States

H. Sebastian Heese, Professor, North Carolina State University, United States

We study a duopoly cellular network market, wherein two Mobile Network Operators (MNOs) compete on price and quality, but also, potentially sub-lease spectrum to a Mobile Virtual Network Operator (MVNO). We analyze the impact of an MVNO on market factors such as quality of service, service price, and market structure.

111-0330 The Role of Dealer Demonstration in the Adoption of Electric Vehicles

Hang Ren, Assistant Professor, George Mason University, United States

Vishal Agrawal, Associate Professor, Georgetown University, United States

Ioannis Bellos, Associate Professor, George Mason University, United States

An important reason for customers' hesitation to adopt electric vehicles is that they are unsure about the achievable range as it depends on driving conditions realized post-purchase. To address it, car dealers can offer demonstration services. We study a dealer's optimal demonstration strategy and its environmental impact.

Contributed Session

432	Saturday, 11:30 AM - 12:30 PM, Emerging Topics in OM	Track: Emerging Topics in Operations Management
	Contributed Session: Emerging Topics in OM	
	Chair(s): Anna Stoll	

111-0536 Move, Adapt or Die: Construction 4.0 Technologies and Agile Methodologies for Supply Chain Resilience

Zenon Michaelides, Reader, Manchester Metropolitan University (MMU), United Kingdom

Anna Stoll, Business Transformation Manager, Manchester Metropolitan University, United Kingdom

Roula Michaelides, Reader, Manchester Metropolitan University, United Kingdom

Prevailing digital deficits and archaic project methodologies in construction cannot sustainably endure supply chain crises such as those emerging from COVID-19. This poses a critical juncture: adapt or suffer. Our work explores evolutionary mechanisms for SC resilience and digital transformation within a low maturity case-study, focusing on Construction 4.0 adaptation

111-0313 Labor Shortages in the U.S.: Applying Key OM Theories to Create a Conceptual Model.

Seth Powless, Assistant Professor, Penn State University, United States

Denise Bergdolt, Student, Earlham College, United States

Labor shortages have become a significant impediment to global economic growth and pandemic recovery. This research study examines both Goldratt's TOC and Shumpeter's Creative Destruction theories aimed at the labor shortages in the U.S. to create a new conceptual model for resolving this problem.

111-1750 Platform Operations in the Industry 4.0 Era: Recent Advances and the 3As Framework

Tana Siqin, Student, The Hong Kong Polytechnic University, Hong Kong, China

Tsan-Ming Choi, Associate Professor, National Taiwan University, Taiwan, Republic of China

Sai-Ho Chung, Associate Professor, The Hong Kong Polytechnic University, Hong Kong, China

Xin Wen, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China

In the Industry 4.0 era, implementing advanced technologies to enhance platform operations has become crucial. Motivated by the importance of platforms and the wide implementation of Industry 4.0-related advanced technologies, we conduct this study on platform operations by examining the literature with public-data based real case studies.

Invited Session

435	Saturday, 11:30 AM - 12:30 PM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: Network Analytics and Methods for Operations Management	
	Chair(s): Qian Chen	

111-0092 Clickstream, Product Network, and Customer Purchase: An Empirical Analysis

Kedong Chen, Assistant Professor, Old Dominion University, United States

Hu Yang, Associate Professor, Central University of Finance And Economics, China

E-tailers are longing to learn customer's browsing behavior to increase profitability. This study clarifies factors that affect purchase by studying the clickstream data from JD.com. We map out a product network from the clickstream data and find that product's structural position, selling price, and e-tailer's endorsement affect customer purchase intention.

111-0750 Regression with Individual Effects and Dyadic Effects on Network Data

Haoyi Yang, Student, Penn State University University Park, China

We present a framework that can model network data with both individual effects and dyadic effects. Theoretically, we provide statistics inference of the proposed model. We show in our empirical applications that heterogeneity is prevailing among dyadic effects and those difference are closely associated with network topology.

111-0782 A Point Process Based Graphical Attribution Model

Qian Chen, Assistant Professor, University of Nebraska Lincoln, United States

Jun Tao, Student, Penn State University University Park, United States

Lingzhou Xue, Associate Professor, Penn State University University Park, United States

Jim Snyder, -, Adobe, United States

Amirhossein Meisami, -, Adobe, United States

This paper proposes a graphical point process model to learn the temporal dependency among various types of touch points and their conversion effects utilizing individual-level path-to-purchase data. Our proposed method assigns more accurate conversion credits to each channel and better predicts the probability of conversions over time.

Invited Session

436	Saturday, 11:30 AM - 12:30 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Analytics for Improved Care Delivery	
	Chair(s): Onyi Nwafor	

111-0826 Effective Online Communication for Stronger Community Healthcare Responses during a Crisis

Franck Loic Soh Noume, Assistant Professor, The University Of North Carolina At Greensboro, United States

Kailing Deng, Assistant Professor, University of Tulsa, United States

The response stage of healthcare crisis management is an important one that entails finding the best way to address the immediate threats posed by the crisis. Driving the appropriate community healthcare responses is crucial at this stage, yet difficult to achieve due to high uncertainty and confusion regarding crisis management.

111-1064 Impacts of Hospital Capacity on Care Quality

Raymond Lei Fan, Assistant Professor, Grand Valley State University, United States

A hospital's care capacity is typically fixed in the short term. If hospital capacity does not meet patient care demand, care quality may suffer. In this study, we investigate the impacts of hospital capacity on patient care outcomes. Our findings can guide hospitals in capacity and workload decisions.

111-1356 The Performance Implications of Technology Enabled Health Networks: Evidence from US Hospitals

Onyi Nwafor, Assistant Professor, University of North Carolina Greensboro, United States

Xiao Ma, Assistant Professor, University of Houston, United States

Norman Johnson, Professor, University of Houston, United States

Extant research on the value of electronic health records (EHRs) focus on the performance implications of EHRs for adopting organizations. We argue that such focus is problematic since EHRs can generate value through information and patient sharing across organizations. We propose and investigate a network-based model of EHR adoption.

Invited Session

437	Saturday, 11:30 AM - 12:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Empirical Modelling and Analytics in Enhancing the Delivery of Healthcare	
	Chair(s): Saeede eftekhari	

111-0086 Selection and Performance of Value-based Health Care Organizations

Sezgin Ayabakan, Assistant Professor, Temple University, United States

Indranil Bardhan, Professor, University of Texas Austin, United States

Rajiv Banker, Professor, Temple University, United States

Muktak Krishnachandra Tripathi, Student, Temple University, United States

We study the rollout of Accountable Care Organizations' self-selection into two-sided risk models under the Medicare Shared Savings Program. We find that ACOs that exhibit greater organizational scope are more likely to switch to a two-sided risk model, but their initial gains after switching are not sustained over time.

111-0671 Evolution of the Physicians' Referral Networks: An Empirical Analysis

Saeede Eftekhari, Assistant Professor, Tulane University, United States

Ram Ramesh, Professor, State University of New York, United States

In this research, we develop a stochastic actor-oriented model of the dynamics of primary care physicians' referral links with specialists. This research provides a comprehensive framework for studying physicians' attributes and the structural features that determine the evolutions of the physicians' networks.

111-1147 Delay Announcement Strategies to Improve Satisfaction of Loss-averse Customers

Sina Ansari, Assistant Professor, Driehaus College of Business, United States

Laurens Debo, Professor, Dartmouth College, United States

Robert Shumsky, Professor, Dartmouth College, United States

Providing delay information to patients in emergency departments is critical for managing patient satisfaction. Motivated by our findings in a field experiment conducted in an urban emergency department, we develop a model to specify the delay announcement strategy that maximizes satisfaction, when patients are loss-averse.

Invited Session

438	Saturday, 11:30 AM - 12:30 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Invited Session: Social Impact and Justice in Healthcare Operations Management	
	Chair(s): Pengyi Shi Nan Liu	

111-0401 Racial Disparities in Access to Care in Appointment Scheduling Systems based on Predictive Overbooking

Michele Samorani, Assistant Professor, Santa Clara University, United States

Nan Liu, Associate Professor, Boston College, United States

Shannon Harris, Assistant Professor, Virginia Commonwealth University, United States

Haibing Lu, Associate Professor, Santa Clara University, United States

State-of-the-art appointment scheduling systems employ the patients' individual no-show probabilities when scheduling appointments. We prove that this leads to scheduling patients more likely to no-show farther into the future than other patients. Because patients' no-show probabilities are often correlated with their race, this scheduling strategy results in unintended racial disparities.

111-1285 Designing Data-driven Price Subsidies To Curb Malnutrition In Emerging Markets

Ali Aouad, Assistant Professor, London Business School, Great Britain

Kamalini Ramdas, Professor, London Business School, United Kingdom

Alp Sungu, Student, London Business School, United Kingdom

We empirically investigate the nutritional implication of alternative food subsidy policies by using scanner data collected from groceries in low-and middle-income Indian neighborhoods. We develop a multi-purchase choice model to predict households' shopping baskets and then formulate an optimization model to prescribe a food subsidy policy that maximizes nutrient intake.

111-1832 Routing for Fairness and Efficiency in Criminal Justice Systems

Pengyi Shi, Associate Professor, Purdue University, United States

Prediction algorithms trained on biased data could exacerbate disparities when those predictions are used in resource allocation, particularly in criminal justice systems. We consider a queueing model with reentry to study the trade-off between efficiency and fairness with group-aware and unaware routing, and quantify the long-term impact under feedback loop.

Invited Session

439	Saturday, 11:30 AM - 12:30 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Game Theory and Operations Management	
	Chair(s): Yingxin Zhang Yanling Zhuang	

111-0869 Integrated rack retrieval and repositioning problem in robotic mobile fulfillment systems

Yanling Zhuang, Student, Dalian University of Technology, China

Yun Zhou, Assistant Professor, McMaster University, Canada

Elkafi Hassini, Professor, McMaster University, Canada

Yufei Yuan, Professor, McMaster University, Canada

Xiangpei Hu, Professor, Zhejiang University, China

We integrate two important planning problems in robotic mobile fulfillment systems: positioning the pod after picking and assigning robots to retrieve and store the pods. We develop a matheuristic decomposition approach and compare its performance with several policies that are often used in practice.

111-1463 Heat-based Rack Storage Assignment for the one-way traversal RMFS

Tianrong DING, Student, Dalian University of Technology, China

Yuankai Zhang, Post Doc/Researcher, Zhejiang University, China

Xiangpei Hu, Professor, Zhejiang University, China

This paper focuses on the critical problem of rack storage assignment to improve the picking efficiency in the RMFS. A 0-1 integer planning model for rack storage assignment is developed. Inspired by the order picking data analytics from a Chinese e-commerce retailer, we designed a heat-based rack storage assignment method.

Invited Session

440	Saturday, 11:30 AM - 12:30 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Managerial and operational considerations in digital markets	
	Chair(s): Leila Hosseini	

111-1568 Solving the Social Dilemma with Equilibrium Data Harvesting Strategies: A Game-Theoretic Approach

Hyeonsik Shin, Student, Temple University, United States

Leila Hosseini, Assistant Professor, Temple University, United States

Subodha Kumar, Professor, Temple University, United States

This paper is motivated by an ongoing discussion that social media platforms hurt users by collecting massive amount of data from users. This paper develops a game-theoretic model to analyze how regulating these platforms (i.e., imposing the effort to address issues arising from data harvesting) affects social media platforms.

111-1258 The Competition in Online Reputation: a Mean Field Game Approach

Yonghua Ji, Associate Professor, University of Alberta, Canada
 Cheng Nie, Assistant Professor, Iowa State University, United States
 Mingwen Yang, Assistant Professor, University of Washington, United States
 Vijay Mookerjee, Professor, University of Texas Dallas, United States

We model the sellers' competition in product ratings using a mean field game model, where we consider a large number of sellers in a market. Using data from Airbnb, we estimate the parameters in the mean field game model and are able to demonstrate that the proposed model.

Contributed Session

442	Saturday, 11:30 AM - 12:30 PM, Logistics Management	Track: Logistics Management
	Contributed Session: Last Mile Delivery	
	Chair(s): Rui Zhang	

111-0723 Holistic Efficiency Analysis of First- and Last-mile Urban Distribution Network Integration

Sarah Schaumann, Student, Swiss Federal Institute of Technology Zurich, Switzerland
 Felix Bergmann, Student, Swiss Federal Institute of Technology Zurich, Switzerland
 Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

Integrating networks allows to save up to 40% of the total distance travelled and can reduce the number of tours by half. Based on extensive numerical experiments and the seminal route length estimation formula for the Capacitated VRP, I state a closed-form RLE formula for the pickup and delivery problem.

111-0448 A Systematic Literature Review of Drones Used in Last-Mile Delivery: A Logistics Perspective

Vipul Garg, Student, University of North Texas, United States
 Suman Nirranjan, Assistant Professor, University of North Texas, United States
 Terrance Pohlen, Professor, University of North Texas, United States
 David Gligor, Professor, University of North Texas, United States
 Victor Prybutok, Professor, University of North Texas, United States

The current research article conducts a systematic analysis of existing literature on drones in last-mile delivery, with a focus on logistics and supply chain challenges. We also propose a framework for academics and practitioners to apply drones holistically in terms of accessibility, cost reductions, and varied methodologies.

111-1668 The Driver-Aide Problem: Coordinated Logistics for Last-Mile Delivery

Rui Zhang, Assistant Professor, University of Colorado Boulder, United States
 S. Raghavan, Professor, University of Maryland, United States

We study the driver-aide problem for the last-mile delivery. We propose a branch-cut-and-price approach for solving it. Our computational experiments are based on simulated instances built on real-world data provided by an industrial partner. Further, our results characterize the conditions where this novel operation mode can lead to savings.

Invited Session

443	Saturday, 11:30 AM - 12:30 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: New drug development and pricing	
	Chair(s): Wendy Olsder	

111-0734 Conditional Approval vs. Discount Schemes for New Medical Treatments

Ozge Yapar, Assistant Professor, Indiana University Bloomington, United States
 Stephen Chick, Professor, INSEAD, France
 Noah Gans, Professor, University of Pennsylvania, United States

Healthcare payers have been implementing conditional-approval schemes in which a treatment's reimbursement is conditional on the demonstration of the health-economic value through post-marketing data. Our game-theoretic model analyzes how to set the price to be used during the post-marketing data collection and offers insights into treatments that enter such schemes.

111-0977 The impact of drug manufacturers' noncompliance to 340b drug pricing programs on U.S. hospitals

Lina Song, Assistant Professor, UCL School of Management, United Kingdom

Safety net hospitals serving the low-income communities rely on the 340B drug discount program for financial stability. Using a machine-learning based hospital closure model, we estimated the impact of the drug manufacturers' noncompliance on the safety net hospitals. We also estimated the impact of such changes on the social welfare.

111-1016 Improving Access To Rare Disease Treatments: Subsidy, Pricing, And Payment Schemes

Wendy Olsder, Student, Technische Universiteit Eindhoven, Netherlands
 Tugce Martagan, Assistant Professor, Technische Universiteit Eindhoven, Netherlands

Christopher Tang, Professor, University of California Los Angeles, United States

We consider subsidy programs and pricing mechanisms to improve patient access to rare disease treatments. We present a multi-stage game theoretic mode to capture the interactions among the government, manufacturer, and patients. We consider different pricing and payment schemes, and characterize the unit selling price for rare disease treatments.

Invited Session

444	Saturday, 11:30 AM - 12:30 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Online Selling and Marketing	
	Chair(s): Prasad Naik	

111-0054 Advance Selling in Marketing Channels

Krista Li, Associate Professor, Indiana University, United States

Xi Li, Associate Professor, Hong Kong University, Hong Kong

Advance selling enables a manufacturer to improve channel coordination; it benefits (harms) a retailer under a dynamic (commitment) contract. The retailer prefers to advance buy but only spot sell it to consumers. The manufacturer's profit is higher under a commitment (dynamic) contract when its product's storage cost is low (high).

111-0607 Precision marketing for newly-launched online courses: How to price and offer free trials to consumers?

Zhaofang Mao, Professor, Tianjin University, China

Ruiying Yuan, Student, Tianjin University, China

We investigate a startup online education firm's incentive to offer free trials based on precision marketing, i.e., offering trials to specific consumers. We find that the monopoly prefers precision marketing as consumer uncertainty increases. However, when competing with an established firm, the startup's decisions are not related to consumer uncertainty.

111-0973 Online Order Acceptance with Postponable Production

Guohua Wan, Professor, Shanghai Jiao Tong University, China

Chunyan Zheng, Student, Shanghai Jiao Tong University, China

We consider an online revenue management problem with postponable production in make-to-order systems. We design efficient algorithms using Bayes Selector technique to deal with the cases of postponable and online production, respectively. The algorithms can obtain a constant expected regret, independent of arrivals and resources, under mild conditions.

Contributed Session

447	Saturday, 11:30 AM - 12:30 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Agricultural Precision Management	
	Chair(s): Shuang Wei	

111-0544 Problem identification model of agricultural precision management based on supply chain

Weihua Liu, Professor, Tianjin University, China

Shuang Wei, Student, College of Management and Economics, Tia, China

Siyu Wang, Student, Tianjin university, China

This paper adopts grounded theory method, innovatively proposes an identification model of APM based on supply chain. Based on the problem identification model, this paper puts forward suggestions for the better development of APM from two aspects: corporate practice and government policy.

111-1628 Problem identification model of agricultural precision management

Weihua Liu, Professor, Tianjin University, China

Shuang Wei, Student, College of Management and Economics, Tia, China

Siyu Wang, Student, Tianjin university, China

this paper adopts grounded theory method, interviews 24 business managers who carry out APM through a combination of personal in-depth interviews and focus group interviews, uses continuous comparative analysis ideas, and continuously refines and revises theories, and innovatively proposes an identification model of APM based on supply chain.

Invited Session

449	Saturday, 11:30 AM - 12:30 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Leveraging supply networks for competitive advantage	
	Chair(s): Surya Pathak	

111-0196 Dynamic control of supply chain under demand and supply uncertainty

Peter Zhang, Assistant Professor, Carnegie Mellon University, United States

Ningji Wei, Post Doc/Researcher, Carnegie Mellon University, United States

We propose a dynamic optimization model to control production in a process engineering setting. A main challenge is high dimensionality, due to network size and dynamic programming curse of dimensionality. We derive new results in robust optimization and propose a tractable and high quality solution heuristic.

111-0250 Partner Selection in Product Development Network

Yingchao Lan, Assistant Professor, University of Nebraska Lincoln, United States
Tingting Yan, Associate Professor, Wayne State University, United States
Brett Massimino, Associate Professor, Virginia Commonwealth University, United States

Extant research on supplier selection has paid relatively little attention to the role of interorganizational networks. Leveraging a unique longitudinal data set in EVG industry, we study how buyer-supplier structural equivalence may play a significant role in supplier selection decisions, and its moderated effects by historical performance and geographic distance.

111-0772 Modelling the Bullwhip Effect in Supply Networks

Anurag Tewari, Lecturer, Cranfield School of Management, United Kingdom
Surya Pathak, Professor, University of Washington Bothell, United States
Pradyot Sen, Professor, University of Washington Bothell, United States
Yusoon Kim, Associate Professor, Oregon State University, United States

Bullwhip effect in supply chains remains a phenomenon of interest, while its study in supply networks is still limited. We propose an agent-based platform to model information and material bullwhip effects in complex networks. We aggregate node-level effects and propose a network-level measure of bullwhip effect.

Invited Session

450	Saturday, 11:30 AM - 12:30 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Innovation Management	
	Chair(s): Sidika Candogan	

111-0472 Double Utilization of Consumer Appreciation: Is the Ecosystem Linkage the New Leverage?

Esma Koca, Lecturer, Imperial College London, United Kingdom
Robert Peach, Post Doc/Researcher, Imperial College London, United Kingdom
Hang Ren, Assistant Professor, George Mason University, United States

Product ecosystems enable firms to strategically link existing product categories to new product categories. We examine the implications of this endogenous linkage on the competition and innovation of new product categories. We characterise several scenarios, including cases where a firm would share their ecosystem leverage with their rivals.

111-1014 Disambiguating Effects of Knowledge versus Demographic "Diversity" in the Innovation Process: Field Experimental Evidence

Nilam Kaushik, Assistant Professor, IIM Bangalore, India

We report on a field experiment in which 861 professional adults engaged in an inherently multi-disciplinary product development problem. Team composition was randomly assigned, as was the degree to which teams were primed to engage in a collaborative orientation and work style.

111-1057 Play it Again, Sam? The Impact of Innovation on Success in the Music Industry

Abhishek Deshmane, Student, IESE Business School, Spain
Victor Martínez-De-Albéniz, Professor, IESE Business School, Spain

Newly released music by an artist is always assessed in comparison with the previous musical catalogue of the corresponding artist, thereby affecting audience responses. We provide a novel framework of looking at the classical question of incremental Vs. radical innovation through the lens of reference effects in cultural industries.

Invited Session

452	Saturday, 11:30 AM - 12:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Assortment Planning 2	
	Chair(s): Dorothee Honhon	

111-0359 Forecasting Retailers' Order Timing Using Point-of-Sales Data and Channel Inventory Estimates

Tim Schlaich, Student, Kuehne Logistics University, Germany
Kai Hoberg, Professor, Kuehne Logistics University, Germany

Slow-moving items constitute a large share of the retail assortment and often result in intermittent orders by the retailer. We estimate channel inventories based on prior orders and point-of-sales data to predict the timing of future retail-orders. Our methodology provides an alternative to time-series models and outperforms the Croston approach.

111-1693 Learning Product Rankings Robust to Fake Users

Negin Golrezaei, Professor, MIT Sloan School of Management, United States
Vahideh Manshadi, Associate Professor, Yale School of Management, United States
Jon Schneider, Research Scientist, Google, United States
Shreyas Sekar, Assistant Professor, Rotman School of Management, Canada

In online platforms, most customers only examine top-ranked products. This position bias incentivizes sellers to artificially inflate their position via fake users. We study the product ranking problem of a platform that faces both real and fake users, and develop optimal learning algorithms that are robust to fraudulent behavior.

111-0238 Integrated showroom locating, inventory management, and pricing

Dincer Konur, Assistant Professor, Texas State University, United States

Online-only retailers expand with showroom to increase brand awareness and drive sales. This study jointly analyzes such retailers' integrated showroom locating, inventory control and pricing decisions. First, demand function is modeled depending on showroom location and pricing decisions. Then, inventory control model is integrated. Optimum solution characteristics are analyzed.

Invited Session

453	Saturday, 11:30 AM - 12:30 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Pricing Issues in Retail Operations	
	Chair(s): Varun Gupta	

111-1569 Competitive Pricing of Substitute Products under Supply Disruption

Dmitry Ivanov, Professor, Berlin School of Economics and Law, Germany

Varun Gupta, Associate Professor, Penn State Erie, United States

We study pricing of competitive substitute products in the presence of a supply disruption. Retailers often use responsive pricing to mitigate supply issues and manage demand in the short-term. In this setting, we explore equilibrium prices and sourcing strategies.

111-1327 Pricing and Optimal Design of Threshold-Type Promotions

Zhenzhen Yan, Assistant Professor, Nanyang Technological University, Singapore

This paper studies the effect of the promotion on companies' sales and profit and proposes a data-driven framework to jointly price items and optimize the promotion decisions. We propose a sequential choice model to characterize a consumer's multiple item transaction behavior and build a general convex optimization framework for retailers.

111-0865 Spatial Pricing in Online Retailing: A joint optimisation of product pricing, allocation and shipping policies

Xuchen Wang, Student, Nanyang Technological University, Singapore

Shouchang Chen, Assistant Professor, Zhejiang University, China

Zhenzhen Yan, Assistant Professor, Nanyang Technological University, Singapore

We provide a computational framework to jointly optimize product pricing, allocation and shipping policies for online retailers. We apply a sequential choice model to characterize consumers' multi-item purchase behavior and approximate the retailer's problem using a mixed integer linear program with performance guarantees.

Invited Session

455	Saturday, 11:30 AM - 12:30 PM, Social Media & Internet of Things	Track: Social Media and Internet of Things
	Invited Session: Social Media and Internet of Things	
	Chair(s): shivendu shivendu	

111-0436 Matching versus Wage Differentiation for Sharing Economy Platforms

Peng Wang, Assistant Professor, Northwestern Polytechnical University, China

Haozhao Zhang, Student, University of Texas at Dallas, United States

zhe zhang, Assistant Professor, The University of Texas at Dallas, United States

In this study, we examine a sharing economy platform's choice of differentiation strategies for service providers with heterogeneous costs of service quality. The platform can either tie a provider's service quality to wage, or matching probability, which is a new practice that is unique in sharing economy.

111-1090 Bridging Digital Divide: When is Subsidizing Users Better than Subsidizing Internet Service Providers?

shivendu shivendu, Associate Professor, University of South Florida, United States

ROOHID AHMED SYED, Student, University of South Florida, United States

Digital divide, inequality in access to internet and ICTs, is emerging as new global threat. COVID-19 has underscored the need to bridge the digital divide. In this paper, we develop social welfare model to identify the conditions of optimality for subsidizing the users and the Internet service providers.

111-1358 Optimal Pricing Strategy in Social Media Advertising

wangsheng zhu, Student, The University of Texas at Dallas, United States

Shaojie Tang, Assistant Professor, The University of Texas at Dallas, United States

Vijay Mookerjee, Professor, University of Texas Dallas, United States

Social media platforms have been an important venue to deliver advertisements. Advertisements on those platforms can be easily shared by users. Such sharing behaviors would create new impressions (i.e., viral impressions) besides organic impressions. This study analyzes the platform's optimal pricing strategy for both organic and viral impressions.

Contributed Session

457

Saturday, 11:30 AM - 12:30 PM, Supply Chain Management Track: Supply Chain Management
1
Contributed Session: Supply Chain Design
Chair(s): Syed Ali

111-0733 A cloud-based framework for optimal supply chain design with product family

Syed Ali, Senior Lecturer, University of Huddersfield, United Kingdom
Abdilahi Ali, Executive Director, 0000, Somalia

When the product family and supply chain designs are aligned and integrated, original equipment manufacturers are more likely to improve their operational performance. In this paper, we propose a novel approach, which demonstrates how both the product and the supply chain can simultaneously be designed based on real-time data.

111-1465 Supply Chain Integration and Economic Performance: A Comparative Study

Minh Nguyen, Post Doc/Researcher, University of Economics, Ho Chi Minh City, Japan
Anh Phan, Associate Professor, University of Economics and Business - Vietnam National University, Hanoi, Vietnam
Yoshiki MATSUI, Professor, The Open University of Japan, Japan

This study investigates the impact of supply chain integration practices on economic performance in Vietnamese and Japanese enterprises, employing partial least squares path modeling. It focuses on analyzing the direct and indirect relationships among external integration, information integration, process integration, and economic performance.

111-0975 Strategies for Providing Solar Panels to Consumers Using a Combination of Leasing and Selling

Sunanda Katewa, Student, Indian Institute of Management Udaipur, India
Avijit Raychaudhuri, Assistant Professor, Indian Institute Of Management, Udaipur, India

Several new-age companies provide renewable energy services to individual consumers through leasing or selling solar panels. The quality of the panels and the time when consumers can buy the panels are two key decisions relevant to such companies. We study the impact of these key decisions on the companies' profitability.

Contributed Session

458

Saturday, 11:30 AM - 12:30 PM, Supply Chain Management Track: Supply Chain Management 2
2
Contributed Session: Supply Chain Networks for Competitive Advantage
Chair(s): Ricardo Cassel

111-0134 The Effects of Blockchain on Supply Chain Performance: The Intervening Role of Self-organized Shadow System

Artur Swierczek, Professor, University of Economics in Katowice, Poland

The goal of the study is to investigate the role of the shadow system, which emerged from Blockchain technology, on supply chain performance. The research shows that Blockchain technology positively affects the self-organized shadow systems of supply chains. The shadow system, in turn, positively affects supply chain performance.

111-0693 Stock Market Reactions to Modern Slavery Issues in Supply Chains

Hugo Lam, Senior Lecturer, University of Liverpool, United Kingdom

This research investigates how investors react to modern slavery issues such as forced labor and child labor occurring in publicly listed firms' supply chains. It also considers the possible role played by government regulations.

111-1173 Impacts of the Theory of Constraints for the Supply Chain: An analysis using system dynamics

Gustavo Stefano, Manager, UNISINOS - Universidade do Vale do Rio dos Sinos, Brazil
Daniel Lacerda, Associate Professor, Unisinos University, Brazil
Fabio Piran, Student, Unisinos University, Brazil
Ricardo Cassel, Associate Professor, Univ Federal Do Rio Grande Do Su, Brazil
Leticia Stefano, Student, UNISINOS - Universidade do Vale do Rio dos Sinos, Brazil

This paper evaluates the impacts of applying the Theory of Constraints in supply chains. The analysis is carried out based on the system dynamics modeling of a real case. The CausalImpact technique was used to establish the causality. The results show significant contributions from the Theory of Constraints.

Contributed Session

459

Saturday, 11:30 AM - 12:30 PM, Supply Chain Risk Management Track: Supply Chain Risk Management
Contributed Session: Supply Chain Disruptions
Chair(s): Kotomichi MATSUNO

111-1492 How does social media affect the financial volatility of a recall company?

Kyle Goldschmidt, Associate Professor, University of St. Thomas, United States

John Ni, Assistant Professor, Miami University, United States

Research shows that a product recall affects the financial value of a company who announced a product recall. We argue that the reactions from social media also raise the idiosyncratic volatility of the stock of the recall company.

111-1627 Minimizing Conditional Value-at-Risk Under a Modified Basestock Policy

Antonio Arreola-Risa, Associate Professor, Texas A&M University College Station, United States

Bo Li, Associate Professor, NISCI, China

Consider a single-product, make-to-stock, risk-averse company that manages its finished-goods inventory by a basestock policy. We derive a closed-form approximation of the optimal basestock minimizing conditional value-at-risk of the total backordering and inventory holding cost. We illustrate how our research results were successfully applied in a Fortune-10 energy company.

111-0146 Developing efficient and robust supply chain with considering of disruption risks due to natural disasters

Kotomichi MATSUNO, Assistant Professor, Waseda University, Japan

In order to improve both efficiency and robustness of a supply chain under disruption risks due to natural disasters, component supply and procurement between supplier and manufacturer based on a range of trading volume is proposed and verified by opportunity loss and operation costs in normal periods.

Contributed Session

460	Saturday, 11:30 AM - 12:30 PM, Sustainable Operations 1	Track: Sustainable Operations
	Contributed Session: Consumers Attitudes Towards Sustainability	
	Chair(s): Nur Sunar	

111-1172 When words and actions don't match: How greenwashing a firm's supply chain practices can backfire

Robert Jensen, Student, University of Arkansas, United States

John Aloysius, Professor, University of Arkansas, United States

Christian Hofer, Associate Professor, University of Arkansas, United States

We study how firms' misleading claims about their sustainable supply chain initiatives can negatively influence consumer evaluations and firms' value. Our multi-method research presents findings from both behavioral experiments and the analysis of archival data. We introduce a new approach to identifying greenwashing and its effect on firm value.

111-1294 Estimating and Increasing Demand for Corporate Ridesharing

Sergey Naumov, Assistant Professor, Smeal College of Business, United States

Aydin Alptekinoglu, Professor, Penn State University University Park, United States

Ridesharing is efficient in reducing transportation carbon footprint, but it's hardly popular. Corporate ridesharing matches employees working at the same location, potentially increasing shared ride appeal. We analyze commuting data at a large business park and perform experiments to identify efficient ways to increase demand for corporate ridesharing.

111-1306 Do noisy customer reviews discourage platform sellers? Empirical analysis of an online solar marketplace

Herbie Huang, Student, Kenan-Flagler Business School, United States

Nur Sunar, Assistant Professor, Kenan-Flagler Business School, United States

Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

Rahul Roy, Student, Kenan-Flagler Business School, United States

We study an online solar marketplace with active installers and observe that dispersions in customer reviews of installers and their competitors have a non-monotonic impact on the number of proposals offered by the installers. Besides, the number of matches exhibits a non-monotonic relationship with dispersion in customer reviews of installers.

Contributed Session

461	Saturday, 11:30 AM - 12:30 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Contributed Session: Consumers and sustainability	
	Chair(s): Mirel Yavuz	

111-0429 Right-to-repair : Impact on firm profit and consumer welfare

Sayan Chowdhury, Student, Indian Institute of Management Bangalore, India

Nishant K Verma, Assistant Professor, IIM Bangalore, India

Haritha Saranga, Professor, Indian Institute of Management Bangalore, India

In the current business landscape, a firm may choose to allow its customers the right to repair its products by providing parts for self-repair or not. We discuss the benefits and drawbacks of both strategies and the impact of each strategy on firm profit and consumer welfare.

111-0589 Consumer flexibility for online order delivery under environmental consideration in an omnichannel network

Imen Ben Mohamed, Assistant Professor, EM-Lyon, France

Yann Bouchery, Associate Professor, Kedge Business School, France

Walid Klibi, Professor, Kedge Business School, France

Saturday, 11:30 AM - 12:30 PM

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This paper investigates the value of consumer flexibility and its impact on fulfillment process when offered a green delivery. To do so, we assess the promise of stores' distribution capabilities to meet consumers' requirements. We study the use of trucks residual capacities to consolidate orders shipment with the stores' replenishment.

111-1758 Attraction and Compromise Effects with Environmental Information

Mirel Yavuz, Student, UCLA Anderson School of Management, United States

Guia Bianchi, Student, Sant'Anna School of Advanced Studies, Italy

Charles Corbett, Professor, UCLA Anderson School of Management, United States

Although several tools exist to collect environmental information, there is minimal guidance on making decisions based on such information. Decision-makers are subject to a wide range of biases in other contexts. This experimental study finds that attraction and compromise effects occur in the context of sustainability-related decision-making.

Saturday, 12:45 PM - 01:45 PM

Invited Session

463 Saturday, 12:45 PM - 01:45 PM, 1- Meetings & Programs - Track: All Plenaries and Special Events: Open to Everyone
All are Welcome
Invited Session: **Plenary #2: Energy Transition: The Opportunities and the Challenges**
Chair(s): Funda Sahin

111-1830 Plenary #2: Energy Transition: The Opportunities and the Challenges

Ramanan Krishnamoorti, , ,

The quest for affordable, reliable and sustainable energy drives the energy transition and requires an approach that embraces all possible solutions. Societal pressure and the consequences of climate change on human development have raised the urgency with which these solutions must be deployed. However, the resources to undertake such a systemic modification and redeployment globally are geographically heterogeneous and in many cases isolated from the locations of highest energy demand. In this talk, I will discuss the challenges and opportunities of the energy transition through four distinct pathways -- carbon management, materials circularity, electrification including energy storage, and the re-invention of hydrogen as a fuel. While there are technological and regulatory barriers in each case, the supply chain and integration of the value chain remain the most significant barriers to their rapid growth. A talented and trained workforce that can address some of the key issues in the energy transition remains an important barrier to the acceleration of the energy transition and requires a re-think of the development of the talent pipeline.

Saturday, 02:00 PM - 03:00 PM

Invited Session

506 Saturday, 02:00 PM - 03:00 PM, 2- Meetings & Programs - Track: All Special Events & Programs: By Invitation
By Invitation
Invited Session: **College Presidents' Meeting**
Chair(s): Hossein Rikhtehgar Berenji Sushil Gupta

111-1854 College Presidents' Meeting

Sushil Gupta, Professor, Florida International University, United States

Hossein Rikhtehgar Berenji, Assistant Professor, Pacific University , United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence.

Invited Session

509 Saturday, 02:00 PM - 03:00 PM, Behavioral OM 1 Track: Behavioral Operations Management
Invited Session: **Behavioral Service Operations 1**
Chair(s): Shiliang Cui

111-0105 Who Is Next: Patient Prioritization Under Emergency Department Blocking

Wenhao Li, Student, City University of Hong Kong, Hong Kong

Zhankun Sun, Assistant Professor, City University of Hong Kong, Hong Kong

Jeff Hong, Professor, Fudan University, China

Inspired by an intriguing observation, we empirically investigate how emergency department (ED) providers select the next patient to treat. We find that when ED blocking level becomes sufficiently high, discharged patients are prioritized. We explain the rationale underlying the prioritization behavior and show how to improve ED operations by simulation.

111-1420 No Panic in Pandemic: The Impact of Individual Choice on Public Health Policy and Vaccine

Miao Bai, Assistant Professor, University of Connecticut, United States

Ying Cui, Assistant Professor, University of Minnesota, United States
Guangwen Kong, Assistant Professor, Temple University, United States
Zhenhuan Zhang, Student, University of Minnesota, United States

We consider public health interventions (social distancing and lockdown) for COVID-19 pandemic by incorporating human responses to these policies. We derive insightful structural properties and find its implications for vaccine priority and lockdown and social distancing policies.

111-1488 Priority in Queues---Fair or Unfair?

Abdullah Althenayyan, Post Doc/Researcher, McDonough School of Business, United States
Shiliang Cui, Associate Professor, McDonough School of Business, United States
Sezer Ulku, Associate Professor, McDonough School of Business, United States
Luyi Yang, Assistant Professor, Haas School of Business, United States

We study how customers respond to priority in queues. In addition to express lines, the most common forms of priority schemes, we also consider line-sitting which is the practice of hiring others (line-sitters) to wait in line and has become more prevalent in a variety of contexts.

Invited Session

511	Saturday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Refugees and Humanitarian Operations	
	Chair(s): Lysann Seifert	

111-0694 DATA SCARCITY - A REASON FOR LACKING SELF-RELIANCE IN REFUGEE CAMPS?!

Anna-Mara Schön, Post Doc/Researcher, Hochschule Fulda - University of Applied Sciences, Germany

Becoming self-reliant in a refugee camp is a big challenge. Refugee management could support this journey enormously if enough and the right data about refugees were collected and evaluated. Research shows that data of people living in camps, their skills, knowledge and experience is scarce or even unavailable.

111-1363 Country Risk Models for Human Trafficking

Felipe Aros-Vera, Assistant Professor, Ohio University, United States
Rida Benhaddou, Associate Professor, Ohio University, United States

We developed and implemented risk models for human trafficking (HT) based on country level statistics in five main categories: governance issues, lack of basic needs, inequality, disenfranchised groups, and effects of conflicts. These risk models help identify vulnerabilities and guide policies to fight HT.

111-0797 Sustainable innovations for humanitarian operations in refugee camps

Lysann Seifert, Student, University of Kassel, Germany
Nathan Kunz, Associate Professor, University of North Florida, United States
Stefan Gold, Professor, University of Kassel, Germany

Host governments plan refugee camps as short-term shelters, but refugees stay in camps for over a decade on average due to ongoing conflicts in their home country. Through case study research we analyze four sustainable operational innovations implemented in two camps in Jordan that achieve sustainable outcomes for refugee populations.

Contributed Session

512	Saturday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Pandemic Supply Chain	
	Chair(s): Rebecca Clemons	

111-0530 Riding the waves of the pandemic in supply chain management

Kim Van Oorschot, Professor, BI Norwegian Business School, Norway
Luk Van Wassenhove, Professor, INSEAD, France
Marianne Jahre, Professor, BI Norwegian Business School, Norway

The paper features a simulation model that connects three subsystems: COVID-19 transmission, the diagnostic test supply chain, and public policy interventions. This integrated system approach clarifies that, for public policies, there is a time to be risk-averse and a time for risk-taking, reflecting the different phases of the pandemic.

111-0048 Production network configuration and crisis resilience during the Covid-19 pandemic

Oliver Flaeschner, Post Doc/Researcher, ETH Zurich, Switzerland
Marc Leibundgut, Student, Eth Zurich, Switzerland
Torbjørn Netland, Assistant Professor, Eth Zurich, Switzerland

Drawing on a large data set we assembled combining companies production geography and financial data, we analyze whether companies that during the Covid-19 pandemic produced to a greater extent (a) domestically, (b) nearshore, (c) close to demand showed greater resilience in their performance than companies producing in distant offshore locations.

111-0770 Practices for Swift and Effective Supplier Development

Rebecca Clemons, Associate Professor, Indiana University, United States

COVID-19 created significant disruption in supply chains. Often requiring firms to swiftly develop new suppliers. This case study seeks to understand how firms managed unpredictable changes in their supply base during the pandemic. A secondary area of concern is the impact on quality during disruption.

Invited Session

513	Saturday, 02:00 PM - 03:00 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Empirical Research in Disruptive Technologies	
	Chair(s): Yi Gao	

111-0685 How Does the Patient Transfer Network Formulate? A Perspective from Health IT

Yao Li, Assistant Professor, Southern University of Sci and Tech, China

Tan Yue, Student, University of South Carolina Aiken, China

Wenwen Li, Assistant Professor, Fudan University, China

Firstly, we capture the patient transfer network with Exponential Random Graph Model (ERGM). Then, we estimate the effects of health IT on healthcare service formulation with ERGM analysis.

111-0887 Understanding the Brainstorming Stage on Crowdfunding Platforms: From the Perspective of Value Co-Creation

Shuqing Yuan, Student, Tsinghua University, China

Yi Gao, Student, Tsinghua University, China

Dengpan Liu, Professor, Tsinghua University, China

We investigate a new business model in crowdfunding where a platform adds a brainstorming stage to the fundraising process to help creators improve the ideas and preliminary designs of their projects. Specifically, we examine the impact of the brainstorming stage on projects' fundraising performance and supporters' post-funding satisfaction.

111-1272 Can Bot Improve Equity? Machine-generated Content Mitigates Cold-Start Issue

Jingbo Hou, Student, Arizona State University, United States

Pei-Yu Chen, Professor, Arizona State University, United States

The cold-start problem is salient in the current online two-sided markets. To empirically examine whether machine-generated content helps mitigate the cold-start problem, we study the impact of machine-generated content on dataset adoption in a leading online public dataset community (Kaggle).

Contributed Session

514	Saturday, 02:00 PM - 03:00 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Retail studies	
	Chair(s): Yuyang Zhao	

111-0686 Retailer-direct Financing and Channel Structures

Yuyang Zhao, Student, Nanjing university of science and technology, China

Luying Wang, Student, Tianjin Uiversity, China

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

Hui Yang, Professor, Nanjing University of Science and Technology, China

We study the effect of retailer-direct financing on channel structure choice when retailer can promote sales. Retailer chooses a channel structure from agency channel, reselling channel, and both (dual-channel). Contrary to previous study, we find reselling is optimal rather than dual channel for retailer even the interest rate is low.

111-0457 Seller-Initiated Consumer Financing and Consumer Sales-Finance Conflicts

Chenchen Di, Student, University of Illinois at Urbana Champaign, United States

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

In this paper, we study the conflicts between sales divisions and consumer finance divisions in firms when firms not only sell their products, but also provide financing to consumers. We design a game-theoretical model to study the interdependence and the conflict between the sales division and the consumer finance division

Invited Session

517	Saturday, 02:00 PM - 03:00 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: FinTech Innovations	
	Chair(s): Fasheng Xu	

111-0848 A Self- and Mutual-Exciting Model for Discrete-Time Data: Case Study on Online Money Market Fund

Yuqian Xu, Assistant Professor, University of North Carolina, United States

Lingjiong Zhu, Associate Professor, Florida State University, United States

Haixu Wang, Student, Florida State University, United States

This paper proposes a novel self- and mutual-exciting stochastic model to capture the dependence on the past event arrivals and associated sizes (i.e., self-exciting) and the behavioral interdependence between multiple activities (i.e., mutual-exciting) with a case study on customer deposit and withdrawal behaviors in an online money market fund.

111-1047 Trade Credit and Sale Data Visibility

Paola Martin, Student, University of Texas Austin, United States

Diwakar Gupta, Professor, University of Texas Austin, United States

The supplier does not observe the retailer's sales in many trade finance transactions. The supplier can require the retailer to share sales information, or can verify sales at a cost. We formulate a leader-follower game to determine whether the supplier benefits from observing retailer's sales from a trade finance perspective.

111-1687 On the Interplay of Production Flexibility and Financing Strategy

Qi Wu, Assistant Professor, Case Western Reserve University, United States

Guoming Lai, Associate Professor, University of Texas Austin, United States

Peter Ritchken, Professor, Case Western Reserve University, United States

We investigate how a levered firm may utilize production flexibility in response to market changes. We endogenize the firm's financing strategy and uncover that the effect of operational flexibility on financial leverage depends on (and is not monotonic in) the level of flexibility, measured by switching cost.

Invited Session

519	Saturday, 02:00 PM - 03:00 PM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: Supply Chain Risk Management and challenges 1	
	Chair(s): Ying Liao	

111-0395 Healthcare Supply Chain Challenges, Strategies, and Lessons Learned During the Covid-19 Pandemic

Yulong Li, Associate Professor, Simmons College, United States

Few supply chains are as critical as those in healthcare, as the consequence can be deadly. By reviewing the literature and interviewing field professionals, this study intends to summarize the challenges facing, strategies taken and lessons learned when hospitals manage supply shortages as demand surges during the pandemic.

111-0695 Leveraging network resilience through localization: The role of market sensing ability

Xiyue Deng, Assistant Professor, SIUE, United States

Paul Hong, Professor, University of Toledo, United States

Yuan Wang, Assistant Professor, Higher Education, United States

Sachin Modi, Professor, Wayne State University, United States

This research investigates whether localization complements a firm's network resilience practices in the context of the COVID-19 pandemic. Further, we also evaluate whether this complementary effect is contingent on the firm's market sensing capability. Analysis of data from a survey of managers reveals important managerial insights

111-1079 Relationships of Supply Chain Risk Management Maturity, Robustness, and Organizational Culture in Chinese Firms

Ying Liao, Associate Professor, East Carolina University, United States

Scott Dellana, Professor, East Carolina University, United States

Mauro Falasca, Associate Professor, East Carolina University, United States

This empirical study aims at providing insight into the understanding of supply chain risk management maturity and its relationship with robustness in Chinese firms. Multi-group analysis was performed to explore whether organizational culture could play a role in creating differences in developing risk management maturity.

Invited Session

520	Saturday, 02:00 PM - 03:00 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: AI/ML for Health Equity and Efficiency	
	Chair(s): Gordon Gao	

111-1710 Racial Disparities in the Availability of Social Determinants of Health Information in EHR Data

Junjie Luo, Student, University of Maryland, United States

Liu Shiping, , ,

Gordon Gao, Professor, University of Maryland - College Park, United States

Ritu Agarwal, Professor, University of Maryland, United States

Nawar Shara, , ,

Disparities in data availability have been identified as a root cause of AI biases. Using EHR data of 12,216 patients with prediabetes between 2010 to 2015, we examine four diabetes-related behavioral factors: smoking status, alcohol use, diet, and exercise information. We found substantial disparities in data availability across races.

111-1097 The Impact of Interoperability Standards on Healthcare Services

Yeongin Kim, Assistant Professor, Virginia Commonwealth University, United States

Geng Sun, Assistant Professor, University of Texas Rio Grande Valley, United States

Byung Cho Kim, Associate Professor, Korea University, South Korea

The Office of the National Coordinator for Health IT (ONC) announced interoperability standards for health IT, including compatibility among electronic health records (EHRs), to improve care delivery. This paper examines potential consequences of such a standard and to provide policy implications by using an economic model.

111-1484 Should Firms Promote COVID-19 Vaccination to their Customers? Evidence from a Natural Experiment in Ridesharing

Vivek Choudhary, Assistant Professor, Nanyang Technological University, Singapore

Zhaoyan Liu, Student, National University of Singapore, Singapore

Pavel Kireyev, Assistant Professor, INSEAD, France

selim Turki, Senior Engineering Director, Careem, United Arab Emirates

olesya borzdsky, Senior Data Scientist, Careem, United Arab Emirates

We examine the effectiveness of vaccination campaigns undertaken by the private sector. Our investigation provides some of the first evidence of the social (~55% increase in vaccination trips) and economic (3.24-7.67% increase in ridesharing usage) effectiveness of vaccination campaigns. and therefore, encourage them to promote vaccination to customers.

Contributed Session

521	Saturday, 02:00 PM - 03:00 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Simulation in Healthcare	
	Chair(s): Wei Xie	

111-1756 Stochastic Simulation Uncertainty Analysis to Accelerate Modular Biomanufacturing Process Digital Twin Development

Wei Xie, Assistant Professor, Northeastern University, United States

Barry Nelson, Professor, Northwestern University, United States

Russell Barton, Professor, Penn State University University Park, United States

Keqi Wang, Student, Northeastern University, United States

We propose a Gaussian process metamodel-assisted stochastic simulation uncertainty analysis framework to accelerate the development of digital twins with modular design for flexible production processes. It can estimate the relative contribution from each source of model uncertainty and efficiently guide digital twin development.

111-1558 Robust Elective Patients Admission Planning with Covariates

Ridong Wang, Student, Tsinghua University Department of IE, China

Xiang Liu, Assistant Professor, Tsinghua University Department of IE, China

Xiaolei Xie, Associate Professor, Tsinghua University Department of IE, China

Lefei Li, Associate Professor, Tsinghua University Department of IE, China

Elective patient admission planning is an important operational management problem. Considering the uncertainty of patients' length of stay (LOS), we first build regression model. Then, we use distributionally robust optimization to hedge against residual uncertainty. And we show the advantage of our method compared with traditional stochastic programming methods.

111-1378 A Study of Patient Empowerment Process Models: A Simulation Optimization Approach

Saad BaniHani, Student, University of North Texas, United States

Suman Niranjani, Assistant Professor, University of North Texas, United States

brian sauser, Associate Professor, University of North Texas, United States

We study three different patient empowerment process models currently adopted at a North American integrated healthcare solutions company. We use discrete event simulation modelling to determine optimal cross-trained workforce that minimizes the total cost and maximize the patient service level for each patient empowerment process model and an integrated model.

Contributed Session

522	Saturday, 02:00 PM - 03:00 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Managing Supply Chain Risk	
	Chair(s): Cigdem Gurgur	

111-1298 Quality Supervision and Privacy Protection in Anti-Counterfeiting Traceability of Vaccine Supply Chains

Cigdem Gurgur, Associate Professor, Purdue University, United States

The recent outbreak of SARS-CoV-2 has further highlighted the importance of predictive data analytics, computational intelligence and optimization techniques in tackling the challenges in healthcare systems. This study aims to extend the research on how blockchain and machine learning technologies can be used in health-care supply chain management.

111-1447 A pandemic of bad drugs: Tackling falsified and deceptive medicines from a systems perspective

Tomás Harrington, Associate Professor, University of East Anglia, United Kingdom

Naoum Tsolakis, Assistant Professor, International Hellenic University, Greece

Despite the prevalence of counterfeit medicines, extant literature has often simply focused on observing and reporting the phenomenon. Current studies are also unable to differentiate between counterfeit, substandard, and degraded drugs. We use a system lens to explore feedback mechanisms, enabled by digital technologies, underpinning the diffusion of authentic medications.

Invited Session

523

Saturday, 02:00 PM - 03:00 PM, Information Systems & OM 1 Track: Information Systems and Operations Management
 Invited Session: **B2B Platforms and Supply Chain Innovation**
 Chair(s): Burcu Tan Erciyes

111-1852 B2B Platforms and Supply Chain Innovation

Burcu Tan Erciyes, Associate Professor, University of New Mexico, United States
 Edward Anderson, Professor, University of Texas Austin, United States
 Geoffrey Parker, Professor, Dartmouth College, United States
 Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Improved technology systems for gathering data at the supply chain and manufacturing level, such as the rise of the Internet of Things and Industry 4.0, has created a step change in the importance of business-to-business (B2B) platforms. However, the majority of POM and information systems studies has focused until now on business-to-consumer platforms. How well the knowledge from that literature translates to business-to-business platforms is unclear. An expert panel will discuss how new research agendas might shed light on critical questions of design, employment, and necessary infrastructure for business-to-business platforms.

Invited Session

524

Saturday, 02:00 PM - 03:00 PM, Information Systems & OM 2 Track: Information Systems and Operations Management 2
 Invited Session: **Strategic Interactions in the Interface of Operations Management and Information Systems 1**
 Chair(s): Abhishek Roy

111-0807 Pricing Strategies of Media Platforms

Anurag Garg, Student, UF, United States
 Vashkar Ghosh, Assistant Professor, University of North Carolina Greensboro, United States
 Soohyun Cho, Assistant Professor, Rutgers University, United States
 Subhajyoti Bandyopadhyay, Professor, University of Florida, United States
 Arunava Banerjee, Associate Professor, University of Florida, United States

The media industry has seen a major shift in the past decade with the increase in digital platforms. These digital and media platforms have challenged the traditional broadcasting channels on how the content and services are provided. In this paper we discuss how the business model has evolved.

111-1166 Social Media Content Creation Strategies and Engagement During Disasters

Changseung (Chang) Yoo, Assistant Professor, McGill University, Canada
 Eunae Yoo, Assistant Professor, Indiana University Bloomington, United States
 Lu (Lucy) Yan, Associate Professor, Indiana University Bloomington, United States
 Alfonso Pedraza, Professor, Indiana University, United States

This study empirically examines the relationship between disaster relief organizations' social media content creation strategies across multiple channels and engagement using a novel data set acquired from Twitter and the Canadian Red Cross. We also provide prescriptive insights into how DRO accounts should coordinate content creation to enhance engagement.

111-0036 A new framework for data quality assessment and case study in a manufacturing enterprise

Danyuan Li, Student, Tsinghua University Department of IE, China
 Zheng Li, Professor, Tsinghua University, China

We propose a new data quality assessment and analysis framework for manufacturing enterprises. This framework integrates data quality and business process management, and develops a data quality assessment space and a business process query system to help assess data quality level and discover data quality root causes.

Contributed Session

526

Saturday, 02:00 PM - 03:00 PM, Logistics Management Track: Logistics Management
 Contributed Session: **Transportation Management (1)**
 Chair(s): Nina Vojdani

111-0548 A routing heuristic for the battery management of AGVs reducing waiting time at battery stations

Qazi Kabir, Assistant Professor, Rowan University, United States
 Yoshinori Suzuki, Professor, Iowa State University, United States

This research proposes a new routing heuristic for the battery management of automated guided vehicles (AGVs). The new heuristic would outperform other similar heuristics because it requires little waiting time at the battery stations. Also, this new heuristic will prioritize that an AGV goes to the nearest battery station.

111-1794 Fleet Composition Optimization With Truckload and Less-Than-Truckload Shipping Options

Yue Wang, Student, Texas A&M University, United States
 Joseph Geunes, Professor, Texas A&M University College Station, United States
 Xiaofeng Nie, Associate Professor, Texas A&M University College Station, United States

We propose a cost-minimization model for the fleet composition problem in which periodic demand is stochastic and bounded, and must be fulfilled via a combination of internal truckload capacity and external less-than-truckload shipments. We characterize the corresponding expected cost function and provide methods for determining the optimal internal fleet capacity.

Invited Session

527	Saturday, 02:00 PM - 03:00 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Emerging Topics in Empirical OM	
	Chair(s): Karca Aral	

111-0318 Product variety and consumer behavior in online fashion retailing

Jean-Sebastien Matte, Student, McGill University, Canada

Javad Nasiry, Associate Professor, McGill University, Canada

Mehmet Gumus, Professor, McGill University, Canada

We study consumers' choice behavior where product categories and subcategories can be substitutes. We develop a multinomial logistics regression model and incorporate variety in consumer utility function. We use a large dataset from an online fashion retailer to estimate the model.

111-1690 Matching vs. Local characteristics of Online Marketplaces

Rahul Roy, Student, Kenan-Flagler Business School, United States

Nur Sunar, Assistant Professor, Kenan-Flagler Business School, United States

Jayashankar Swaminathan, Professor, Kenan-Flagler Business School, United States

In collaboration with one of the largest online solar marketplaces in the U.S., we empirically analyze how the local characteristics of an online marketplace can affect the number of matches. Our analysis reveals key insights to online marketplace operators.

111-1691 Managerial Flexibility and Inventory Management

Karca Aral, Assistant Professor, Syracuse University, United States

Erasmus Giambona, Professor, Syracuse University, United States

Luk Van Wassenhove, Professor, INSEAD, France

We study how managers' potential personal costs due to shareholder scrutiny affect inventory policies in a quasi-natural experimental. Using a staggered difference-in-differences approach, we find that firms incorporated in constituency states increased inventory by 5.2% relative to firms not incorporated in constituency states, indicating higher focus on customer service.

Invited Session

528	Saturday, 02:00 PM - 03:00 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Online Market Studies	
	Chair(s): Qiang Gao	

111-0930 Make or Buy? Design an Online Retail Marketplace with Sponsored Advertising

Zhe Yang, Student, Tianjin University, China

Zhaofang Mao, Professor, Tianjin University, China

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

E-commerce platforms (e-platforms), such as Amazon and JD.com, are building self-owned brands by making (i.e., insourcing) or buying (i.e., reselling). While self-owned brands compete with third-party sellers, how to allocate sponsored slots is a significant problem. We model the self-owned brand production decisions and the allocation decision of sponsored slots.

111-0295 Employers' Reactions to a Novel Signaling Mechanism in Online Labor Markets

Qiang Gao, Assistant Professor, City University of New York, United States

Mingfeng Lin, Associate Professor, Scheller College of Business, United States

Yong Liu, Professor, University of Arizona, United States

Leveraging transactional data surrounding the introduction of a novel "guarantee" mechanism by one of the major online labor markets, we study how employers (signal-receivers) react to the presence or absence of guarantees in the bids placed by workers (signal-senders) and whether these reactions are economically justified, ex post.

Contributed Session

531	Saturday, 02:00 PM - 03:00 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Agriculture Co-ops & Organic Farming	
	Chair(s): Mahboubah Jahantab	

111-0785 Join the cooperative or not: How information sharing affects farmers' decisions

Qing Li, Student, Huazhong agricultural university, China

Xianpei Hong, Professor, Huazhong agricultural university, China

Although the government has adopted many efforts to encourage the farmers join the cooperative, some farmers do not willing to join it. This paper mainly focus on the impact information sharing on farmers' join decisions and determines the optimal cooperative size.

111-0657 Improving Profitability of Marginal Farmers under Cooperative Framework

Samir Biswas, Student, Indian Institute of Management Calcutta, India
 Preetam Basu, Associate Professor, Indian Institute of Management Calcutta, India
 Balram Avittathur, Professor, Indian Institute of Management Calcutta, India

Marginal farmers in developing economies face various challenges that hamper the quality improvement of agricultural products leading to reduced profitability. We explore the feasibility for the farmers joining a cooperative and determine market conditions under which their profitability is increased by the quality assessment done by the cooperative.

111-0931 Allocation of crops and agricultural practices in the transition from conventional to organic farming.

Mahboubah Jahantab, Student, Rmit University, Australia
 Babak Abbasi, Professor, Rmit University, Australia
 Pierre LeBodic, Senior Lecturer, Monash University, Australia

The adoption of organic farming is affected by the financial difficulties associated with the process of converting from conventional to organic farming. We develop a multi-period optimization model for farmland allocation decisions under crops' revenue uncertainty to maximize the farmer's payoff during and after the transition period.

Contributed Session

533	Saturday, 02:00 PM - 03:00 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Responsible supply management 1	
	Chair(s): Yuqi Peng Xichen Sun	

111-0022 Barriers to adopt circular procurement : a interpretive structural modeling (TISM) approach

Asad Qazi, Student, University of Rome - Tor Vergata, Italy
 Andrea Appolloni, Associate Professor, University of Rome - Tor Vergata, Italy

Study aims to investigate the barriers to adopt circular procurement in the Electrical and Electronic Equipment supply chain. The paper identifies the barriers through literature review and further examines the interdependencies and influence on one another barrier. Experts opinion analyses by ISM (Interpretive Structural Modelling) and MICMAC techniques.

111-0233 Does Extended Producer Responsibility Improve Eco-Innovation: An Empirical Study of Product Take-Back Programs

Yuqi Peng, Assistant Professor, Salisbury University, United States
 Yan Dong, Professor, University of South Carolina, United States
 Sriram Venkataraman, Associate Professor, University of South Carolina, United States
 Sining Song, Assistant Professor, University of Tennessee Knoxville, United States

We empirically explore the impact of extended producer responsibility on producers' eco-innovation development. We find that adopting a take-back program significantly motivates a producer to develop eco-innovation. However, the producer may experience a substantial learning curve. The take-back effects are also heterogeneous across industries.

Invited Session

534	Saturday, 02:00 PM - 03:00 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Innovation and Value Creation 1	
	Chair(s): Pascale Crama	

111-0812 Peer Effects and Learning with new technology

Bilal Gokpinar, Professor, University College London, United Kingdom
 Deepanshi Bhardwaj, Student, UCL School of Management, United Kingdom
 Ashwini Chhatre, Professor, Indian School of Business, India

We investigate peer effects in a knowledge-intensive work setting with individual-based competitive incentives, where service workers are introduced to a new technology. Using a granular data of 5.6 million transactions for 822 banking-service-workers, we find that workers with peers have a lower error-rate as compared to those without peers.

111-1478 Project Selection in Strategic Alliances

Wenqi Lian, Assistant Professor, Lingnan Univ, Hong Kong
 Pascale Crama, Associate Professor, Singapore Management University, Singapore

Firms join in strategic R&D alliances to develop new projects by combining their complementary capabilities. Alliances covering an R&D portfolio with multiple projects need to consider the project selection decisions of both parties. We investigate contract timing and structure and show how the parties reach an agreement.

Contributed Session

536

Saturday, 02:00 PM - 03:00 PM, Retail Operations

Track: Retail Operations

Contributed Session: Retail Operations 1

Chair(s): Mario Chong

111-1738 Understanding consumption patterns of a network of 400 000 mom-and-pop stores in Peru

Mariana Moyano, Student, Universidad del Pacifico, Peru

Mario Chong, Professor, Universidad del Pacifico, Peru

Julio Castillo, Assistant Professor, Universidad del Pacifico, Peru

Christopher Mejia-Argueta, Assistant Professor, Massachusetts Institute of Technology, United States

Gerardo Heckmann, Professor, Universidad Nacional de Córdoba, Argentina

End consumers in Peru regularly shop in the traditional channel, a network of 400 000 nanostores. This research analyzes panel data to get insights about the demand and consumption of dairy products for 33 million end consumers through advanced statistical modelling and machine learning methods.

111-0021 selling to nanostores through a platform which can access consumers

Jiwen Ge, Assistant Professor, Dongbei University of Finance & Economics, China

Han Zhu, Professor, Dongbei University of Finance and Economics, China

Lingshoutong is a new platform which bridges CPG manufacturers and over a million nanostores in China. Competing manufacturers can either serve nanostores directly or through the platform with the option to market products to consumers directly. We study the platform's role in the manufacturer competition.

111-0033 Predictably unpredictable: How judgmental forecasts and machine learning predictions complement each other

Devadrita Nair, Student, WHU - Otto Beisheim School of Management, Germany

Arnd Huchzermeier, Professor, WHU - Otto Beisheim School of Management, Germany

We propose a three-step demand forecasting framework that combines the expert's knowledge of the market with machine learning algorithm's ability to leverage historical information to forecast seasonal demand for rapid innovation products. Using data from Canyon Bicycles, we find an 28% reduction in forecast error over a purely judgmental forecast.

Invited Session

537

Saturday, 02:00 PM - 03:00 PM, Revenue Management & Pricing

Track: Revenue Management and Pricing

Invited Session: Emerging Topics in Revenue Management 1

Chair(s): Jinglong Zhao

111-0894 Online Stochastic Optimization with Wasserstein Based Nonstationarity

Jiashuo Jiang, Student, New York University, United States

Xiaocheng Li, Assistant Professor, Imperial College London, United Kingdom

Jiawei Zhang, Professor, New York University, United States

We consider a general online stochastic optimization problem with multiple budget constraints. We propose online algorithms to achieve tight regret bound under a data-driven setting where the true distribution is unknown but a prior estimate (possibly inaccurate) is available and an uninformative setting where the true distribution is completely unknown.

111-1267 Stratifying Online Field Experiments Using The Pigeonhole Design

Jinglong Zhao, Professor, Boston University, United States

Zijie Zhou, Student, MIT, United States

Practitioners and academics have long appreciated the benefits that experimentation brings to firms. However, little was known in handling heterogeneity in online field experiments. In this paper, we study a novel online experimental design problem, the "Online Stratification Problem", and propose a novel experimental design approach, the "Pigeonhole Design".

Invited Session

539

Saturday, 02:00 PM - 03:00 PM, Social Media & Internet of Things

Track: Social Media and Internet of Things

Invited Session: Social Technology and Digital Economy

Chair(s): Qili Wang

111-0462 How do Peer Awards affect User-generated Content in Online Mental Healthcare Platforms? an Empirical Investigation

Xingchen Xu, Student, University of Washington, United States

Online mental healthcare platforms that rely on user-generated content (UGC) apply different designs to motivate UGC generation. In this paper, we evaluate the effect of peer awards on the quantity, subjectivity, emotion, and underlying philosophy of UGC. Theoretical contributions and managerial implications are discussed.

111-0460 Social Attention, Stress Response, and Trading Performance: Evidence from a Randomized Field Experiment

Xingchen Xu, Student, University of Washington, United States
 Qili Wang, Student, University of Florida, United States
 Yizhi Liu, Student, University of Maryland - College Park, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States

In this study, we investigated how social attention impacts investors' trading performance and the mechanism through a randomized field experiment on a cryptocurrency social trading platform. Our work will contribute to both fintech and social media platform research streams.

111-0855 Identification and Impact of Online Deceptive Counterfeit Products: Evidence from Amazon

Ziyi Cao, Student, University of California, Irvine, United States
 Sanjeev Dewan, Professor, University of California Irvine, United States
 Jinan Lin, Student, University of California, Irvine, United States

We apply natural language processing techniques to extract the intensity of counterfeiting at the level of Amazon ASIN listings and adopt a choice model with random coefficients to investigate how it affects user utility and the demand for likely authentic products.

Contributed Session

541	Saturday, 02:00 PM - 03:00 PM, Supply Chain Management 1	Track: Supply Chain Management
	Contributed Session: Procurement and Supplier Management	
	Chair(s): William Ritchie	

111-0067 Buyer-supplier congruence in use of power and buyer opportunism: the mediation role of supplier trust

Ning Xu, Student, Zhejiang University, China
 Baofeng Huo, Professor, Tianjin University, China
 Min Tian, Student, Zhejiang University, China

Our study investigates how power use congruence/incongruence between a buyer and its supplier affect buyer opportunism, with supplier trust as a mediator. We tested the proposed relationships employing polynomial regression and response surface method based on data collected from 200 Chinese manufacturers.

111-0632 Contingent Renewal Contracts in High-tech Manufacturing with Oligopolistic Suppliers

Mirjam Meijer, Student, Eindhoven University of Technology, Netherlands
 Willem Van Jaarsveld, Assistant Professor, Eindhoven University of Technology, Netherlands
 Ton De Kok, Professor, Eindhoven University of Technology, Netherlands

A manufacturer can source a module at two possible single-sourced suppliers. For each product generation, the manufacturer can either stay with the current supplier or switch. The threat of switching contingent upon demand satisfaction incentivizes the supplier to increase capacity. In the coordinated equilibrium both parties have positive expected profits.

111-0867 Supplier Separation from the Supplier's Perspective: Uncovering new research opportunities and challenges

Steven Melnyk, Professor, Michigan State University, United States
 Tobias Schoenherr, Professor, Michigan State University, United States
 William Ritchie, Associate Professor, James Madison University, United States
 Zac Rogers, Assistant Professor, Colorado State University, United States

Traditionally, we have looked at the buyer-supplier relationship from the buyer's perspective. We change the focus to the supplier to explore a critical topic - supplier separation. We study this topic using frameworks developed for similar problems in Organizational Behavior and Marketing to better understand this topic.

Contributed Session

542	Saturday, 02:00 PM - 03:00 PM, Supply Chain Management 2	Track: Supply Chain Management 2
	Contributed Session: Information Sharing and Customer Engagement in Supply Chain Management	
	Chair(s): Eunji Lee	

111-0155 What drives your Customer nuts? Predicting Complaints in Semiconductor Order Fulfillment

Patrick Moder, Student, Kuehne Logistics University, Germany
 Kai Hoberg, Professor, Kuehne Logistics University, Germany

Late or insufficient deliveries create the risk of bad publicity, customer churn and lost sales. In a semiconductor B2B setting, we investigate customer complaints when shipped orders deviate from the initial commitment. Applying machine learning techniques, we predict complaints by examining order-related information captured by the ERP system.

111-0382 The Value of bilateral Capacity and Demand Information Sharing in Supply Chains

Eunji Lee, Student, Technische Universität München, Germany
 Stefan Minner, Professor, Technische Universität München, Germany

In bilateral asymmetric information sharing, a retailer has private demand, and a supplier private cost (capacity) information. We investigate analytically how one's sharing affects the other's sharing for sequential, simultaneous bargaining, and under risk aversion. We find that the bilateral asymmetric information has countervailing effects on the players' sharing decisions.

111-0898 The impact of trusts on costumer information sharing and product innovation

mengqiu guo, Student, Tianjin Uinversity, China

Based on social exchange theory, we empirically investigate the relationship between goodwill trust and capability trust to customer and two types of customer information sharing, the impact of information sharing on product innovation, and the moderated role of legal innovation.

Contributed Session

543	Saturday, 02:00 PM - 03:00 PM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Contributed Session: Supply Chain Partners and Risk Management	
	Chair(s): Davide Burkhart	

111-1158 Houston we (will) have a problem: Supplier performance, disruption frequency, and length

Davide Burkhart, Student, University of Mannheim, Germany

Christoph Bode, Professor, University of Mannheim, Germany

The recent COVID-19 pandemic resulted in many supply chain disruptions and highlighted the importance of supply risk management. Using both qualitative data and an exclusive panel data set, we investigate the effects of supplier pre-disruption performance on disruption length and frequency, and the implications of disruptions on future supplier performance.

111-1177 Communicating disruptions: An exploratory study of suppliers declaring force majeure

Davide Burkhart, Student, University of Mannheim, Germany

Christoph Bode, Professor, University of Mannheim, Germany

The pertinent operations management literature views supplier "force majeure" claims as purely exogenous (i.e., as consequences of external catastrophic events outside of human control). Using a unique dataset of 43 force majeure declarations and additional qualitative data, we show that force majeure claims serve more than just excusing supplier non-performance.

111-1062 FIRM RISKS AND NETWORK ADAPTATION

Shailesh Divey, Student, Rensselaer Polytechnic Institute, United States

Mert Hakan Hekimoglu, Assistant Professor, Rensselaer Polytechnic Institute, United States

T. Ravichandran, Professor, Rensselaer Polytechnic Institute, United States

We empirically study the effect of potential financial distress on a supply chain network. We posit that the network structure evolves as a mechanism to mitigate these risks. We identify critical operational and financial variables that characterize network risks and explore their relationships with key structural characteristics of the network.

Invited Session

544	Saturday, 02:00 PM - 03:00 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Topics in Sustainable Operations 1	
	Chair(s): Aditya Vedantam	

111-0584 Impacts of Energy Price Surcharges and Mitigating Interventions on Supplier Competitiveness

Jason Nguyen, Assistant Professor, Ivey Business School, Canada

Karen Donohue, Professor, University of Minnesota, United States

Mili Mehrotra, Associate Professor, University of Illinois, United States

Energy price surcharges are often suggested to internalize externalities and encourage energy efficiency investments (EE). However, they can also have detrimental impacts on the competitiveness of SME suppliers. We study the impact of energy price surcharges and common remedial interventions on a supplier's competitiveness, EE investment and social welfare

111-1337 Examining the Impact of Leniency Bias on Supplier Audits

Tim Kraft, Assistant Professor, 2801 Founders Dr, United States

Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States

Robert Handfield, Professor, North Carolina State University, United States

H. Sebastian Heese, Professor, North Carolina State University, United States

Balaji Soundararajan, Student, North Carolina State, United States

We examine the impact of monitor leniency on facility CSR risk. Using a dataset of historical, facility-level audits, we find that leniency helps to reduce CSR risk. The effect is strengthened when the facility has low compliance ability, is located in a developing country, and has been audited few times.

111-1791 Recycling of Post-Disaster Debris: A Game Theoretical Approach

Daniel Kim, Student, Georgia Institute of Technology, United States

Pinar Keskinocak, Professor, Georgia Institute of Technology, United States

Beril Toktay, Professor, Georgia Institute of Technology, United States

Recycling disaster debris is a sustainable recovery operation that has increasingly gained attention. Stakeholders from multiple government levels and the private sector are involved in the policy and operational decisions. We analyze the implications of different policy choices on debris recycling outcomes, accounting for the interests of the misaligned stakeholders.

Contributed Session

545

Saturday, 02:00 PM - 03:00 PM, Sustainable Operations 2 Track: Sustainable Operations 2
Contributed Session: **Waste Management and City Operations**
Chair(s): Aiqi Zhang

111-1129 Developing An Efficient Sustainable Weighted Multi-objective Model for Medical Waste Management

Zainab Asim, Assistant Professor, ALIGARH MUSLIM UNIVERSITY, India
Syed Muneeb, Assistant Professor, GLA University, India
Mostafa Hajiaghaei-Keshteli, Professor, Tecnologico De Monterrey, Mexico

The paper formulates a decision-making model to optimally allocate medical waste, considering the total cost and carbon footprint generated during transportation and the opportunities created through medical waste management. To validate the feasibility and applicability of the proposed model, it is further investigated by several examples evolved from real-world cases

111-0884 Mitigating Extreme Flood Events: Data-driven Urban Stormwater Management

Sheng Liu, Assistant Professor, University of Toronto, Canada
Wei Qi, Assistant Professor, McGill University, Canada
Aiqi Zhang, Post Doc/Researcher, University of Toronto, Canada

We propose an urban water infrastructure plan that integrates the sewage systems, retention basins and cloudburst roads as control methods. Applying robust optimization, we leverage Intensity- Duration- Frequency Curve to construct uncertainty sets and hedge against worst-case rainfall scenarios. We provide analytical results for smaller cities and tractable approximations for large-scale problems.

111-1716 Improving humanitarian relief via optimizing shelter location with uncertain covariates

Zihao Jiao, Student, Beijing Technology and Business University, China
Mengling Zhang, Student, Beijing Institute of Technology, China

We study the shelter location problems in preparation for natural disasters under uncertain demands. In practice, the uncertain demands are closely related to disaster intensity, whereas previous studies ignore such correlations when modeling the uncertainties. We develop a scenario-based distributionally robust model and optimize the decisions of shelter location.

Saturday, 03:15 PM - 04:15 PM

Invited Session

551

Saturday, 03:15 PM - 04:15 PM, Behavioral OM 1 Track: Behavioral Operations Management
Invited Session: **Behavioral Service Operations 2**
Chair(s): Leon Valdes

111-1706 On Customer (Dis)honesty in Priority Queues: The Role of Lying Aversion

Arturo Estrada Rodriguez, Student, University College London, United Kingdom
Rouba Ibrahim, Associate Professor, University College London, United Kingdom
Dongyuan Zhan, Assistant Professor, University College London, United Kingdom

We investigate the prioritization decision of a manager who solicits customers' private information. Customers have the incentive to misreport to shorten their waiting, but incur lying costs. We study a queueing game and find that lying costs lead to an optimal policy different from the μ rule.

111-1286 Evaluating Prospective and Experienced Queues: A Behavioral Investigation

Jing Luo, Student, Katz Business School, United States
Leon Valdes, Assistant Professor, University of Pittsburgh, United States
Sera Linardi, Associate Professor, University of Pittsburgh, United States

The value that people attribute to a queue depends not only on the prospective wait but also on the experienced wait. In this study, we use an incentive-compatible tool to experimentally measure and investigate how the people's valuation of a line depends on both prospective and experienced queues.

Contributed Session

553

Saturday, 03:15 PM - 04:15 PM, Crisis/Disaster Mgmt & Pandemic 1 Track: Crisis/Disaster Management and Covid-19 Pandemic
Contributed Session: **Panic Buying During a Pandemic**
Chair(s): Hugo Yoshizaki

111-0642 Did Tweets' Daily Sentiment Correlate to Retailers Sales During the Brazilian COVID-19 Panic Buying?

Roberto Fray Da Silva, Post Doc/Researcher, Universidade De Sao Paulo, Brazil
Hugo Yoshizaki, Retired, Universidade de São Paulo, Brazil
Irineu Brito Jr, Professor, Universidade Estadual Paulista Julio De Mesquita Filho - Unesp, Brazil
Flaviane Saraiva, Student, University of Sao Paulo, Brazil

Maria Clara Pinheiro, Student, Universidade de São Paulo, Brazil

Covid-19 has led to panic buying on several product categories, particularly toilet paper. This work analyses the correlation between market sentiment and sales revenues of toilet paper in Brazil, considering daily sentiments and tweets volume in 2020. The results can be applied to other contexts and countries.

111-0654 Using Clustering Techniques to Explore COVID-19 Panic Buying in Brazil Considering Multiple Stores

Roberto Fray Da Silva, Post Doc/Researcher, Universidade De Sao Paulo, Brazil
 Hugo Yoshizaki, Retired, Universidade de São Paulo, Brazil
 Flaviane Saraiva, Student, University of Sao Paulo, Brazil
 Larissa Aguiar, Student, University of Sao Paulo, Brazil
 Irineu Brito Jr, Professor, Universidade Estadual Paulista Julio De Mesquita Filho - Unesp, Brazil

Panic buying causes several problems in supply chains. Few studies analyze these events without a priori expert knowledge. We evaluate different clustering techniques on multiple stores sales for toilet paper from two Brazilian retailers to gather insights on panic buying without a priori knowledge.

111-0585 Panic Buying Behavior Analysis According to Consumer Income and Product Type

Irineu Brito Jr, Professor, Universidade Estadual Paulista Julio De Mesquita Filho - Unesp, Brazil
 Hugo Yoshizaki, Retired, Universidade de São Paulo, Brazil
 Celso Hino, Post Doc/Researcher, São Paulo University, Brazil
 Flaviane Saraiva, Student, University of Sao Paulo, Brazil
 Larissa Aguiar, Student, University of Sao Paulo, Brazil

Panic buying occurred at the beginning of the Covid-19 pandemic. We analyzed the sales of several products from 144 stores of two retailers. Results show that panic buying behavior varies according to type of product and average per capita income of the store influence area.

Invited Session

554	Saturday, 03:15 PM - 04:15 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Efficiency and Equity Considerations in Disaster Management	
	Chair(s): Duygu Pamukcu Christopher Zobel	

111-0690 Maintaining public service efficiency and equality during disasters: A DEA based Goal Programming modeling approach

Duygu Pamukcu, Student, Virginia Tech, United States
 Christopher Zobel, Professor, Virginia Tech, United States
 Yue Ge, Assistant Professor, University of Central Florida, United States

This study focuses on operational performance of public service systems during disruptions. Data Envelopment Analysis-based Goal Programming model is proposed to reallocate resources for equitable service provision during disasters while penalizing deviation from target efficiencies of decision-making units. The impact of Covid-19 on 311 systems performance is demonstrated.

111-0592 Disaster Relief Distribution with Mobile Beneficiaries

Sofia Perez-Guzman, Student, Rensselaer Polytechnic Institute, United States

This research seeks to enhance the disaster response logistics mathematical models by incorporating frequently overlooked real-life features of disaster conditions. A behavior-based analytical model for disaster response logistics is proposed. This formulation minimizes social costs and explicitly considers the mobility of beneficiaries in search of relief aid.

111-0703 Life-EssenTial Supplies Pre-Positioning and Distribution (LETS-PPD): Examining Partnerships in Emergency Operations

Yue Ge, Assistant Professor, University of Central Florida, United States
 Christopher Zobel, Professor, Virginia Tech, United States
 Joseph Szmerekovsky, Professor, North Dakota State University, United States

Effective public-private partnerships can play an important role in the timely distribution of relief materials after a disaster. We discuss a proposed interdisciplinary study that uses web surveys and personal interviews together with simulation modeling to better understand how community-based partnerships can improve the logistics of emergency planning and response.

Invited Session

555	Saturday, 03:15 PM - 04:15 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Disruptive Technology and New Business Models	
	Chair(s): Zhe Wang	

111-0918 The Effect of User Privacy Concerns on Platform Competition in a Two-sided Market

Xin Zhang, Student, University of Science and Technology of China, China
 Wei Thoo Yue, Professor, City University of Hong Kong, Hong Kong
 Yugang Yu, Professor, University of Science and Technology of China, China

This study investigates the role of privacy concerns in two-sided markets in which both sides endogenously decide whether they single-home or multi-home. Our result shows that as user privacy concerns increases, the number of singlehoming users may decrease, but the total user base may increase, which can benefit the platform.

111-1326 A Boon or a Bane? A Game-Theoretic Analysis of Online Subsidiary Healthcare Service

Zhe Wang, Student, Tsinghua School of Economics and Management, China
Subodha Kumar, Professor, Temple University, United States
Dengpan Liu, Professor, Tsinghua University, China

Accelerated by COVID-19, online subsidiary healthcare systems have become increasingly popular. Hospitals need to balance the online and offline traffic when designing their healthcare systems. In this paper, we analytically investigate the optimal design of the online healthcare system as well as its impact on the traditional offline healthcare system.

111-1347 The role of fair pay for performance in the decentralized networks: evidence from Steemit.

Woojin Yang, Student, Korea Advanced institute of Science and Technology, South Korea
Yeongin Kim, Assistant Professor, Virginia Commonwealth University, United States
Chul Ho Lee, Assistant Professor, K A I S T, South Korea
Tae Hun Kim, Assistant Professor, Baylor University, United States
Yasin Ceran, Associate Professor, Korea Advanced institute of Science and Technology, South Korea

Social media platforms are increasingly operating on new business models that utilize a distributed ledger, a blockchain. As many blockchain technologies incentivize users with cryptocurrency, designing an effective incentive scheme is essential. This paper empirically examines the impact of fairness in incentive scheme on user activities in a social media

Invited Session

556	Saturday, 03:15 PM - 04:15 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Studies in Emerging Domains of Operations Management with Innovative Technologies	
	Chair(s): Xin Geng Xiaomeng Guo	

111-0675 Statistical Quality Control Using Image Intelligence: From Sparse Learning To Deep Learning

Yicheng Kang, Assistant Professor, Bentley University, United States

Advances in image acquisition technology have made it convenient and economic to collect large amounts of image data. In manufacturing and service industries, images are increasingly used for quality control purposes because of their ability to quickly provide information about product geometry, surface defects, and nonconforming patterns.

111-0876 Government policies to improve affordability in pharmaceutical markets

Iman Nosoghi, Assistant Professor, Dalhousie University, Canada
Harish Krishnan, Professor, University of British Columbia, Canada

Managing pharmacy drug prices is a complex task. We address effects of four policies, including complete and incomplete subsidies, sales rebates, and a penalty scheme, on patients' surplus. Results show that, both in the absence or presence of parallel imports, patients' surplus is usually higher in the penalty scheme.

111-0863 Who is Smarter? The Implications of AI Adoption in Multi-sided Marketplaces

Geng Sun, Assistant Professor, University of Texas Rio Grande Valley, United States
Xuan Wang, Assistant Professor, University of Texas Rio Grande Valley, United States
Wen Zhang, Assistant Professor, Baylor University, United States

Artificial intelligence allows platforms to better match the needs of buyers and sellers, which is generally viewed as beneficial and thus more and more commonly adopted. However, we show that failing to consider potential strategic responses from stakeholders involved may lead to unanticipated adverse outcomes that outweigh the benefits.

Invited Session

559	Saturday, 03:15 PM - 04:15 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Energy Operations Management	
	Chair(s): Burcu Tan Erciyes	

111-0727 Optimizing hydrogen production capacity and electricity market bidding for a wind farm in Texas

Ella Morton, Student, University of Texas at Austin, United States
Shadi Goodarzi, Assistant Professor, University of Texas Austin, United States
Thomas Deetjen, Post Doc/Researcher, University of Texas at Austin Center for Electromechanics, United States

We examined economic benefit of adding hydrogen production capacity to a wind farm in north Texas. We found the optimal electrolyzer capacity for various scenarios. Results show that adding hydrogen capacity can be profitable, depending on hydrogen price and that electricity market bidding strategy changes with hydrogen price.

111-1334 Net-metered solar plus storage: Impacts and implications

Sinan Yorukoglu, Student, University of North Carolina at Chapel Hill, United States
Nur Sunar, Assistant Professor, Kenan-Flagler Business School, United States
Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

We study the impact of net-metered distributed solar energy at households coupled with battery storage systems on the utility profits and customer costs. We find conditions under which a solar plus storage customer and/or utility is better off with respect to storage capacity and different retail tariff designs.

- 111-1360 A Dynamic Structural Model of Renewable Energy Investment
- Seyed Amin Seyed Haeri, Student, Clemson University, United States
Ahmet Colak, Assistant Professor, Clemson University, United States
Safak Yucel, Assistant Professor, Georgetown University, United States

In this study, we analyze capacity investment/disinvestment decisions of different investors (i.e., independent power producers and utility firms) in both renewable and conventional energy by developing a dynamic and structural econometric model. We also characterize the effectiveness of policies (i.e., Renewable Portfolio Standard) aimed at increasing renewable energy investment.

Invited Session

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| 561 | Saturday, 03:15 PM - 04:15 PM, Global Supply Chain Management | Track: Global Supply Chain Management |
| | Invited Session: Supply Chain Risk Management and challenges 2 | |
| | Chair(s): Ying Liao | |

- 111-1239 Building Digital Ecosystem in Post Pandemic World: Case of SMEs in Advanced and Emerging Economies

Jahedul Bhuiyan, Student, University of Toledo, United States
Paul Hong, Professor, University of Toledo, United States

Building digital ecosystem is becoming an important strategic priority of small and medium enterprises (SMEs). Literature review examines the strategic and operational approaches of SMEs in advanced and emerging economies. Lessons and implications highlight their emerging digital challenges and opportunities for future research issues in the post pandemic world.

- 111-0594 What makes people jump into panic buying? A comprehensive socio-cultural model

Narges Nejad, Student, University of Toledo, United States
Tianling Xie, Student, University of Toledo, United States
Euisung Jung, Assistant Professor, University of Toledo, United States
Yuan Hu, Student, University of Toledo, United States

This empirical study examines antecedents of panic buying under pandemic crisis with Socio-cultural lens, including scarcity messages, herding behavior, social media, cultural dimensions. With the Stimulus-Organism-Response framework, we formulated a model for panic buying stimulus, mediators, and moderators. The study would contribute to understanding social dynamics on panic buying behavior.

- 111-1161 Meta-Analysis of the Relationship Between Coopetition and Firm Performance

Qi Zou, Assistant Professor, West Chester University, United States
Marcelo Alvarado-Vargas, Associate Professor, University of Toledo, United States
Yuan Wang, Assistant Professor, Higher Education, United States

This meta-analysis assesses the generalizability of the relationship between coopetition and performance. We found that coopetition positively influences firm performance from economic, knowledge, operational, and supply chain and relational aspects. We also examined the international environmental variables, such as productive capacities index, moderate the relationship between coopetition and performance.

Invited Session

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| 562 | Saturday, 03:15 PM - 04:15 PM, Healthcare Analytics | Track: Healthcare Analytics |
| | Invited Session: Artificial Intelligence, Robots and Work in Healthcare 1 | |
| | Chair(s): Phillip Phan | |

- 111-0444 AI on the Frontlines of Healthcare: Expectation versus Reality

Therese Canares, Assistant Professor, Johns Hopkins University, United States
Jennifer Bagdasarian, Student, Florida Atlantic University, United States

Artificial intelligence (AI) medical devices can revolutionize healthcare. Despite this promise, advanced analytics have not permeated healthcare at the bedside. Dr. Canares, a physician on the frontlines, will review how AI devices and decision support tools can impact the business and medicine of healthcare, and their barriers to adoption.

- 111-0396 Considerations Around Increasing Robustness and Transparency for AI in Healthcare

Mathias Unberath, Assistant Professor, Johns Hopkins University, United States

Despite initial enthusiasm, AI-based digital medicine is facing skepticism due to concerns around the reliability and trustworthiness of learning-based AI systems. I will first review approaches to quantify and increase non-adversarial robustness of AI systems and then discuss how transparency, interactivity, and human-centered design may alleviate distrust in AI recommendations.

- 111-0510 Artificial Intelligence in Healthcare: from the frontline

FERDINAND HUI, Associate Professor, University of Hawaii, United States

The Session will discuss revenue generating healthcare automation that presently in the market, as well as solutions that are coming to the market in the near future. Will outline some of the features that have made these successful models, and describe challenges that AI/ML startups face when coming to market.

Contributed Session

563

Saturday, 03:15 PM - 04:15 PM, Healthcare OM 1

Track: Healthcare Operations Management

Contributed Session: **Social Issues in Healthcare**

Chair(s): Steven Melnyk

111-1777 Challenging The Sustainability of Dominant Standards: The Case of Healthcare Quality Standards

Steven Melnyk, Professor, Michigan State University, United States

William Ritchie, Associate Professor, James Madison University, United States

Eric Stark, Associate Professor, James Madison University, United States

Angela Heavey, Assistant Professor, James Madison University, United States

This study explores factors leading to the replacement of a dominant quality standard by a lesser established standard. Using a case study methodology and data from hospitals in the United States, we test three possible theories for decoupling from a dominant healthcare quality standard: signaling, strategic response, and network effects.

111-1768 Racial and Socioeconomic Impact on Age at Procedure: Total Knee Arthroplasty

Brian Moriarty, Student, Rutgers University, United States

Devin Vasoya, Student, Rutgers University, United States

Xin Ding, Assistant Professor, Rutgers Business School, United States

Total Knee Arthroplasty is a surgical procedure to treat severe osteoarthritis, a disease primarily associated with aging. Delaying this procedure can result in a decreased quality of life. Our study analyzes the impact of race and socioeconomic factors at the time of procedure, stratified by age.

111-0144 Does Diversity Matter on Healthcare Operations?

C. Christopher Lee, Professor, Central Connecticut State University, United States

Donghui Seo, Assistant Professor, Central Connecticut State University, United States

Yong-Taek Min, Assistant Professor, Florida Gulf Coast University, United States

This study examines impacts of diversity on hospital operations. Data is collected from the 2017 AHA dataset. A level of diversity in nurse recruitment serves as a proxy variable to measure hospital diversity. Statistical tests perform to see if diversity makes significant differences on hospital efficiency, profitability, and quality.

Contributed Session

564

Saturday, 03:15 PM - 04:15 PM, Healthcare OM 2

Track: Healthcare Operations Management 2

Contributed Session: **Towards a Fairer Healthcare System**

Chair(s): Chou-Chun Wu

111-1770 Urban-Rural Disparities in Outcomes of Myocardial Infarctions

Devin Vasoya, Student, Rutgers University, United States

Brian Moriarty, Student, Rutgers University, United States

Xin Ding, Assistant Professor, Rutgers Business School, United States

Primary Percutaneous Coronary Intervention (PCI) is used for the treatment of myocardial infarction; however, most PCI capable centers are located in urban settings. Our study uses national healthcare data to compare post-PCI outcomes among those in urban and rural settings and offers insights and explanations to account for these differences.

111-1574 Service Competition in Two-Tier Healthcare Market with Heterogeneous Patients Balking

Yuanbing Miao, Student, College of Management and Economics, China

Yanfei Lan, Professor, Tianjin University, China

Ruiqing Zhao, Professor, Tianjin University, China

This paper studies how patient balking affect the competition strategies between a public and a private system with heterogeneous patients in price and delay sensitivity. We find a Downs-Thomson paradox that a larger public-service capacity may lead to longer expected waiting time for the free service and lower welfare.

111-0558 Using the Relationship between Screening Frequency and No-Show Costs to Overcome Barriers to Care

Chou-Chun Wu, Student, University of Southern California, United States

Sze-chuan Suen, Assistant Professor, University of Southern California, United States

Using a POMDP framework, we show that higher no-show costs will lead to less frequent chronic kidney disease screening recommendations for patients with low adherence (which can be caused by barriers to care). We identify optimal no-show cost subsidies to maximize health outcomes fairly across subpopulations facing such barriers.

Invited Session

565

Saturday, 03:15 PM - 04:15 PM, Information Systems & OM 1

Track: Information Systems and Operations Management

Invited Session: **User Engagement on Social Media**

Chair(s): Arvind Tripathi

111-1659 Using feedback when shaping online persona

Sophie Zhai, Assistant Professor, University of Oklahoma, United States

Looking for an online persona that can gain more followers is not easy. We investigate how the viewers' feedback will shape the account's online persona and posting behavior and provide observations in this study.

111-1713 The Dynamics of Public Opinion Formation and How It Affects User Engagement on Social Media

Hamid Khobzi, Assistant Professor, University of Bern, Switzerland

Arvind Tripathi, Associate Professor, University of Auckland, New Zealand

Animesh Animesh, Associate Professor, McGill University, Canada

Drawing on the spiral of silence theory and informational social influence, and using a large panel data of news posts on Facebook, this empirical study first determines key stages of public opinion formation, and second, how they affect the way users engage with posts when the public opinion is polarized.

111-0237 Improve Engagement and Performance in MOOCs Using Goal-Setting

Nasim Mousavi, Student, Emory University, United States

Jesse Bockstedt, Associate Professor, Emory University, United States

Sina Golar, Assistant Professor, Kennesaw State University, United States

Despite their flexibility and ease of access, Massive Open Online Courses (MOOCs) suffer from low user engagement and retention. In this study, we explore how goal setting can help enhance user engagement by conducting a randomized field experiment. We identified different behavioral patterns and heterogeneous effects under goal setting.

Invited Session

566	Saturday, 03:15 PM - 04:15 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Invited Session: Strategic Interactions in the Interface of Operations Management and Information Systems 2	
	Chair(s): Abhishek Roy	

111-0417 BM Retailer's Exclusive Store-brand Strategy in the Presence of Consumer Showrooming and Manufacturer Encroachment

Prasenjit Mandal, Assistant Professor, Indian Institute of Management Calcutta, India

Preetam Basu, Assistant Professor, Indian Institute of Management Calcutta, India

Safiul Alam, Student, Indian Institute of Management Calcutta, India

In a two-tier supply chain with a manufacturer and a brick-and-mortar (BM) retailer, we investigate how consumer showrooming interacts with the retailer's exclusive store brand strategy. The BM retailer can benefit from consumer showrooming when it carries a store brand. The store brand strategy may lead to a 'win-win' outcome.

111-0731 strategic delay in grocery delivery platform

Hao Jiang Jiang, Student, Temple University, United States

Guangwen Kong, Assistant Professor, Temple University, United States

Without the grocery delivery platforms, the stores can only make inventory strategy based on general demand, but they can get more signals for demand with the online orders information. In this study, we want to consider how the delay is related to the store's inventory decisions and platform's decisions

111-1040 A Platform's Dilemma: How Much Control to Exercise on Marketplace

Sumanta Singha, Assistant Professor, Indian School of Business, India

Rajib Saha, Assistant Professor, Indian School of Business, India

In a two-sided market, consumers appreciate higher quality but dislike inconsistency in service level resulting from higher demand. Platforms can make efforts to bring more consistency in the service level by technology interventions or use a pricing strategy to limit market size. We study these dynamics in platform choices.

Contributed Session

568	Saturday, 03:15 PM - 04:15 PM, Logistics Management	Track: Logistics Management
	Contributed Session: Transportation Management (2)	
	Chair(s): Nina Vojdani	

111-1131 Optimizing processes in maritime transport chains by means of ferry real time information

Nina Vojdani, Professor, University of Rostock, Germany

Providing stakeholders along the maritime transport chain with ferry real time information about delays, cancellations or disturbances of ferry connections is an essential requirement to reduce waiting times and avoid inefficiencies in logistics processes. Our project highlights the need for real time information and discusses implications for the logistics industry.

111-1015 What is the value of monitoring for cargo transportation management? An agency theory approach

Guilherme Limeira, Student, Insper, Brazil

Guilherme Martins, Associate Professor, Insper Institute for Education and Research, Brazil

Rinaldo Artes, Professor, Insper Institute for Education and Research, Brazil

We used a quasi-experiment framework to study the effect of telemetry systems on operational efficiency of truck drivers. We had a panel data of 13,383 trucks. Regression models and differences-in-differences methodology indicated a positive effect of monitoring on operational efficiency and accident risk reduction.

Contributed Session

569	Saturday, 03:15 PM - 04:15 PM, Manufacturing Operations	Track: Manufacturing Operations
	Contributed Session: Deteriorating Systems	
	Chair(s): Zepeng Wang	

111-1080 A Condition-Based Robust Optimization Framework to Manage Fleet-Level Degradation: Controlling Degradation Rates, Operations and Maintenance

Deniz ALTINPULLUK, Student, Wayne State University, United States

Farnaz Fallahi, Student, Wayne State University, United States

Mohammad Javad Feizollahi, Assistant Professor, Georgia State University, United States

Murat Yildirim, Assistant Professor, Wayne State University, United States

We formulate novel robust optimization models to manage operations, maintenance and degradation in multi-component production systems. Our approach embeds degradation models within a robust formulation to explicitly capture complex degradation uncertainties due to component-to-component interactions and operational loading. Comprehensive case studies demonstrate the impact on a range of applications.

111-0268 Fuzzy inference systems to Scheduling in Queueing Networks with blocking

Eduyn López, Assistant Professor, Universidad Distrital Francisco José de, Colombia

We study a scheduling problem in queueing networks with blocking. We propose to use a Fuzzy Inference System (FIS) method to infer scheduling rules of these queueing problems, based on uncertain data. Our approach provides a condition-based framework to develop scheduling rules for these system with several features.

111-1483 The optimal pricing and production policy under the carbon capacity

Zepeng Wang, Student, Renmin University of China, China

Jianghua Wu, Professor, Renmin University of China, China

Considering the carbon peak target, we apply models to address pricing and allocation problems of manufacturers who produce substitutable products and face the carbon capacity, moreover we investigate the reduction effect of carbon emission. We show that, under an extremely tight carbon capacity, manufactures will abandon the reduction effort.

Contributed Session

570	Saturday, 03:15 PM - 04:15 PM, Marketing & OM	Track: Marketing and Operations Management
	Contributed Session: Artificial Intelligence and Deep Learning	
	Chair(s): Tinglong Dai	

111-1543 Complementing Human Effort in Online Reviews: A Deep Learning Approach to Automatic Content Generation

Praveen Kopalle, Professor, Dartmouth College, United States

We conduct a kind of "Turing Test" to show that machines can write reviews that are indistinguishable from those written by experts. We next modify and apply our machine-writing technology to show how machines can be used

111-1481 Artificial Intelligence on Call: The Physician's Decision of Whether to Use AI in Clinical Practice

Tinglong Dai, Professor, Johns Hopkins University, United States

Shubhranshu Singh, Associate Professor, Johns Hopkins University, United States

We examine a physician's decision regarding whether to use AI when prescribing a treatment plan for a patient. Using AI helps lessen clinical uncertainty, but can also change the physician's liability in the event of patient harm. We analyze the physician's optimal policy and generate managerial insights.

Contributed Session

573	Saturday, 03:15 PM - 04:15 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Food Supply Chains	
	Chair(s): Lauren Chenarides	

111-0498 Global Food Loss within Supply Chains: A Comparative Analysis

Vijaya Chebolu-Subramanian, Associate Professor, Krea University, India

Gary Gaukler, Associate Professor, Drucker School of Management, United States

Navya Muricken, Student, Krea University, India

We utilize FAO data from 124 countries (2000-2017) and conduct an empirical study to identify factors which contribute to food loss. We analyze the impact of supply chain location, and activity on food loss across crop types and regions. The results provides insights that can aid in food loss reduction.

111-1206 Do Sustainability and Resilience Go Hand in Hand? The Case of PA Farmers

Veronica Villena, Associate Professor, Arizona State University, United States
Elizabeth Ransom, Professor, Penn State University, United States
David Abler, Professor, Pennsylvania State University, United States

The COVID-19 pandemic has created major supply chain disruptions, forcing managers to focus their attention on short-term survival. This study suggests that now is the time to reinforce sustainability investments. We show that farms that have invested in environmental, labor, and animal welfare practices were more resilient at COVID19's onset.

111-0928 COVID-19 and Resilience of Food Supply Chains

Lauren Chenarides, Assistant Professor, Assistant Professor, United States
Mark Manfredo, Professor, Arizona State University, United States
Timothy Richards, Professor, Arizona State University, United States
Scott Webster, Professor, Arizona State University Tempe, United States

The early days of the COVID-19 pandemic revealed a fundamental lack of resilience in the food supply chain. We offer a theoretical model of resilience and an empirical example of how resilience can be measured, and restored. We explain resilience using real option theory, the value of flexibility, and hysteresis.

Contributed Session

575	Saturday, 03:15 PM - 04:15 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Contributed Session: Responsible supply management 2	
	Chair(s): Gemma Berenguer	

111-1243 Diversity in the supply chain: state of the practice and research opportunities

Gemma Berenguer, Assistant Professor, Universidad Carlos III de Madrid, Spain
Anna Saez De Tejada Cuenca, Assistant Professor, IESE Business School, Spain

The academic literature in the Production and Operations Management field on supply chain diversity is scarce. In this paper, we study supplier diversity programs that are taking place in the private sector, survey the current POM literature, and draw analogies between diverse supplier and green supplier management.

111-1773 Applying Modern Data Analytics Techniques to the Evaluation and Selection of Sustainable Suppliers

Hossam Abuelwafa, Student, K.U.Leuven, Belgium
Maximiliano Udenio, Assistant Professor, KU Leuven, Belgium

Supplier evaluation and selection decision matrices are becoming wider and longer due to sustainability and big-data, calling for more capable methods to handle the complexity and computational load. Data analytics techniques are explored, and a new algorithm is introduced and compared to MCDA methods on decision quality and computational efficiency.

Invited Session

576	Saturday, 03:15 PM - 04:15 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Innovation and Value Creation 2	
	Chair(s): Pascale Crama	

111-0375 New Venture Creation: A Drift-Variance Diffusion Control Model

Zhengli Wang, Assistant Professor, The University of Hong Kong, Hong Kong
Stefanos Zenios, Professor, Stanford University, Graduate School of Business, United States

We model the creation of a new venture with a novel diffusion control framework with the state of the venture captured by a diffusion process. The entrepreneur chooses between costly controls that determine both the process's drift and the variance.

111-0239 The Value of Analytics Partnerships for Biopharmaceuticals

Jiatao Ding, Student, INSEAD, Singapore
Niyazi Taneri, Associate Professor, University of Cambridge, United Kingdom
Michael Freeman, Assistant Professor, INSEAD, Singapore

Through analytics partnerships, biopharmaceutical firms aim to gain complementary capabilities and streamline operations. In an industry with notoriously low success rates, improvements on these fronts translate to more products with longer periods of on-patent sales. We study shareholder value implications of such partnerships and when they add the most value.

Contributed Session

578	Saturday, 03:15 PM - 04:15 PM, Retail Operations	Track: Retail Operations
	Contributed Session: Retail Operations 2	
	Chair(s): Edgar Gutierrez-Franco	

111-1224 Understanding Fresh Food Retailers in Urban Slums

Cristiano Flores e Silva , Student, INESC TEC and Faculty of Engineering, UP, Portugal
 André Duarte, Professor, Insper, Brazil
 Vinicius Picanço Rodrigues, Professor, Insper Institute for Education and Research, Brazil
 Pedro Amorim, Associate Professor, INESC TEC and Faculty of Engineering, UP, Portugal

In base of the pyramid markets, retailers face significant issues to supply and commercialize fresh food items in their immediate neighborhood market. Through interviews to store owners and field observations, we explain the retailers' operational characteristics, challenges and opportunities to delivery fresh healthy food to underserved communities.

111-1793 An object-oriented simulation model to evaluate reusable packaging implementation in the retail industry

Edgar Gutierrez-Franco, Post Doc/Researcher, Massachusetts Institute of Technology, United States
 Kellen Betts, Lecturer, Massachusetts Institute of Technology, United States
 Eva Ponce-Cueto, Associate Professor, Massachusetts Institute of Technology, United States
 Inma Borrella, Lecturer, Massachusetts Institute of Technology, United States

Achieving profitability and sustainability with reusable packaging in the retail industry is challenging. This simulation model allows managers to evaluate scenarios based on inspection, cleaning, and delivery/returns processes with different parameters and customer return rates to estimate package inventory turnover and operational costs supporting assessment of reusable packaging implementation.

111-1544 Understanding the installation time in the order fulfillment process

Hyun Seok (Huck) Lee, Assistant Professor, KUBS(Korea University Business School), South Korea
 Cheng Wang, Student, Korea University, South Korea

In home-appliance retailing, installation is an important part of the order fulfillment process because the products are typically hard to install without a special equipment and guideline. Using online home-appliance retailing data, we examine the drivers for the installation time.

Contributed Session

579 Saturday, 03:15 PM - 04:15 PM, Revenue Management & Pricing Track: Revenue Management and Pricing
 Contributed Session: Emerging Topics in Revenue Management 2
 Chair(s): Chung-seung Lee

111-0993 An Approximate Linear Program for Network Revenue Management

Chung-seung Lee, Assistant Professor, SUNY Korea, South Korea
 Metin Cakanyildirim, Professor, University of Texas Dallas, United States

We derive an approximate linear program (ALP) for network revenue management. We conduct numerical experiments on test instances taken from Topaloglu (2009). The result demonstrates that this ALP yields tighter bounds than previous ALPs.

111-0074 Revenue Maximizing Tariff Zone Planning for Public Transport Service Providers

Sven Müller, Professor, Otto-von-Guericke-University, Germany
 Knut Haase, Professor, Universitaet Hamburg, Germany
 Lorena Reyes, Post Doc/Researcher, Otto von Guericke University Magdeburg, Germany

We present two approaches to designing a counting zones tariff system applicable to urban public transport service providers that maximise the expected revenue. We can optimally solve instances up to 120 districts in a reasonable time. Our approaches are flexible to enforce tariff zones to a desired spatial zone pattern.

Invited Session

581 Saturday, 03:15 PM - 04:15 PM, Social Media & Internet of Things Track: Social Media and Internet of Things
 Invited Session: The Power of Contextual Factors in Social Media
 Chair(s): Jingchuan Pu

111-1695 Understanding the Rise of Mobile Phone Reading: The Impact of Network Quality, Recency and Frequency

Xia Zhao, Assistant Professor, University of Georgia, United States
 Lu Huang, , ,
 Lei Wang, Assistant Professor, Penn State University University Park, United States
 Elham Yazdani, , ,
 Cheng Zhang, Professor, Fudan University, China

To tackle the low content consumption issue, we have developed a multi-outcome Hidden Markov Model (HMM) to capture the dynamics of consumers' engagement and their subsequent content consumption behavior in the mobile reading context and examined the impact of network latency, recency and frequency on the consumption dynamics.

111-1694 A Psychology-Informed Social Connection Recommender System for Mental Health

Siyuan Liu, Assistant Professor, Pennsylvania State University, United States

We propose a psychology-informed social connection recommendation framework to promote mental health. Drawing upon Freud's psychic apparatus theory, we represent the fundamental desires for social connection. We also instantiate our design into a prototypical system and conduct a multifaceted evaluation.

111-0879 How Network Embeddedness Affects Real-Time Performance Feedback: An Empirical Investigation

Mariia Petryk, Student, University of Florida, United States
 Michael Rivera, Associate Professor, Temple University, United States
 Siddharth Bhattacharya, Assistant Professor, George Mason University, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States
 Subodha Kumar, Professor, Temple University, United States

We analyze over 4,000 feedback instances from employees to explore the effects of two types of network embeddedness on performance rating scores: positional and structural. We visualize rating networks and find that specific aspects of network embeddedness affect performance rating scores differently. We explain the impact mechanisms.

Invited Session

583	Saturday, 03:15 PM - 04:15 PM, Supply Chain Management	Track: Supply Chain Management
	1	
	Invited Session: Empirical Research in Supply Chain Management 1	
	Chair(s): Dennis Zhang	Bing Bai

111-1806 The Impact of Social Nudges on User-Generated Content

Zhiyu Zeng, Student, Tsinghua University, China
 Hengchen Dai, Assistant Professor, University of California Los Angeles, United States
 Dennis Zhang, Associate Professor, Washington University in St. Louis, United States
 Heng Zhang, Assistant Professor, Arizona State University, United States
 Renyu (Philip) Zhang, Assistant Professor, New York University, China

We develop an intervention that leverages social interactions between users to stimulate content production on content-sharing social network platforms. We estimate the causal effects of this intervention via random field experiments and examine the global impact of it on the entire social network via a structural model and simulations.

111-0133 The Effects of the Socialization of Logistics Service Providers on Supply Chain Performance.

Artur Swierczek, Professor, University of Economics in Katowice, Poland

The study seeks to explore the effect of the formal and informal socialization process, developed by the suppliers and customers, on relational embeddedness of logistics service providers, and their resulting effect on supply chain performance. To conduct the empirical study, a sample of 350 transitive service triads has been employed.

111-1811 An empirical analysis of supply chain AAA capabilities in the new normal

Andrea Patrucco, Assistant Professor, Department of Marketing and Logistics, United States
 Christopher Mejia-Argueta, Assistant Professor, Massachusetts Institute of Technology, United States
 Vinicius Picanço Rodrigues, Professor, Insper Institute for Education and Research, Brazil
 Jan Fransoo, Professor, Tilburg University, Netherlands

Organizations are investing to revisit their AAA capabilities to increase their responsiveness to face future environmental challenges. Using survey data, we discuss the relationship between the level of uncertainty, AAA capabilities before Covid-19 and supply chain performance and the evolution of AAA capabilities moving forward.

Contributed Session

584	Saturday, 03:15 PM - 04:15 PM, Supply Chain Management	Track: Supply Chain Management 2
	2	
	Contributed Session: Supplier Encroachment, Supply Chain Irresponsibility and Bargaining	
	Chair(s): Kay Yut Chen	

111-0226 Supply Chain Irresponsibility: The Role of Stakeholder Orientation and Institutional Distance

Muhammad Boodoo, Assistant Professor, Warwick Business School, United Kingdom
 Sara Hajmohammad, Assistant Professor, University of Ottawa, Canada
 Alok Choudhary, Reader, Loughborough University, United Kingdom
 Robert Klassen, Professor, Ivey Business School, Western University, Canada

We investigate the role of institutional distance and stakeholder orientation on Supply chain Irresponsibility(SCI). Using a global panel dataset, we show that stakeholder orientation is positively related to frequency, severity, and reach of SCI. Higher regulatory institutional distance increases SCI and strengthens the positive relationship between stakeholder orientation and SCI.

111-0227 Supplier Encroachment: The Impact of Learning By Doing

Ayush Gupta, Student, Indian Institute of Management Ahmedabad, India
 Sachin Jayaswal, Associate Professor, Indian Institute of Management Ahmedabad, India
 Benny Mantin, Professor, University of Luxembourg, Luxembourg

We show that in the presence of cost learning, supplier encroachment may lead to any of the following four outcomes between the supplier and the retailer: (i) Win-Win, (ii) Win-Lose, (iii) Lose-Win, and (iv) Lose-Lose, depending on the supplier's learning rate and his direct selling cost.

111-0449 Bargaining in a Supply Chain Network: Coexist or Exclude?

Lei Hua, Assistant Professor, University of Texas At Tyler, United States

Alper Nakkas, Assistant Professor, University of Texas Arlington, United States

Kay Yut Chen, Professor, University of Texas Arlington, United States

We examine the implications of asymmetric bilateral relations for supply contract negotiations under retail competition. Our research highlights the intuition that a firm should not only focus on the best terms of trade from potential partners but also consider competitive consequences of partner choice.

Invited Session

586	Saturday, 03:15 PM - 04:15 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Topics in Sustainable Operations 2	
	Chair(s): Aditya Vedantam	

111-0523 Analyzing Article 6 of the Paris Agreement: A Model of Trade in Carbon Mitigation Outcomes

Manish Tripathy, Post Doc/Researcher, Sauder School of Business, UBC, Canada

Sanjith Gopalakrishnan, Assistant Professor, McGill University, Canada

Harish Krishnan, Professor, University of British Columbia, Canada

The Paris Agreement's Article 6 allows country A to facilitate carbon emission reduction in country B and claim this reduction in A's (not B's) national emissions. This trade in Internationally Transferred Mitigation Outcomes (ITMOs) is debated and misunderstood. We model ITMOs and analyze their impact on economic output and emissions.

111-0314 Drivers and Implications of Combined Investment in Renewables and Energy Storage in the Residential Sector

Na Rea Cho, Student, University of Alabama Tuscaloosa, United States

Youngsoo Kim, Assistant Professor, University of Alabama Tuscaloosa, United States

Karthik Murali, Assistant Professor, Oregon State University, United States

Mesut Yavuz, Associate Professor, University of Alabama Tuscaloosa, United States

We determine optimal renewables and energy storage capacities under time-of-use and feed-in-tariffs and investigate the impact of electricity pricing and technology subsidies. We identify policy guidelines pertaining to the role of electricity pricing and technology subsidization on the uptake of technologies and the ensuing implications for customers, environment, and grid.

111-1376 How Do Small and Medium Sized Companies in NEPA Consider Sustainability in Their Supply Chains?

Bulent Erenay, Assistant Professor, Northern Kentucky University, United States

Dekuwmini Mornah, Assistant Professor, Northern Kentucky University, United States

Results of a survey sent to small and medium sized companies in Northeastern Pennsylvania are presented. Sustainability and corporate social responsibility practices of NEPA companies are explored.

Invited Session

587	Saturday, 03:15 PM - 04:15 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Empirical Research in CSR and Sustainability 1	
	Chair(s): Wayne Fu	

111-0206 Complements or substitutes? Social scrutiny, supply chain social strategies and social performance

Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States

Jeff Shockley, Associate Professor, Virginia Commonwealth University, United States

Jeffery Smith, Professor, Virginia Commonwealth University, United States

Jayanth Jayaram, Professor, University of South Carolina, United States

The need and pressure are increasing for global firms to ensure their operations are socially and environmentally responsible within organizations and in supply chains. We empirically investigate how a firm's supply chain social strategies interact with the external social scrutiny to affect the firm's corporate social responsibility performance.

111-1125 Environmental Disclosure in Supply Chains

Jie Lian, Student, University of South Carolina, United States

Sining Song, Assistant Professor, University of Tennessee Knoxville, United States

Natalie (Ximin) Huang, Assistant Professor, University of Minnesota, United States

Yan Dong, Professor, University of South Carolina, United States

This research studies the spillover effect of a firm in disclosing its environmental performance on its suppliers' decision to do the same. The firm's disclosure creates both a pressure to disclose and an opportunity to freeride. Using panel data and econometric analysis, we investigate the outcome of this tradeoff.

Contributed Session

593

Saturday, 04:30 PM - 05:30 PM, Behavioral OM 1

Track: Behavioral Operations Management

Contributed Session: Simulation Models in Behavioral Operations

Chair(s): James Paine

111-0392 Behavioral Simulation of Blockchain-enabled Order History Sharing and the Bullwhip Effect

Kai Wendt, Student, WHU - Otto Beisheim School of Management, Germany

Daniel Hellwig, Student, WHU - Otto Beisheim School of Management, Germany

Arnd Huchzermeier, Professor, WHU - Otto Beisheim School of Management, Germany

Volodymyr Babich, Professor, Georgetown University, United States

Using a behavioral competition-for-supply game, we investigate the consequences of sharing retailers' historical orders on the Bullwhip Effect. We find that seeing historical information causes faster order inflation. Sharing the entire order history leads to slower escalation than sharing orders from the previous round only.

111-1331 Behavioral Drivers of Blockchain Assimilation: A Social Network and Resource Dependency Perspective

Kiran Patil, Student, University of North Texas, United States

Blockchain is perceived as inevitable. Potential adopters of blockchain face the uncertainty of technological advancement and the anticipated burden of learning. Applying power imbalance and mutual reliance principles, we examine direct effects of supply chain learning and collaboration and moderating effect of network prominence on blockchain assimilation across organizations.

111-0266 Behaviorally Grounded Model-Based and Model Free Cost Reduction in a Simulated Multi-Echelon Supply Chain

James Paine, Student, Sloan School of Management, United States

Costs in a simulated supply chain are minimized via behaviorally grounded modeling, model-free dual deep Q-networks, and mixed approaches. This work develops insights by considering model-based approaches in the context of prior behavioral literature and emphasizes the complementary nature of model-based and model-free approaches in approaching supply chain management problems.

Contributed Session

595

Saturday, 04:30 PM - 05:30 PM, Crisis/Disaster Mgmt & Pandemic 1

Track: Crisis/Disaster Management and Covid-19 Pandemic

Contributed Session: COVID-19 Response Strategies

Chair(s): Shuai Hao

111-1545 Hotspots for Emerging Epidemics: Multi-Task and Transfer Learning over Mobility Networks

Shuai Hao, Student, University of Illinois Urbana-Champaign, United States

The sudden emergence of epidemics, such as COVID-19, entails economic and social challenges requiring immediate attention from policy makers. Our paper addresses a practical problem with hotspot identification framework, which policy makers can use to improve mitigation decisions related to the control of epidemics.

111-0899 Bridging or buffering in response to COVID-19? Empirical evidence from firms with heterogeneous redundant resources.

Dan Li, Student, College of Management and Economics, China

Minhao Gu, Assistant Professor, Tianjin University, China

Baofeng Huo, Professor, Tianjin University, China

Based on the resource conservation theory, our study investigates the mechanism of how firms' heterogeneous redundant resources influence performance in the pandemic, with the mediating effect of bridging/buffering practices and the moderating effect of lockdown policies. Using the combined data from multiple sources, theoretical and practical findings are obtained.

111-1507 Optimal Inventory Policies in Disrupted Supply Chains During Pandemics: An Application to Diagnostic Test Kits

Mohammad Arbabian, Assistant Professor, University of Portland, United States

Hossein Rikhtehgar Berenji, Assistant Professor, Pacific University, United States

Not long after starting large-scale COVID-19 testing, countries faced a shortage of swabs used in the testing kits. We develop analytical models to derive optimal policies and provide managerial insights on how countries should optimally react to changes in the supply and demand of swabs.

Invited Session

596

Saturday, 04:30 PM - 05:30 PM, Crisis/Disaster Mgmt & Pandemic 2

Track: Crisis/Disaster Management and Covid-19 Pandemic 2

Invited Session: Performance Measurement in Humanitarian Operations

Chair(s): Nathan Kunz

111-0377 Humanitarian Supply Chain Performance Measurement (HSCPM): Present Practices and Future Challenges

Ali Anjomshoe, Post Doc/Researcher, University of South Carolina Aiken, Thailand

Ruth Banomyong, Professor, Thammasat Business School, Thailand

Nathan Kunz, Associate Professor, University of North Florida, United States

Humanitarian Supply Chain Performance Measurement (HSCPM) has piqued the interest of researchers as it deals with quantifying efficiency and effectiveness of a myriad of complex and highly uncertain processes. This presentation provides an extensive thematic analysis of HSCPM studies focusing on trends in HSCPM practices, gaps, and future research directions.

111-0426 Beneficiary appointment and delivery planning in a conflict setting

Melih Celik, Associate Professor, University of Bath, United Kingdom
 Maria Battarra, Associate Professor, University of Bath, United Kingdom
 Burcu Balcik, Associate Professor, Ozyegin University, Turkey
 Anand Subramanian, Associate Professor, Universidade Federal da Paraíba, Brazil
 Bashar Khoury, Logistics Associate, UNICEF, Syria, Syrian Arab Republic

Humanitarian agencies serving internally-displaced people in conflicts operate in severely resource-constrained environments. This study arises from our collaboration with Syrian NGOs, and builds a decision support system to schedule beneficiary appointments for delivering aid. It presents insights regarding effects of cross-training agency staff and beneficiary characteristics on key performance indicators.

111-0441 Influence of Religion on Volunteer Performance

Llord Brooks, Student, University of Arkansas - Fayetteville, United States
 Iana Shaheen, Assistant Professor, University of Arkansas - Fayetteville, United States
 David Dobrzykowski, Associate Professor, University of Arkansas - Fayetteville, United States

We examine how the religious identity of non-governmental organizations (NGOs) influence volunteer behaviors and operational management performance outcomes. Specifically, we examine how volunteer behaviors towards NGOs, their motivations towards volunteering, and their performance differ between religious and non-religious NGOs.

Invited Session

597	Saturday, 04:30 PM - 05:30 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Disruptive Technology and Business Model Innovation	
	Chair(s): Meilin Gu	

111-0085 Government Support and Cross-Border Innovation: The Case of Chinese Firms' Patenting in the U.S.

Kedong Chen, Assistant Professor, Old Dominion University, United States
 Xiaojin Liu, Assistant Professor, Virginia Commonwealth University, United States
 Yuhong Li, Assistant Professor, Old Dominion University, United States
 Kevin Linderman, Professor, Penn State University University Park, United States

Governments want firms to innovate not only domestically, but also across national boundaries. Many countries have initiated policies to support cross-border innovation, but how does government support influence firm's cross-border innovation? Through the conceptual lens of slack resources, this study investigates how government support affects firm's cross-border inventive activities.

111-1025 Economic Analysis of NFT Marketplaces

Dongchen Zou, Student, Tsinghua University, China
 Meilin Gu, Student, Tsinghua University, China
 Dengpan Liu, Professor, Tsinghua University, China

In this paper, we analytically study a novel blockchain-enabled business model where non-fungible token (NFT) creators can collect royalties from post-primary-sale transactions. Specifically, we investigate a scenario where creators on NFT platforms make the optimal pricing and scarcity-level decisions and consumers make the purchase and resale decisions accordingly.

111-1317 The Impact of Build-in Ad Blockers: A Game-theoretic Analysis

Zizheng Liu, Student, Tsinghua School of Economics and Management, China
 Dengpan Liu, Professor, Tsinghua University, China

Accompanying the rapid growth of online advertising is the increasing popularity of the ad-blocking technology and its widespread adoption. By using a game-theoretic model, this paper studies the tradeoff faced by ad platforms between launching build-in ad blockers and increasing ad revenue.

Invited Session

598	Saturday, 04:30 PM - 05:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Supply Chain Management Models	
	Chair(s): Nan Yang Zheyu Jiang	

111-0071 Optimal Contract Design for a National Brand Manufacturer under Store Brand Private Information

Xinyan Cao, Assistant Professor, Northern Illinois University, United States
 Xiang Fang, Associate Professor, University of Wisconsin Milwaukee, United States
 Guang Xiao, Student, Hong Kong Polytechnic Univ, Hong Kong
 Nan Yang, Professor, University of Miami, United States

We study an optimal contract design problem for a national brand (NB) manufacturer, which sells her product via a retailer who may introduce his store brand (SB) with private cost information. We derive the NB manufacturer's optimal contracts analytically and present interesting managerial insights.

111-0073 Transfer Learning, Cross Learning, and Co-Learning of Unknown Product Demands

Qi Feng, Professor, Purdue University, United States
 Lei Li, Student, Purdue University, United States
 George Shanthikumar, Professor, Purdue University, United States

Making inventory decision under limited demand data can be challenge. We apply operational data analytics (ODA) framework to develop prescriptive solutions under transfer learning, cross learning and co-learning of the demands. This approach features data integration model of validation model demonstrates superior performance for small samples.

111-0410 The Distribution Dynamics to Financially Constrained Nanostores

Zheyu Jiang, Student, University of Miami, United States
 Harihara Natarajan, Professor, University of Miami, United States
 Nan Yang, Professor, University of Miami, United States

Nanostores are small, cash-operated grocery retailers in developing markets. We study a distributor's delivery problem to supply financially constrained nanostores by optimizing its delivery frequency. We investigate the impacts of offering credits to nanostores or stores' pricing flexibility in the performances of all parties in the supply chain.

Invited Session

601

Saturday, 04:30 PM - 05:30 PM, Finance & OM 1

Track: Finance and Operations Management

Invited Session: **Operations-Finance Interface**

Chair(s): Shenyang Jiang

111-0332 The Screening Mechanism of Logistics Service in Platform Financing

Gaoyan Lyu, Assistant Professor, School of Management and Economics, China
 Jian Chen, Professor, Tsinghua University, China
 Wenhui Zhao, Professor, Shanghai Jiao Tong University, China

In this study, we reveal that logistic service can serve as such a screening tool, through a game model between a platform and a capital constrained seller. The platform offers financial and logistics services to the seller, whose credit quality may influence her sales revenue.

111-0989 The impact of bank loans and supply chain financing on firm innovation

Yuxiao Ye, Assistant Professor, Tianjin University, China
 Xiyuan Li, Student, Tianjin University, China
 Baofeng Huo, Professor, Tianjin University, China

The study uses the World Bank survey of Chinese companies. It examines the impact of bank loans and supply chain financing on radical and incremental innovation of companies, and further explores the moderating effect of informal competition.

111-0571 Insider Trading and Product Recalls

Rachna Shah, Associate Professor, University of Minnesota, United States
 Finn Petersen, Student, University of Minnesota, United States
 Salman Arif, Assistant Professor, University of Minnesota, United States
 George Ball, Associate Professor, Indiana University Bloomington, United States

Previous recall literature has highlighted considerable variation among firms in duration 'from when firms become aware of a problem to when they announce a recall'. In this study, we use carefully compiled data to show that insider trading by the firm's management team might explain this heterogeneity.

Invited Session

603

Saturday, 04:30 PM - 05:30 PM, Global Supply Chain Management

Track: Global Supply Chain Management

Invited Session: **New Business Models for Operations Management**

Chair(s): Edward Anderson

111-0300 Strategic Investments for Platform Launch and Survival: A Dynamic Analysis

Burcu Tan Erciyes, Assistant Professor, University of New Mexico, United States
 Edward Anderson, Professor, University of Texas Austin, United States
 Geoffrey Parker, Professor, Dartmouth College, United States

We build a simulation model to study a two-sided platform's optimal strategic investments and pricing decisions over a multiperiod life-cycle. We characterize dynamic policies for different monetization models under differing ecosystem regimes including business-to-consumer vs. business-to-business, different combinations of same-side and cross-side externalities, and software development agility.

111-1092 New Business Models through Digital Reconfiguration of Linear and Triangular Supply Chains

Jagjit Srail, Professor, University of Cambridge, United Kingdom
 Harri Lorentz, Professor, University of Turku, Finland
 Nitin Joglekar, Associate Professor, Questrom School of Business, United States

This research shares findings from 109 Industrial Digital Technology interventions supporting business model innovation as observed in 8 leading multinational manufactures. We contrast the different modalities required in moving from business-as-usual exploitation to new configurations requiring an exploration approach, highlighting both opportunities and traps in digital transformation.

111-1236 Leveraging Value Creation to Drive the Growth of B2B Platforms

Jose Lopez, Student, MIT Sloan School of Management, United States

Geoffrey Parker, Professor, Dartmouth College, United States

Edward Anderson, Professor, University of Texas Austin, United States

Network platforms have become increasingly popular in the business-to-business (B2B) world. However, much of the extant theory derives from business-to-consumer (B2C) examples and settings. We apply a value creation lens to explore the dynamics of platform creation and growth, highlight differences between B2B and B2C platforms, and consider managerial implications.

Invited Session

604

Saturday, 04:30 PM - 05:30 PM, Healthcare Analytics

Track: Healthcare Analytics

Invited Session: **Artificial Intelligence, Robots and Work in Healthcare 2**

Chair(s): Phillip Phan

111-0470 Framing Impacts of Artificial Intelligence on Employment

Feichin Tschang, Associate Professor, Singapore Management University, Singapore

Esteve Almirall, Associate Professor, Esade Business School, Spain

AI has been described as labor augmenting or labor substituting, but both can simultaneously occur. I discuss the technological, economic and organizational perspectives that frame the pathways by which AI can come to impact on employment. I note the limitations in contemporary studies and the grounds for a dynamic perspective.

111-0738 Artificial Intelligence in Healthcare Jobs: The Role of HR Policies and Job Recrafting

Soo-Hoon Lee, Professor, Old Dominion University, United States

Since the Covid-19 pandemic, artificial Intelligence (AI) has become mainstream in medicine. I discuss how could HRM policies could play a mediating role to enhance AI acceptance and how healthcare professionals could proactively recraft their jobs to enhance job outcomes using job design principles from human resource management.

111-0837 Personalized Hospital Admission Control: A Contextual Learning Approach

Mohammad Zhalechian, Student, University of Michigan - Ann Arbor, United States

Esmail Keyvanshokoo, Assistant Professor, Mays Business School, United States

Cong Shi, Assistant Professor, Department of Industrial Engineering, United States

Mark Van Oyen, Professor, University of Michigan, United States

We design an online algorithm for the allocation of hospital beds to patients, which adaptively learns from a finite batch of delayed patient health outcomes when there are limited reusable hospital beds. We prove that our algorithm admits a Bayesian regret bound, and assess its effectiveness using hospital system data.

Contributed Session

605

Saturday, 04:30 PM - 05:30 PM, Healthcare OM 1

Track: Healthcare Operations Management

Contributed Session: **Textural Analysis in Healthcare**

Chair(s): Pengyi Shi

111-1757 Mixture Importance Sampling Assisted Reinforcement Learning for Process Control with Partial Trajectory Reuse

Hua Zheng, Student, Northeastern University, United States

Wei Xie, Assistant Professor, Northeastern University, United States

Since each experiment for complex biopharmaceutical manufacturing process is often expensive and lengthy, we propose a mixture importance sampling assisted policy gradient approach. It can intelligently select and reuse the most associated historical partial episodes to accelerate the search for optimal and robust decision policy under high uncertainty.

111-0065 Data-Driven Surgical Tray Optimization

Sandeep Rath, Assistant Professor, University of North Carolina Chapel Hill, United States

Vinayak Deshpande, Professor, University of North Carolina Chapel Hill, United States

Nishanth Mundru, Assistant Professor, University of North Carolina at Chapel Hill, United States

Martyn Knowles, Founder and Chief Medical Officer, Operative Flow Technologies, United States

Benjamin Wood, Founder and President, Operative Flow Technologies, United States

Less than 20-30% of reusable instruments supplied to surgeries are used. Using actual surgical instrument usage from a hospital, we formulate and solve a large-scale data-driven mathematical optimization model for surgical tray configuration. Our solution was implemented at the hospital demonstrating significant savings in surgical instrument related costs.

111-1547 Data-Pooling Reinforcement Learning for Personalized Healthcare Intervention

Xinyun Chen, Assistant Professor, Chinese Univ of Hong Kong (Shenzhen), China

Pengyi Shi, Associate Professor, Purdue University, United States

Xiwen Wang, Student, Chinese Univ of Hong Kong (Shenzhen), China

Motivated by the emerging needs of personalized intervention strategies in many healthcare applications, we consider a multi-stage decision problem with unknown parameters. To deal with the prominent small-sample issue in personalized decision-making, we develop a novel data-pooling reinforcement learning algorithm with provable regret bound and empirical success with real data.

Contributed Session

606

Saturday, 04:30 PM - 05:30 PM, Healthcare OM 2

Track: Healthcare Operations Management 2

Contributed Session: Capacity Management in Healthcare

Chair(s): Kimia Ghobadi

111-1439 Dynamic Hospital Capacity Management for COVID-19 Pandemics in Japan and China

Dongni Li, Associate Professor, Beijing Institute of Technology, China

Hongbo Jin, Student, Beijing Institute of Technology, China

Yong Yin, Professor, Doshisha University, Japan

A hospital has to make two sequential decisions for a COVID-19 pandemic period: the initial medical resource capacity of each hospital bed (stage 1) and the allocation of arrival requests/patients to appropriate beds (stage 2). This paper studies this 2-stage dynamic stochastic process to maximize hospital social values.

111-0820 COVID-19 Hospital Capacity Management Optimization

Felix Parker, Student, Johns Hopkins University, United States

Fardin Ganjkanloo, Student, Johns Hopkins University, United States

Farzin Ahmadi, Student, Johns Hopkins University, United States

Kimia Ghobadi, Assistant Professor, Johns Hopkins University, United States

Data-driven strategies to coordinate COVID-19 care among different hospitals lead to better capacity utilization, improved access, reduced burnout, and better care. We developed mathematical models that match COVID-19 demand with available resources in healthcare systems through patient transfer. Our robust mixed-integer models minimize resource shortage while considering operational constraints.

111-0954 Should Hospitals Keep Patients Longer? The Moderating Role of Vital-signs Monitoring in Reducing Postdischarge Mortality

Qi Wang, Student, Xi'an Jiaotong University, China

Sarah Zheng, Assistant Professor, University of Victoria, Canada

To study the causal effects of length-of-stay on postdischarge mortality with the moderating role of vital-signs monitoring, we use a large dataset comprising 17961 patient-level samples from MIMIC database. While investigating the daily and hour-of-day patterns of vital-signs monitoring, we find significant results. Wider theoretical contributions in healthcare are discussed.

Invited Session

607

Saturday, 04:30 PM - 05:30 PM, Information Systems & OM 1

Track: Information Systems and Operations Management

Invited Session: Healthcare Operations Disruptions and Disaster Management

Chair(s): Saba Pourreza

111-1113 COVID-19 and Its Impacts on Hospital Utilization and Performance Measures in California

David Cho, Assistant Professor, Woodbury University, United States

Yu Wang, Assistant Professor, University of North Carolina Wilmington, United States

Allison Witman, Assistant Professor, University of North Carolina Wilmington, United States

Using data reported by the State of California Office of Statewide Health Planning and the U.S. Department of Health & Human Services, this research investigates how utilization and performance measures such as patient average length of stay are affected by COVID-19 for over 300 hospitals in California.

111-1230 Blockchain technology-driven healthcare supply chain finance: A conceptual framework

Cigdem Kochan, Assistant Professor, Northeastern Illinois Univ, United States

Esen Andic-Mortan, Assistant Professor, North Central College, United States

Mucabit Kochan, Assistant Professor, Governors State University, College of Business, United States

This study aims to explore the role of blockchain technology in facilitating supply chain finance in the healthcare sector. The study develops a conceptual framework based on a systematic literature review of blockchain technology and its application in supply chain finance, focusing on the healthcare supply chains.

111-1665 Social media and information propagation in disaster eco-system

Saba Pourreza, Assistant Professor, University of North Carolina Wilmington, United States

In this research, we explore the social media ecosystem focusing on Twitter to study the role of stakeholders and their activities during a disaster environment.

Contributed Session

610

Saturday, 04:30 PM - 05:30 PM, Logistics Management

Track: Logistics Management

Contributed Session: Cargo Handling

Chair(s): Henry Visser

111-0531 Designing a sustainable liner shipping service using evolutionary algorithms

Jasashwi Mandal, Student, Indian Institute of Technology Kharagpur, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

Adrijit Goswami, Professor, Indian Institute of Technology Kharagpur, India

This paper proposes a multi-objective mixed-integer non-linear programming model to simultaneously find the optimal service schedule, number of ships in a fleet serving each route, ship speed between two ports of call on each route, and cargo flow for each pair of origin-destination.

111-0129 A reinforcement learning based air cargo booking control problem for profit maximization

Rosalin Sahoo, Student, IIT, Kharagpur, India

Bhaskar Bhowmick, Assistant Professor, IIT, Kharagpur, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

Our focus is on the air cargo booking control problem where the company has to decide on accepting/rejecting a booking request to save capacity for a potential future request with more profit involved by finding a reliable way of predicting maximum profit on corresponding booking requests.

111-1838 Cost-Benefit Analysis for Different Last Mile Delivery Modes

Henry Visser, Student, University of Tulsa, United States

Wen-Chyuan Chiang, Professor, University of Tulsa, United States

This cost-benefit analysis quantifies a total of 16 costs for 9 different modes of last-mile delivery, creating a comprehensive framework to evaluate the best way of delivering parcels. The framework is used in both a typical urban setting and a typical rural setting in the US.

Contributed Session

611	Saturday, 04:30 PM - 05:30 PM, Manufacturing Operations	Track: Manufacturing Operations
	Contributed Session: Lean Manufacturing	
	Chair(s): Finn Feldmann	

111-0141 How much does Lean manufacturing actually need long-term workers?

Lucas López-Manuel, Student, (CIF:ESG50985993), Spain

Antonio Sartal, Post Doc/Researcher, (CIF:ESG50985993), Spain

Xose H. Vázquez, Professor, (CIF:ESG50985993), Spain

Conventional wisdom on Lean Manufacturing stresses the need for long-term, committed labor relations in order for operators to internalize values and keep standard. We find that temporary labor can increase productivity by more than 1% through a panel data (1,793 observations across 9 lines gathered over two years)

111-1828 Location analytics and performance analytics: Potentials for a more extensive collaboration

Mohsen Afsharian, Reader, Technische Universität Braunschweig, Germany

This paper aims to demonstrate the need for a more extensive collaboration between two broad research areas: location analytics and performance analytics. More precisely, from a theoretical point of view as well as with illustrative examples in the context of healthcare, we show the importance of incorporating efficiency into location

111-0628 Towards sustainable lean construction: Exploring barriers, challenges, and risks of automation in prefabrication

Finn Feldmann, Student, University of Erlangen-Nuremberg, Germany

Evi Hartmann, Professor, University of Erlangen-Nuremberg, Germany

Despite the well-known benefits associated with the automation of manufacturing processes, the use of self-operating physical machines in off-site construction is still relatively low. Aim of this research is to explore obstacles manufacturers of prefabricated modules face when implementing automation based on an elaborated framework by conducting a case study.

Contributed Session

612	Saturday, 04:30 PM - 05:30 PM, Marketing & OM	Track: Marketing and Operations Management
	Contributed Session: Regulations and Policies	
	Chair(s): Bo Zhou	

111-0505 Combatting Counterfeiting: Employing Consumer-Centric Mitigation Strategies

Rowan Hilend, Student, Michigan State University, United States

Yao Jin, Assistant Professor, Miami University, United States

Simone Peinkofer, Assistant Professor, Michigan State University, United States

Marketplace services leave online retailers vulnerable to counterfeit products entering their supply chain as third-party sellers use these platforms to knowingly sell counterfeit products. We investigate how the disclosure of the country of the seller and fulfillment information mitigates negative consumer sentiments and purchase decisions in the context of counterfeits.

111-0799 Recommender Systems with Privacy Concerns

Can Kucukgul, Student, University of Texas Dallas, United States

Ozalp Ozer, Professor, University of Texas Dallas, United States

Shouqiang Wang, Associate Professor, University of Texas Dallas, United States

Online platforms keep track of users' online browsing activities and use this information to personalize product recommendations. Recently, various regulations are established to grant users right to preserve privacy. Through a sender-receiver game framework, we study the implications of such privacy regulations on the platform's design of its recommender policies.

111-0284 Search Neutrality and Competition between First-party and Third-party Sellers

Tianxin Zou, Assistant Professor, Warrington College of Business, United States

Bo Zhou, Assistant Professor, University of Maryland, United States

Policymakers are discussing search-neutrality regulations to prohibit retail platforms from unfairly prioritizing showing its own product in front of third-party sellers' in consumers' search results. This paper shows that search neutrality can hinder the price competition between the platform and the third-party sellers, which potentially harm consumers.

Invited Session

617	Saturday, 04:30 PM - 05:30 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Empirical Research in Supply Management	
	Chair(s): Sining Song	

111-0174 Red vs. Blue Firms: How Top Management Team Political Ideology Influences Product Recalls

Kaitlin Wowak, Associate Professor, University of Notre Dame, United States

John Busenbark, Assistant Professor, University of Notre Dame, United States

George Ball, Assistant Professor, Indiana University Bloomington, United States

Karthik V. Natarajan, Assistant Professor, University of Minnesota, United States

There is a growing amount of interesting in whether and how the political ideology of a firm's CEO, TMT, or board of directors influences firm outcomes. In this study, we examine whether TMT political ideology influences a firm's recall behavior.

111-0190 The Effect of Knowledge Value Chain Activities on Financial Risk Allocation in NPD collaborations

Devashish Thakar, Student, University of South Carolina, United States

Sean Handley, Professor, University of South Carolina, United States

Keith Skowronski, Assistant Professor, University of South Carolina, United States

We examine the relationship between a vendor's knowledge value chain activities and upfront payments they receive in product development collaborations. Buyers hedge against technological uncertainty and agency issues by minimizing the share of upfront payments. However, vendors rely on upfront payments to scale their research infrastructure and signal product viability.

111-0473 Manufacturing Localization and Its Performance Implications: An Empirical Study in the Automotive Industry

Zhenzhen Yan, Student, Michigan State University, United States

Sriram Narayanan, Professor, Michigan State University, United States

Tobias Schoenherr, Professor, Michigan State University, United States

Sourish Sarkar, Assistant Professor, Penn State University Erie, United States

Literature on manufacturing relocation focuses on the decision drivers while the decision consequences are understudied due to the difficulty of data collection. This study contributes to this stream of literature by investigating the performance implications of manufacturing localization in automotive industry by apply a causal estimation to a 20-year panel.

Invited Session

620	Saturday, 04:30 PM - 05:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Innovative Applications in Retail Operations Management	
	Chair(s): Serasu Duran	

111-0170 Exploration Optimization for Dynamic Assortment Personalization under Linear Preferences

Sajad Modaresi, Assistant Professor, University of North Carolina Chapel Hill, United States

Fernando Bernstein, Professor, Duke University Durham, United States

Denis Saure, Assistant Professor, Universidad De Chile, Chile

We study efficient real-time data collection approaches for an online retailer that dynamically personalizes assortments based on customers' attributes. We study the structure of efficient exploration in this setting, prove a performance lower bound, and propose efficient learning policies. We test the performance using a dataset from a Chilean retailer.

111-0287 Strategic Visual Merchandising of New and Open-box Products: Evidence From Experiment and Retail Data

Yuanyuan Ding, Student, University of Minnesota, United States

Necati Ertekin, Assistant Professor, University of Minnesota, United States

Karen Donohue, Professor, University of Minnesota, United States

Retailers are increasingly selling returned products as open-box along with their new counterparts? While some retailers position open-box products side-by-side with their new counterparts in the assortment, others position them separately. We conduct multimethodology research to empirically investigate the economic effectiveness of these two visual merchandising strategies.

111-0626 Effects and Persistence of Consumption Feedback on IoT Energy Platforms

Serasu Duran, Assistant Professor, University of Calgary, Canada
 Nur Sunar, Assistant Professor, Kenan-Flagler Business School, United States
 Nil Karacaoglu, Assistant Professor, Fisher College of Business, Ohio State U, United States
 Jacob Zeng, Student, The University of Texas at Austin, United States

We leverage detailed data on electricity consumption and abnormal consumption alerts in 14 brick and mortar stores of two major retailers to identify how managers react to real-time feedback and whether these effects persist over time. Our findings provide valuable insights for better design of energy consumption feedback.

Invited Session

621	Saturday, 04:30 PM - 05:30 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Pricing and Capacity Management in Service Operations	
	Chair(s): Andrew Frazelle	

111-0059 Optimal Assortment Pricing with Inventory Constraints and Pricing Restrictions

Yunke Li, Student, University of Miami Business School, United States
 Harihara Natarajan, Professor, University of Miami, United States
 Xin Geng, Assistant Professor, University of Miami, United States

For the multiproduct pricing problem based on the ticket selling context, we establish the constrained optimization models that adopt the horizontal and vertical differentiated demand. Under some reasonable assumptions, we show that the optimization problems under different demand settings can be convex and then characterize the optimal solutions.

111-0751 Pricing and Inventory Management When Consumers' Emotions Run High

Ozalp Ozer, Professor, University of Texas Dallas, United States
 Arun Kumar Rout, Student, UT Dallas, United States
 A. Serdar Simsek, Assistant Professor, University of Texas Dallas, United States

We investigate the impact of consumers' anticipated disappointment- elation and/or regret-rejoice on demand of products with uncertain consumers' valuation. We analytically show that consumers' disappointment aversion decreases product demand. However, if consumers also anticipate regret-rejoice, this negative impact diminishes. We also study firms' optimal pricing and inventory decisions for such products.

111-1384 Autonomous Vehicles in Ride-Hailing and the Threat of Spatial Inequalities

Francisco Castro, Assistant Professor, Anderson School of Management, United States
 Jian Gao, Student, Anderson School of Management, United States
 Sébastien Martin, Assistant Professor, Kellogg School of Management, United States

We analyze the potential consequences of introducing autonomous vehicles in ride-hailing markets, on the quality of service and the equality of access to transportation. We show that this change may deteriorate the service level. And this effect is not homogeneous across areas: remote areas will suffer from worse service levels.

Invited Session

625	Saturday, 04:30 PM - 05:30 PM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: Empirical Research in Supply Chain Management 2	
	Chair(s): Dennis Zhang	

111-0688 How to display promotions when customers search?

Jing Dong, Assistant Professor, Columbia University, United States
 Fanyin Zheng, Assistant Professor, Columbia University, United States
 Yi Chen, Assistant Professor, Hong Kong University of Science and Technology, Hong Kong

We study the impact of promotion display for online retail platforms where customers search. Utilizing a dataset which contains detailed behavior information, we estimate a search and purchase model. Accurate estimation also enables us to evaluate different promotion display schemes and design policies that can improve the revenue.

111-1383 Value of last-mile delivery

Zhikun Lu, Student, Emory University, United States
 Ruomeng Cui, Professor, Emory University, United States
 Tianshu Sun, Associate Professor, University of Southern California, United States
 Lixia Wu, Data Scientist, Alibaba Group, China

We evaluated the value of last-mile home delivery for Cainiao's logistics platform. Cainiao implemented the last-mile delivery to customer home for some stations. Our DID analysis shows that the last-mile home delivery significantly increases sales, and the effect is highly heterogeneous across high and low frequency buyers.

111-0506 The Value of Logistic Flexibility in Online Retailing

Bing Bai, Student, Washington University in St. Louis, United States
 Tat Chan, Professor, Washington University in St. Louis, United States
 Dennis Zhang, Associate Professor, Washington University St Louis, United States

Fuqiang Zhang, Professor, Washington University St Louis, United States

In recent years, many online retailers start to explore improving other aspects of shipping experience rather than improving shipping speed to attract customers. We use the introduction of local pick-up stations by Alibaba to study the impact of improving logistic flexibility on online retailing.

Contributed Session

628

Saturday, 04:30 PM - 05:30 PM, Sustainable Operations 1 Track: Sustainable Operations

Contributed Session: **Sustainable Sourcing**

Chair(s): Beverly Osborn

111-1043 Truth or Fiction: Sustainable Procurement in the End-to-End Metals and Mining Value Chain

Thompson McDaniel, Student, Corvinus University of Budapest, Hungary

Gyula Vastag, Professor, Corvinus University of Budapest, Hungary

Procurement leaders in Sustainable Procurement are asked about their selection and deployment of tools and targets for reducing GHG protocol emissions. Using concept mapping techniques, a hierarchy of practices are proposed across the end-to-end value chain and hypotheses are developed about achievability and impact on sustainability over time.

111-0394 Proposal Evaluation and Contract Performance

Beverly Osborn, Student, Ohio State University, United States

John Gray, Professor, Ohio State University, United States

Excessively price-based decision-making in sourcing can contribute to subpar performance and lead to undervaluing risks and social and environmental issues. In this empirical study, we find evidence that excessively price-based sourcing is a widespread problem, and our setting allows us to infer a potential solution.

111-1011 The Role of Supply Chain Financing to Improve Responsibility of Financially Constrained Supplier

Stuti Arora, Student, Indian Institute of Management Udaipur, India

Avijit Raychaudhuri, Assistant Professor, Indian Institute of Management Udaipur, India

Several renowned firms have been partnering with financial institutions like International Finance Corporation (IFC) to provide sustainability-linked financing scheme to small suppliers. We analyze a game-theoretic model to study the interaction between a profit-maximizing supplier and a social-welfare maximizing financial intermediary.

Invited Session

629

Saturday, 04:30 PM - 05:30 PM, Sustainable Operations 2 Track: Sustainable Operations 2

Invited Session: **Empirical Research in CSR and Sustainability 2**

Chair(s): Wayne Fu

111-0057 Experiential effects on reducing industrial water consumption

Amrou Awaysheh, Assistant Professor, Indiana University, United States

Sriram Narayanan, Professor, Michigan State University, United States

Brian Jacobs, Professor, Pepperdine University, United States

Using propriety factory-level data from a large multi-national manufacturer, we examine the effects of organizational experience on the consumption of water required for manufacturing. We consider both direct in-plant experience effects as well as potential cross-learning from related plants in the same geographic region and/or same product category.

111-1021 Firm CSR response to changes in U.S. political leadership

Ujjal Mukherjee, Assistant Professor, University of Illinois Urbana-Champaign, United States

Rick Hardcopf, Assistant Professor, Utah State University, United States

Transitions between ruling political parties occur routinely in the United States. The Democratic and Republican parties have unique views toward environmental protection, with the Democratic party typically enacting pro-environmental legislation and the Republican party undoing that legislation. This paper investigates how changes in leadership affect firm CSR choices.

Invited Session

631

Saturday, 05:45 PM - 06:45 PM, 1- Meetings & Programs - All are Welcome

Track: All Plenaries and Special Events: Open to Everyone

Invited Session: **POMS Business Meeting & Award Ceremony**

Chair(s): Sushil Gupta Funda Sahin

111-1862 POMS Business Meeting & Award Ceremony

Sushil Gupta, Professor, Florida International University, United States

POMS Business Meeting. POMS Board will meet the POMS members and present the state of the Society and answer any questions. All are welcome. This event is followed by the Awards Ceremony.

Sunday, 09:00 AM - 10:00 AM

Invited Session

675

Sunday, 09:00 AM - 10:00 AM, 3- POMS Tutorials, Panels, & Workshops

Track: All Tutorials, Invited Panels, and Workshops

Invited Session: **Panel: Uncertainties and New Modes of Cooperation in Traditional and Emerging Domains**

Chair(s): Dehai Liu

111-1827 Panel: Uncertainties and New Modes of Cooperation in Traditional and Emerging Domains

Dehai Liu, Professor, Dongbei University of Finance and Economics, China

Xiaoyan Qian, Associate Professor, Dongbei University of Finance and Economics, China

Ruirui Chai, Professor, Dongbei University of Finance and Economics, China

Delong Li, No, Inner Mongolia University of Finance and Economics, China

The COVID-19 outbreak has a huge impact on the production and life of human society. Superimposed a new round of digital technological revolution, operation management in various fields presents a high degree of uncertainty. How do new modes of cooperation operate in traditional domains (e.g., agriculture, transportation), and emerging domains?

Invited Session

677

Sunday, 09:00 AM - 10:00 AM, Behavioral OM 1

Track: Behavioral Operations Management

Invited Session: **Interfaces with Industry**

Chair(s): Kyle Hyndman

111-1846 Interfaces with Industry

Kyle Hyndman, Professor, University of Texas Dallas, United States

Gary Bolton, Professor, University Of Texas Dallas, United States

Come listen to speakers from different industries discussing the behaviorally relevant challenges that they face in their industries. If time allows, we will open the floor to questions from the audience.

Invited Session

679

Sunday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 1

Track: Crisis/Disaster Management and Covid-19 Pandemic

Invited Session: **Humanitarian Aid: From Fundraising to Service Delivery**

Chair(s): Arian Aflaki

111-1183 Incentivizing at-risk production capacity building for COVID-19 vaccines

Fuminori Toyasaki, Associate Professor, York University, Canada

Hongmei Sun, Post Doc/Researcher, York University, Canada

Ioanna Falagara Sigala, Post Doc/Researcher, York University, Canada

Our study analyzes at-risk capacity management for vaccine candidates in the presence of production outsourcing and different operational challenges: misaligned interests, possible ex-post negotiations, asymmetric information between developers and manufacturers, and government involvement. We present comprehensive guidelines for different stakeholders to collectively ramp up vaccines' at-risk capacity.

111-1196 To Earmark or to Non-Earmark? The Role of Control, Transparency, Salience and Warm-Glow

Ozalp Ozer, Professor, University of Texas Dallas, United States

Gloria Urrea, Assistant Professor, University of Colorado Boulder, United States

Sebastian Villa, Assistant Professor, Indiana University Bloomington, United States

Charities face tension when deciding whether or not to offer earmarking to donors. Earmarking decreases operational performance because it limits charities' flexibility to use donations. However, it is believed that earmarking increases donations. We study how, when, and why earmarking affects donations. We provide insights for designing effective fundraising campaigns.

111-1259 Disaster Relief Supply Replenishment with Risk-Based Optimized Pre-Positioning

Andrew Arnette, Assistant Professor, University of Wyoming, United States

Christopher Zobel, Professor, Virginia Tech, United States

Working with the Red Cross, we have developed a model that optimizes the pre-positioning of disaster relief assets to facilitate rapid shelter openings in a multi-hazard context. This new research extends the existing model by integrating post-disaster replenishment and resource allocation updates in order to ensure maintenance of shelter operations.

Contributed Session

680	Sunday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Vaccine Distribution and Supply Chain Challenges	
	Chair(s): jiyuan zhang	

111-0725 Vaccine Distribution and Allocation Management in Pandemic Outbreaks

Sara Aryaee, Student, University of Tehran, Iran (Islamic Republic of)

Mahnaz Hosseinzadeh, Assistant Professor, University of Tehran, Iran (Islamic Republic of)

Nathan Kunz, Associate Professor, University of North Florida, United States

Optimal vaccine distribution during a pandemic outbreak such as Covid-19 is challenging for most countries in the world. Decision making tools are needed to help prevent shortage of vaccines in some areas, and excess inventories in others. We develop a mathematical programming model to address this problem in pandemic conditions.

111-1440 Distribution of COVID-19 Vaccines: A Case Study of Maharashtra, India

RAMESH KUMAR, Student, National Institute of Industrial Engineering, Mumbai, India

L. Ganapathy, Professor, National Institute of Industrial Engineering, Mumbai, India

Ravindra Gokhale, Assistant Professor, National Institute of Industrial Engineering, Mumbai, India

Manoj Kumar Tiwari, Professor, National Institute of Industrial Engineering, Mumbai, India

Delivering COVID vaccines to a billion-plus population posed a huge challenge due to shortages in supply and lack of logistics infrastructures. The Government set up supply chain distribution networks and vaccination centres at hospitals and public locations. We developed a simulation model to analyse demand fulfilment in Maharashtra State, India.

111-0561 Application of Twitter Data to Investigate Vaccine Supply Chain Challenges and Consequences

Jiayuan Zhang, Student, Colorado State University Fort Collins, United States

John Macdonald, Associate Professor, Colorado State University Fort Collins, United States

Koray Ozpolat, Associate Professor, University of Rhode Island, United States

This study applies Twitter data to explore the vaccine supply chain challenges and consequences. We identified five types of supply chain challenges across countries U.S., U.K., Canada, and India. We also provide empirical evidence on the relationship between these challenges and COVID cases and deaths

Invited Session

681	Sunday, 09:00 AM - 10:00 AM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Invited Session: Streaming Platform, Intellectual Property, and Project Management	
	Chair(s): Zhihao Zhang	

111-0603 Driving Post-pandemic Retail Operations: The Effect of Live Streaming E-commerce

ChunSheng Li, Assistant Professor, Macau University of Science and Technology, Macao

Feng Cheng, Assistant Professor, Towson University, United States

Live streaming, which broadcasts audio or video in real-time, significantly promoted online shopping recently. During the pandemic, live stream e-commerce gained popularity and dominated online shopping. Using data from Taobao.com during and after the pandemic, we empirically test various conditions under which live streaming can benefit online retailers.

111-0915 Towards New Frontiers: How Fundraising Performance Affects Domain Switching Behavior in Crowdfunding Projects

Guangzhi Shang, Associate Professor, Florida State University, United States

Zhijian Cui, Professor, University of Science and Technology of China, China

Zhihao Zhang, Assistant Professor, University of Missouri At Kansas City, United States

Noyan Ilk, Associate Professor, Florida State University, United States

Crowdfunding entrepreneurs often switch to a new project domain after the completion of an existing project. In this study, we investigate how the past fundraising performance affects entrepreneurs' domain switching decision in crowdfunding projects.

111-1112 Livestreaming Selling or Not: Optimal Ordering Decisions with Contract Design and Demand Forecast Updating

Haiying Yang, Student, Syracuse University, United States

Zhengping Wu, Associate Professor, Syracuse University, United States

We focus on the rapid growth of livestreaming selling platforms in which the supplier sells products by cooperating with a livestreamer to stimulate demand. We characterize the supplier's optimal ordering decisions in the presence of livestreamer's information advantage in personal influence level.

Invited Session

682	Sunday, 09:00 AM - 10:00 AM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Social responsibility and sustainability in supply chains: emission, counterfeits, and farming yield	
	Chair(s): Han Zhang	

111-0009 When Should the Regulator Allow/Prohibit Inter-Temporal Transfer of Emission Permits?

Xingyu Fu, Student, Hong Kong University of Science and Technology, Hong Kong

Ying-Ju Chen, Professor, Hong Kong University of Science and Technology, Hong Kong

Guillermo Gallego, Professor, Hong Kong University of Science and Technology, Hong Kong

Pin Gao, Assistant Professor, Chinese Univ of Hong Kong (Shenzhen), China

Mengqian Lu, Assistant Professor, Hong Kong University of Science and Technology, Hong Kong

Emission permits are widely adopted to combat climate change and regulatory authorities sometimes allow for the inter-temporal banking and borrowing of emission permits so that firms can flexibly respond to market uncertainties. We find that such time flexibility may lead to poor social performance.

111-1489 Evaluating emission reduction policies under indirect source rule

Shiliang Cui, Associate Professor, McDonough School of Business, United States

Luyi Gui, Assistant Professor, University of California Irvine, United States

Sai Zhao, Post Doc/Researcher, McDonough School of Business, United States

In this paper, we evaluate emission reduction policies under indirect source rule.

111-0200 Collaborating with the Enemy? Sourcing Decisions in the Presence of Potential Counterfeiters

Liling Lu, Student, Singapore Management University, Singapore

Xin Fang, Assistant Professor, Singapore Management University, Singapore

Yini Gao, Assistant Professor, Singapore Management University, Singapore

Burak Kazaz, Professor, Whitman School of Management, United States

We investigate sourcing strategies of a brand-name firm facing two types of suppliers: a licit domestic supplier and an overseas supplier who may potentially become a counterfeiter. We find that the firm may adopt dual sourcing or single sourcing to combat counterfeiting, which can be more effective than law enforcement.

Invited Session

685	Sunday, 09:00 AM - 10:00 AM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Tech-Enabled Sustainable Operations Management	
	Chair(s): Rowena Gan	

111-0340 Solar Generation and Energy Storage

Christian Kaps, Student, Wharton School, University of Pennsylvania, United States

Serguei Netessine, Professor, The Wharton School, United States

Simone Marinesi, Assistant Professor, University of Pennsylvania, United States

This paper discusses how storage technologies can be used in conjunction with renewable (solar) generation to partially replace conventional (i.e. fossil fuel generation) as a way of lowering either electricity cost and or emissions. We develop two models to obtain closed-form bounds of the value of such storage technology.

111-0599 Contract Tokenization in the Renewable Energy Market

Rowena Gan, Assistant Professor, Southern Methodist University, United States

Rong Li, Associate Professor, Syracuse University, United States

Endorsed by the blockchain technology, contracts can be digitally recorded and stored in crypto tokens, which is referred to as being tokenized. Using the renewable energy market as a backdrop, we study the impact of contract tokenization on different parties in the industry based on their respective incentives.

111-1542 On Optimal Transmission Grid Investment for Remote Renewable Energy Development

Seulchan Lee, Student, Texas A&M University, United States

Alexandar Angelus, Assistant Professor, Texas A&M University College Station, United States

Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States

Limited transmission capability has been a major issue for renewable energy development. We formulate and solve a model in which a transmission company first decides how much transmission capacity to install; then, a power generator decides on the level of renewable generation capacity to develop to satisfy stochastic electricity demand.

Invited Session

686	Sunday, 09:00 AM - 10:00 AM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Risk Management and Optimization in Energy Markets	
	Chair(s): Sridhar Seshadri	

111-0384 Optimal Storage and Trading for a Commodity in the Presence of Inventory Conversion Flexibility

Amar Sapra, Associate Professor, Indian Institute of Management, Bangalor, India

Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States

We consider a multi-period planning model for a commodity-trading firm that procures and sells a commodity. The firm has the flexibility to blend different grades of the commodity to take advantage of price arbitrage. Our objective is to develop insights on the role of various model parameters on optimal decisions.

111-0650 Meeting corporate renewable power targets

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Alessio Trivella, Post Doc/Researcher, ETH Zurich, Switzerland

Danial Mohseni Taheri, Student, University of Illinois at Chicago, United States

Corporate power purchase agreements (CPPAs) are popular contracts to meet a future renewable power purchase target. We formulate an MDP that optimizes dynamic portfolios of CPPAs to meet such targets and explore the effectiveness of approximate policies. Our results help tie the knot between reducing energy costs and meeting targets.

111-1119 Quadratic Hedging of Term Structure Risk in Merchant Energy Trading Operations

Nicola Secomandi, Professor, Carnegie Mellon University, United States

Bo Yang, Student, Carnegie Mellon University, United States

We apply quadratic hedging to managing term structure risk in merchant energy trading operations. We develop a model that pools cash flows across dates, establish the structure of its optimal policy, and propose a computational efficient heuristic that performs near optimally in a realistic merchant energy storage numerical study.

Invited Session

688	Sunday, 09:00 AM - 10:00 AM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Decision Analytics in Healthcare	
	Chair(s): Yeongin Kim	

111-0402 The Relationship Between Health Information Exchange and Hospital Data Breaches

Sung Choi, Assistant Professor, University of Central Florida, United States

Min Chen, Assistant Professor, Florida International University, United States

Xuan Tan, Student, Florida International University, United States

A key barrier to achieving broad-based electronic health information exchange are stakeholders' concerns about cybersecurity issues. Ensuring the privacy and security of patient information is a top policy priority for CMS. This study analyzed variation in hospital data breaches associated with hospitals' participation in Health Information Exchanges.

111-1072 Differentiating Interhospital Transfer Types: Varied Impacts and Diverging Coordination Strategies

Raymond Lei Fan, Assistant Professor, Grand Valley State University, United States

Ming Zhao, Assistant Professor, University of Delaware, United States

Xiaosong (David) Peng, Professor, Lehigh University, United States

In this paper, we conceptually and empirically differentiate between clinical and non-clinical transfers based on their unique characteristics and compare their respective impacts on care outcomes, including length of stay (LOS), readmission, and mortality. The results offer valuable insights to hospital managers for improving IHT care outcomes.

111-0331 Multi-Armed Bandit with Endogenous Learning and Queueing: An Application to Split Liver Transplantation

Yanhan Tang Tang, Student, Carnegie Mellon University, United States

Sridhar Tayur, Professor, Carnegie Mellon University, United States

Alan Scheller-Wolf, Professor, Carnegie Mellon University, United States

Andrew Li, Assistant Professor, Carnegie Mellon University, United States

We enhance the multi-armed bandit model by considering endogenously non-stationary rewards---specifically rewards that are parametric functions of policy histories (learning). We further incorporate queueing costs, fairness and arm correlation. We propose the QFL-UCB algorithm to solve our model, prove its logarithmic regret, and apply it to split-liver transplantation.

Contributed Session

689	Sunday, 09:00 AM - 10:00 AM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Use of Technology to Improve Healthcare Delivery	
	Chair(s): Sidhartha Das	

- 111-0438 Healthcare Information Technology and Hospital Performance
 Sidhartha Das, Professor, George Mason University, United States
 Amitava Dutta, Professor, George Mason University, United States
 Nirup Menon, Professor, George Mason University, United States

This research examines the effect of healthcare information technologies (HIT) on hospital performance. We categorize HIT into internal and external types and study both the direct and interaction effects of HIT with hospital workforce, on hospital performance.

- 111-1019 Can Predictive Technology Help Improve Acute Care Operations? Investigating the Impact of Virtual Triage Adoption
 Jiatao Ding, Student, INSEAD, Singapore
 Michael Freeman, Assistant Professor, INSEAD, Singapore
 Sameer Hasija, Professor, INSEAD, Singapore

This paper develops a queueing game model investigating the impact of virtual triage in acute-care setting. We find adoption of informative virtual triage can worsen system performance. To address this problem, we characterize the optimal virtual triage accuracy subject to ROC curve, and how it changes as ROC curve improves.

- 111-0662 Dynamic Inter-day and Intra-day Scheduling
 Christos Zacharias, Assistant Professor, University of Miami, United States
 Nan Liu, Associate Professor, Boston College, United States
 Mehmet Begen, Associate Professor, Ivey Business School, Western University, Canada

The simultaneous consideration of dynamic inter-day and intra-day appointment scheduling decisions is an established theoretical and practical problem that has remained open due to its highly stochastic nature, complex structure, and the curse of dimensionality. We develop the first analytical optimization model and theoretical results addressing this joint problem.

Contributed Session

690	Sunday, 09:00 AM - 10:00 AM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Scheduling of Healthcare Services based on Patient's Individual Characteristics	
	Chair(s): Melih Celik	

- 111-1233 Improving scheduling in rehabilitation services
 Rajesh Srivastava, Professor, Florida Gulf Coast University, United States
 Yong-Taek Min, Assistant Professor, Florida Gulf Coast University, United States
 Elias Kirche, Associate Professor, Florida Gulf Coast University, United States

A healthcare system in the region needs to improve the scheduling of patients to a limited number of physical therapists. We performed an analysis to prioritize allocation based on patient's needs and conditions. The analysis includes an evaluation of factors influencing healthcare outcomes and proposes modification of existing procedures.

- 111-1614 Scheduling Mobile Mammography Facilities For Community-based Care Considering Breast Cancer Risk
 Samira Fazal Anvaryazdi, Lecturer, Washington University in St. Louis, United States
 Ayca Erdogan, Assistant Professor, San Jose State University, United States
 Michael Klein, Assistant Professor, San Jose State University, United States
 Mahboubeh Madadi, Assistant Professor, San Jose State University, United States

Healthcare providers schedule mobile clinics to encourage participation in preventive care. We study the mobile facility location and scheduling problem for breast cancer screening. Considering that patients have different breast cancer risks, we propose a model to maximize health outcomes for a heterogeneous population and reduce disparities in the community.

- 111-1240 Stochastic Scheduling of Chemotherapy Appointments Considering Patient Acuity Levels
 Melih Celik, Associate Professor, University of Bath, United Kingdom
 Serhat Gul, Assistant Professor, TED University, Turkey
 Sirma Karakaya, Student, TED University, Turkey

Uncertainty in infusion durations and non-homogeneous care needs of patients are critical factors that lead to difficulties in chemotherapy scheduling. This study builds stochastic models and decomposition-based approaches for assigning patients of varying acuity levels to nurses and determining appointment times to minimize excess acuity, waiting time, and nurse overtime.

Invited Session

691	Sunday, 09:00 AM - 10:00 AM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Artificial Intelligence and Machine Learning Applications on Brain Signal and Electroencephalogram	
	Chair(s): Shikhar Khurana	

- 111-1718 Diagnosis of Mental Disorders using Artificial Intelligence and Machine Learning on EEG and Emotional Recognition
 Medha Tekriwal, Student, Temple University, United States
 Sanjana Malik, Student, Rowan University, United States
 Vriti Khurana, Student, Saint George's University, Grenada
 Vishwadeep Tehlan, Researcher, Heal.Expert Private Limited, India

Emotion recognition has increased the potential of affective computing. In this study, human emotions are recognized using AI and machine learning on physiological signals observed in response to several stimulus videos. These videos are selected to heighten certain emotions and EEG, and facial expressions are recorded in real-time using sensors.

111-1712 Information Extraction from EHR and EEG Signals to Determine Patient Neurological Condition

Shikhar Khurana, Student, Temple University, United States
Jared Stefanowicz, Student, Temple University, United States
Vikas Khurana, Associate Professor, ., United States
Subodha Kumar, Professor, Temple University, United States

Electroencephalography (EEG) is a common tool for prognostic and diagnostic purposes. Using patient EHR and EEG waveforms from the TUH-EEG corpus, one of the world's largest EEG datasets, we adopt a novel approach combining drug ontologies, NLP techniques and EEG signal processing to assess the prognosis of neurological disorders.

111-1753 Leveraging The Temple University Hospital EEG Corpus to Identify Patient Biomarkers

Jared Stefanowicz, Student, Temple University, United States
Shikhar Khurana, Student, Temple University, United States
Vikas Khurana, Associate Professor, ., United States
Subodha Kumar, Professor, Temple University, United States

The Temple University Hospital EEG Corpus is a dataset containing thousands of text files and hours of Electroencephalography (EEG) data. We explore techniques such as text extraction and Amplitude Spectral Density Differences used to identify and study biomarkers in Post-Stroke patients and other groups.

Contributed Session

693	Sunday, 09:00 AM - 10:00 AM, Inventory Management	Track: Inventory Management
	Contributed Session: Demand Driven Inventory Management	
	Chair(s): Benjamin Harris	

111-0984 Inventory Control for Periodic Intermittent Demand

Sarah Van der Auweraer, Post Doc/Researcher, University of Luxembourg, Luxembourg
Thomas van Pelt, Student, University of Luxembourg, Luxembourg
Joachim Arts, Associate Professor, University of Luxembourg, Luxembourg

Intermittent demand is difficult to forecast, as many periods have no demand. The time between demands is often not memoryless but - contrary to implicit model assumptions- displays periodicity. Consequently, the time since the last demand is a predictor for future demand. We propose a demand model that accommodates such periodicity.

111-1061 Inventory Management under Heavy-Tailed Demand

Canan Gunes Corlu, Associate Professor, Boston University, United States
Benjamin Harris, Assistant Professor, Boston University, United States
Cas Rosman, Student, Boston University, Netherlands

Focusing on a multi-item budget-constrained inventory optimization setting where the goal is to maximize customer service level subject to a budget constraint on the total inventory investment, we formulate the inventory optimization problem under heavy-tailed demand and investigate the impact of heavy tailed demand on optimal inventory levels.

Invited Session

696	Sunday, 09:00 AM - 10:00 AM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Order Fulfilment and Logistics Services	
	Chair(s): Alexander Himme	

111-1409 The Impact of Order Fulfilment Services Provided by Marketplace Operators on Third-party Seller's Performance

Hao Su, Student, University of Maryland, United States

The paper examines the impact of order fulfilment services provided by marketplace operators on third-party sellers' competitiveness and product performance. We also examine factors that may moderate the relationship between using order fulfilment services provided by marketplace operators and a third-party seller's competitiveness.

111-1735 Exploring the Effects of Last-Mile Logistics Services on Online Store Brand Equity

Felix Bergmann, Student, ETH Zurich, Switzerland
Alexander Himme, Associate Professor, Kühne Logistics University, Germany
Stephan Wagner, Professor, ETH Zurich, Switzerland

Via an online experiment, we examine the relationship between last-mile logistics service offerings and customer-based brand equity considering four moderators. Regression analysis suggests that customers appreciate a wider selection of services beyond a standard service. However, customers do not appreciate the BYO service as it leads to choice overload effects.

111-1677 Effects of production capacity and substitutability on optimal pricing and inventory policies

Zepeng Wang, Student, Renmin University of China, China

Jianghua Wu, Professor, Renmin University of China, China

We investigate the impact of production capacity and product substitutability on the optimal prices, inventories, and profit, when the manufacturer faces uncertain demand. Besides, we also solve the capacity allocation problem. Results show that, there exists an optimal substitutability, and capacity allocation depends on substitutability and market potential of products.

Invited Session

697	Sunday, 09:00 AM - 10:00 AM, Not-for-Profit OM	Track: Not-for-Profit Operations Management
	Invited Session: Food Access, Supply, and Sustainability	
	Chair(s): Deniz Besik	

111-0590 Modeling Food Under-Served Areas: The Food Distributor and Policy-Maker Problems

Sofia Perez-Guzman, Student, Rensselaer Polytechnic Institute, United States

Jose Holguin-Veras, Professor, Rensselaer Polytechnic Institute, United States

This paper develops two mathematical models to investigate the market-related root causes of food under-served areas (FUAs) or food deserts. The first formulation models the formation of FUAs as a result of economic interactions. The second formulation models the decision-making behavior of a policy maker interested in mitigating FUAs.

111-1343 Enhance Fundraising Efficiency for Food Banks through Strategic Decisions

Yingru Han, Student, University of South Carolina, United States

Luv Sharma, Assistant Professor, University of South Carolina, United States

Pelin Pekgun, Associate Professor, University of South Carolina, United States

While fundraising is labor intensive, the literature on understanding the human capital factor in fundraising teams is limited. We intend to fill this gap by using panel data from 183 food banks within Feeding America, to better understand the relationship between staffing levels and fundraising efficiency.

111-0617 Competitive Agricultural Supply Chain Network Design with Environmental and Social Sustainability Considerations

Deniz Besik, Assistant Professor, University of Richmond, United States

Sara Saberi, Assistant Professor, Worcester Polytechnic Institute, United States

Pritha Dutta, Assistant Professor, Pace University, United States

Rodrigo Mercado Fernandez, Post Doc/Researcher, Appalachian State University, United States

We present a competitive multiperiod, and multicriteria supply chain network design model. Our modeling framework considers the harmony of three phenomenon in supply chain network design: competition, sustainability, and time. We study the competitive behavior of the agri-food firms through game theory.

Invited Session

698	Sunday, 09:00 AM - 10:00 AM, Operational Excellence	Track: Operational Excellence
	Invited Session: Microfoundations of continuous improvement	
	Chair(s): Lawrence Fredendall Matthias Thurer	

111-1482 Beyond Active Causes: Swiss Cheese and NESS conditions

Matthias Thurer, Professor, Jinan University, China

Why? Why? Why? Why? Why? Is the essence of any improvement. But the answer to a why question may be a single active cause or latent causes. Most improvement tools assume active causes, but most problems in practice are due to latent causes. This presentation discusses different causal models.

111-1509 Do time constraints negatively affect training transfer in Design for Six Sigma Training?

Adrian Choo, Assistant Professor, Michigan State University, United States

Jamison Kovach, Associate Professor, University of Houston, United States

Lawrence Fredendall, Professor, Clemson University, United States

Continuous improvement teams are often simultaneously trained in problem solving and assigned a problem to solve. The employee is expected to immediately apply what they learn. But is this always effective? Do employee time constraints interfere with this approach to problem solving?

111-1511 Creating a Daily Management System to Improve Performance in an Emergency Department

Cassie Mueller, Nurse Manager, Prismahealth, United States

Dorothy Williams, RN, Prismahealth, United States

Gregory Hair, Director of Nursing, Department of Emergency medicine, Prismahealth, United States

Joshua Gray, M.D., Prismahealth, United States

Lawrence Fredendall, Professor, Clemson University, United States

A Daily Management System based on an electronic dashboard was created for a fast track process serving low acuity patients in an Emergency Department. This was created using the A3 problem solving method. The paper focuses on how the DMS contributed to reducing patient length of stay.

Invited Session

699	Sunday, 09:00 AM - 10:00 AM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Social Responsibility and Government Intervention in Agricultural Supply Chain	
	Chair(s): Zhaofang Mao Yulan Wang	

111-0905 Entry of Food Coops and Its Implications on For-Profit Retailers

C. Gizem Korpeoglu, Assistant Professor, University College London, United Kingdom
 Ersin Korpeoglu, Associate Professor, University College London, United Kingdom
 Christopher Tang, Professor, University of California Los Angeles, United States
 Jiayi Yu, Assistant Professor, Fudan University, China

More social retailers (food cooperatives) are entering the market with a social commitment: donate a proportion of its profit to non-profit organizations that serve the local community; or maximize its sales quantity to support local economy and create local jobs. We examine the socially-responsible retailer's pricing strategy and entry conditions.

111-0910 Information Channel and Performance of Agricultural Supply Chains: Government Channel vs. Market Channel

Zelong Yi, Associate Professor, Shenzhen University, China

This paper examines information strategies for a farming cooperative who plants agricultural products and sells to a consumer via an intermediary social enterprise. We find that the farming cooperative's quality certification strategy is not only determined by the acquired information but also influenced by the channel taken to do it.

111-1348 Government purchasing policy considering the negotiation in the agricultural supply chain

Zhaofang Mao, Professor, Tianjin University, China
 Zhengbo Liang, Student, Tianjin University, China
 Yuqing Han, Student, Tianjin University, China

We investigate the equilibria in a three-tier agricultural supply chain. Farmers and the intermediary negotiate the local market price. Besides the condition without government, we study the scenario that the government only considers the farmers' profit and considers both farmers' and the intermediary's profits.

Invited Session

701	Sunday, 09:00 AM - 10:00 AM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Circular Supply Networks	
	Chair(s): Sourabh Jain Jury Gualandris	

111-1512 Coordination and cooperation within circular supply chains: Implications for an integrated buyer-supplier interface

Lydia Bals, Professor, Mainz University of Applied Sciences, Germany

In order to transform how business is done toward moving to a circular economy, an ecosystem perspective is needed. Questions arise as to how management of the buyer-supplier interface needs to change in light of these new requirements. This is explored with a framework based on coordination and cooperation.

111-1689 Leveraging digital platforms to foster circular supply networks

Francesca Ciulli, Assistant Professor, Tilburg University, Netherlands

The presentation provides an overview of the role digital platforms (can) play in fostering circular supply networks. It particularly discusses sharing platforms, which afford users temporary access to underutilized goods, and "circularity brokers" (Ciulli et al., 2020), which enable waste recovery by facilitating its exchange between supply chain actors.

111-1762 Environmental implications of B2B food waste exchanges

Sourabh Jain, Post Doc/Researcher, Ivey Business School, Western University, Canada
 Jury Gualandris, Associate Professor, Ivey Business School, Canada

Firms have multiple choices to manage their waste, but the challenge is to identify the most environmentally sustainable option. Focusing on spent grains and fruit residue, our work deploys LCA to assess what repurposing pathways and operational configurations should be favored by firms and policy makers to mitigate climate change.

Invited Session

702	Sunday, 09:00 AM - 10:00 AM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Empirical Studies on Innovation Management	
	Chair(s): Param Pal Singh Chhabra	

111-0058 Patent Pendency and Future Innovative Activities

Param Pal Singh Chhabra, Assistant Professor, University of Alberta, Canada
 Manpreet Hora, Associate Professor, Georgia Institute of Technology, United States
 Karthik Ramachandran, Associate Professor, Georgia Institute of Technology, United States

We develop an inventor's resource allocation model to allocate her effort between innovative and routine activities with belief updating about the probability of patent pendency. We find support for our hypotheses, motivated by the analytical results and tested using the USPTO data, that patent pendency negatively affects the inventor's decisions.

111-0610 Knowledge Accumulation And Innovation in Buyer-Supplier Networks

Shubhobrata Palit, Assistant Professor, Esade Business School, Spain
Manpreet Hora, Associate Professor, Georgia Institute of Technology, United States
Soumen Ghosh, Professor, Georgia Institute of Technology, United States

We focus on buyer as a source of technological knowledge and examine the conditions under which a supplier firm accumulates technological knowledge from its buyer at the relationship level.

111-0063 Business Method Innovation in US Manufacturing and Trade

Tian Chan, Assistant Professor, Emory University, United States
Anandhi Bharadwaj, Professor, Emory University, United States
Deepa Varadarajan, Assistant Professor, Georgia State University, United States

Leveraging on the exogenous shock of the State Street ruling, which recognized business methods as patentable, we show that (1) firms in the manufacturing and trade sectors primarily engage in business method innovations targeted at supporting product sales, and (2) engaging in business method innovation drive market performance.

Invited Session

703	Sunday, 09:00 AM - 10:00 AM, Public Sector OM	Track: Public Sector Operations Management
	Invited Session: Maximizing Value in Not-for-Profit Operations	
	Chair(s): Somya Singhvi	

111-1076 Increasing Charity Donations: A Bandit Learning Approach

Divya Singhvi, Assistant Professor, New York University, United States
Somya Singhvi, Assistant Professor, University of Southern California, United States

We consider the problem of maximizing charity donations with personalized recommendations on crowd-sourcing platforms, when donor preferences are unknown. We propose a new learning algorithm that is rate optimal (in terms of regret) and considerably outperforms benchmark algorithms in numerical experiments.

111-1207 Treat, Dump, or Export? How Domestic and International Waste Management Policies Impact Waste Chain Outcomes

Sytske Wijnsma, Post Doc/Researcher, Georgia Institute of Technology, United States
Dominique Lauga, Associate Professor, Cambridge University, United Kingdom
Beril Toktay, Professor, Georgia Institute of Technology, United States

Illegal or unwanted waste disposal methods such as dumping and export are prevalent in practice as a high degree of heterogeneity between firms and proprietary information render monitoring imperfect. We analyze the effects of domestic and international waste regulations targeting dumping and export, respectively, on firm incentives and compliance.

111-1505 Farm equipment sharing in emerging economies

Olufunke Adebola, Senior Consultant, Deloitte, United States
Priyank Arora, Assistant Professor, University of Massachusetts Amherst, United States
Can Zhang, Assistant Professor, Fuqua School of Business, United States

We study farm equipment sharing platforms in emerging economies. We capture a new role within these platforms—booking agents, who collect demand from individual farmers and submit the aggregated demand on the platform. We show the platform's optimal decisions and equilibrium outcomes can significantly differ compared to settings without booking agents.

Invited Session

704	Sunday, 09:00 AM - 10:00 AM, Retail Operations	Track: Retail Operations
	Invited Session: Omnichannel Design and Planning	
	Chair(s): Haytham Abdelakher Mohamed	

111-1425 Inventory allocation strategies for omnichannel retailing

Mahsa Mahboob Ghodsi, Student, HEC Montréal, Canada
Mehmet Gumus, Professor, McGill University, Canada
Necati Ertekin, Assistant Professor, University of Minnesota, United States

With omnichannel strategies, retailers face a trade-off between allocating stocks to store or distribution center. In this project, we aim to understand what motives retailers to adopt different omnichannel fulfillment strategies and analyze under what conditions it is beneficial for a retailer to offer omnichannel fulfillment strategies.

111-0956 Distribution Network Design in Omnichannel Retailing considering customers' channel preference

Dung Nguyen, Student, Kuehne Logistics University, Germany
Walid Klibi, Professor, Kedge Business School, France

The transition to omnichannel operations requires retailers effectively reconfiguring their distribution network while capturing customers' channel preferences given the provided service policies. We build a distribution network design framework while improving the calculation of click-to-possession time, incorporating last-mile logistics costs, and modeling customer channel choice using a discrete choice model.

111-1262 On the inventory performance of omnichannel fulfillment strategies

Walid Klibi, Professor, Kedge Business School, France

Mohamed Babai, Professor, Kedge Business School, France

Yves Ducq, Professor, university of Bordeaux, France

Haytham Abdelakher Mohamed, Student, university of Bordeaux, France

In this paper, we empirically evaluate the inventory performance of three fulfillment strategies of a cosmetics retailer selling through online and store channels. We provide empirical evidence of the benefit of forecasting based on the aggregation of sales of both channels and a shared inventory at store.

Contributed Session

705	Sunday, 09:00 AM - 10:00 AM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Contributed Session: Transportation Problems in Revenue Management	
	Chair(s): Julia Yan	

111-1769 Trading flexibility for adoption: Dynamic versus static walking in ridesharing

Sébastien Martin, Assistant Professor, Northwestern University Kellogg School of Management, United States

Julia Yan, Assistant Professor, University of British Columbia, Canada

Sean Taylor, Researcher, Lyft Corporation, United States

Ridesharing platforms have traditionally implemented dynamic walking, which asks passengers to walk a little towards the car in order to achieve more efficient matches. Using novel models and extremely detailed Lyft data, we propose the new paradigm of static walking, which communicates a predetermined pickup location to the rider.

111-1555 A JOINT PRICING AND CAPACITY DECISION PROBLEM IN RAILROAD

Chandrasekhar Manchiraju, Student, UT Dallas, United States

Milind Dawande, Professor, University of Texas Dallas, United States

Ganesh Janakiraman, Professor, University of Texas Dallas, United States

Arvind Raghunathan, Senior Principal Research Scientist, Mitsubishi Electric Research Laboratories, United States

We study a joint pricing and capacity decision RM problem in railroad with multiple novel features such as flexible capacity, unreserved coaches, and congestion management. We provide static and dynamic pricing policies with fixed and variable capacities, and prove state-of-the-art performance guarantees for our policies.

Invited Session

706	Sunday, 09:00 AM - 10:00 AM, Service Operations	Track: Service Operations
	Invited Session: Data-Driven Service System Design	
	Chair(s): Kejia Hu	

111-1563 Need for Speed: The Impact of Website Performance on Online Retail

Nil Karacaoglu, Assistant Professor, Fisher College of Business, Ohio State U, United States

Santiago Gallino, Assistant Professor, The Wharton School, United States

Antonio Moreno, Associate Professor, Harvard University, United States

The impact of delays has been studied in various offline services. The focus of our study is online services, where we explore the impact of in-process delays---measured by website speed---on customer behavior.

111-1499 Simultaneous Imputation and Prediction with High-dimensional Data: A Deep Learning Model for Disease Diagnosis

Jianqiang Hu, Professor, Fudan University, China

Kejia Hu, Assistant Professor, Vanderbilt University, United States

Zhenzhen Jia, Student, Fudan University, China

Qingchen Wang, Assistant Professor, University of Hong Kong, Hong Kong

Ning Zhang, Associate Professor, Shanghai Jiao Tong University, China

We propose a deep learning diagnostic model that simultaneously performs imputation and prediction with high-dimensional data for disease diagnosis. Our model performs better in accuracy than traditional two-step machine learning models and it can be used as a low-cost and non-invasive alternative for delivering a high-quality diagnosis for patients.

111-1496 To What Extent Do Workers' Preferences Matter?

Kejia Hu, Assistant Professor, Vanderbilt University, United States

Our research investigates how preference satisfaction, particularly intrinsic values can improve a worker's service efficiency and quality. Examining a comprehensive dataset linking surgeons' performances to their preferences for operating rooms, we confirm the significant role of intrinsic values in driving workers' service efficiency and quality.

Contributed Session

711

Sunday, 09:00 AM - 10:00 AM, Supply Chain Risk Management

Track: Supply Chain Risk Management

Contributed Session: Understanding Supply Chain Resilience

Chair(s): Li WAN

111-1670 Understanding supply chain resilience: An empirical analysis

Li WAN, Associate Professor, Chongqing University of Posts & Telecom*, China

Li Wan, , ,

The purpose of this study is twofold. First, it proposes an integrated conceptual framework, providing a preliminary effort towards a more nuanced understanding of the influencing mechanisms of supply chain resilience. Second, it tests the relationship between supply chain resilience and firm performance based on data.

111-0788 The Relationships between Corporate Entrepreneurship, Supply Chain Resilience and Business Performance: An Empirical Study

Sebastian Sturm, Student, Friedrich-Alexander University Erlangen-Nuremberg, Germany

Nils-Ole Hohenstein, Professor, Cooperative State University Mannheim, Germany

Evi Hartmann, Professor, Friedrich-Alexander University Erlangen-Nuremberg, Germany

This paper explains how to achieve competitive advantage in dynamic environments by investigating and empirically validating the relationships between corporate entrepreneurship, supply chain resilience and business performance. By combining these distinct but related research fields in a single model, the authors advance cross-disciplinary understanding of supply chain risk management research.

111-1117 Location, Process and Product Risks Interaction towards Food Supply Chain Resilience

Mukesh Kumar, Associate Professor, University of Cambridge, United Kingdom

Naoum Tsolakis, Assistant Professor, International Hellenic University, Greece

This study investigates risks associated with location, process, product in food sector to build a supply network resilience framework. it demonstrates that supply chain vulnerabilities and resilience exist in locations, processes, and products that creates unique risk profile to focal company. Mitigations of risks should be part of competitive strategy.

Invited Session

712

Sunday, 09:00 AM - 10:00 AM, Sustainable Operations 1

Track: Sustainable Operations

Invited Session: Applications of Analytics in Sustainable Operations

Chair(s): Xianghui (Richard) Peng

111-0167 Examining the Changing Aspects of Sustainable Operations Over Time in Academic Publications

Benjamin George, Assistant Professor, Department of Information, Operations & Technology Management, United States

Anna George, Lecturer, ADTA, United States

Ali Dag, Associate Professor, Crieghton University, United States

Sustainable Operations is an ever-evolving paradigm, chronicled by the academic journals within the discipline. This study examines the underlying aspects of Sustainable Operations over time. Text mining techniques are applied to data from Sustainable Operations publication abstracts to investigate their underlying characteristics. Results and future direction will be presented.

111-1381 End-of-Life Remanufacturing Technology Portfolio Optimization

Ying Cao, Assistant Professor, Penn State University Erie, United States

Kai Meng, Post Doc/Researcher, Massachusetts Institute of Technology, United States

Xianghui (Richard) Peng, Assistant Professor, Penn State University Erie, United States

In a closed-loop supply chain, manufacturers are often exposed to various remanufacturing technology alternatives for EOL products. We study the selection of remanufacturing technology portfolio from the perspective of assortment planning. We develop properties of the optimal technology portfolio and generate managerial insights under varied supply chain risks.

111-1299 Text Mining for Corporate Sustainability Practices and Performance

Xinyu Wei, Assistant Professor, California State University, Chico, United States

Lu Xu, Assistant Professor, University of North Georgia, United States

Ying Cao, Assistant Professor, Penn State Erie, United States

Xianghui (Richard) Peng, Assistant Professor, Penn State University Erie, United States

Corporates are increasingly aware of the need to address social responsibility including better sustainability practices and prepare sustainability reports that detail their engagement in sustainability practices and performances. This study applies text-mining techniques to investigate corporate sustainability practices and performances using company reports and provides insights for academia and industry.

Contributed Session

713

Sunday, 09:00 AM - 10:00 AM, Sustainable Operations 2

Track: Sustainable Operations 2

Contributed Session: Success Factors in Green Supply Chains

Chair(s): Amir Naderpour

Sunday, 09:00 AM - 10:00 AM

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111-0039 An Investigation of firm-level antecedents of green value internalisation for Upstream-Downstream supply chain interactions

Joseph Arhavbarien, Student, University of Bedfordshire, Great Britain
Ramakrishnan Ramanathan, Professor, University of Essex, United Kingdom
Yanqing Duan, Professor, University of Bedfordshire, United Kingdom

Research investigating antecedents and mechanisms for implementing firm-level pro-environmental strategy is limited. Extant literature focuses largely on upstream supply chains. This quantitative study addresses this gap by examining green value internalisation and its effect on firm-level green criteria development. Preliminary findings suggest correlation exists between green value internalisation and competitiveness

111-0307 Sustainable Supply Chain Management Controversies, Sustainability Practices, and Firm Performance: The Role of Other Resources

Amir Naderpour, Student, University of Texas Arlington, United States

We focused on the new channels sustainability affects the firm performance and studied the indirect relationship between SSCM and firm performance considering sustainability practices as mediators. Using a resource-based view, we posit that advertising, reputation, and R&D have effects on the indirect effect of SSCM controversies on firm performance.

Contributed Session

714

Sunday, 09:00 AM - 10:00 AM, Teaching/Pedagogy in POM Track: Teaching/Pedagogy in POM

Contributed Session: Topics and Pedagogy

Chair(s): Rebecca Clemons

111-0741 Rebooting Six Sigma

Tyson Browning, Professor, Texas Christian University, United States
Suzanne de Treville, Emeritus Professor, Univ of Lausanne, Swiss Finance Inst, Switzerland
Matthias Holweg, Professor, Oxford University, United Kingdom
Rachna Shah, Associate Professor, University of Minnesota, United States

Three decades after Six Sigma caused a dramatic upheaval in how process improvement is managed, it is time to rethink its underlying assumptions and tools, which will require repositioning our thinking about Statistical Process Control. We take on this task from the viewpoint of pedagogy.

111-1288 A Blockchain Case-Study for Achievement of Sustainable Development Goals

Cigdem Gurgur, Associate Professor, Purdue University, United States

We discuss how to successfully integrate blockchain technology discussion into operations management core course through development of a case-study for achievement of sustainable development goals. We illustrate blockchains can empower developing countries by advancing a reputation-based ownership of shared resources.

111-0769 The Dilemma of Supplier Problems: Swift or Effective Solutions?

Rebecca Clemons, Associate Professor, Indiana University, United States

Supply chain problems wreak havoc with production schedules, costs, and reputation. It's important to fix supplier problems quickly. This case study requires students to analyze firm data, evaluate the trade-off between resolving supplier issues quickly versus solving them effectively, and recommend a strategy for resolving supply chain issues.

Sunday, 10:15 AM - 11:15 AM

Invited Session

715

Sunday, 10:15 AM - 11:15 AM, 1- Meetings & Programs - All are Welcome Track: All Plenaries and Special Events: Open to Everyone

Invited Session: Plenary #3: POM's Mastery of Emerging Domains by Martin K. Starr

Chair(s): Kalyan Singhal

111-1831 Plenary #3: POM's Mastery of Emerging Domains

Martin Starr, Emeritus Professor, Rollins College, United States

Does POM Mastery exist? History provides a record of considerable achievement. Let us note that the M in POM stands for management that is both strategic and tactical. POM excels in tactical management (e.g., scheduling, SQC, and inventory management). We are rightly proud of our tactical role model leaders. However, POM failed to excel in dealing with strategic management issues such as offshoring and the advancement of disruptive technology. A watershed moment occurred at the 2001 POMS Conference where the theme was "POM Mastery in the New Millennium." Plenary speaker Dr. Clay Christensen explained how POM must deal with global strategic disruptions. As if in resonance, we have publication of Blue Ocean Strategy (Kim and Mauborgne, 2004), The Black Swan: The Impact of the Highly Improbable (Taleb, 2007), and an IPCC Report (2012): Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. There has been a cascade of unanticipated events: The World Trade Center destruction, 2001; COVID-19 pandemic kills millions; war erupts in Ukraine, 2022; major technological upheavals sweep through traditional markets (such as EV's, social media, space travel). Supply chain disruptions require new management methods for effective strategic systems planning. This includes agility and resilience management. We conclude that POM must become a strategically minded member of the C-suite team. In this way, "all organizations" can gain mastery over challenges posed by emerging domains.

Invited Session

759	<p>Sunday, 11:30 AM - 12:30 PM, 3- POMS Tutorials, Panels, & Workshops Track: All Tutorials, Invited Panels, and Workshops</p> <p>Invited Session: Tutorial: Teaching Supply Chain Analytics: Recent Development</p> <p>Chair(s): George Shanthikumar Yao Zhao</p>
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111-1819 Teaching Supply Chain Analytics: Recent Development

Yao Zhao, Professor, Rutgers University, United States

In this tutorial, we introduce recently developed widely-tested teaching modules for students to learn by doing, award winning cases to earn hands-on experience, and competitive games to simulate real-life data-driven decisions.

Contributed Session

760	<p>Sunday, 11:30 AM - 12:30 PM, Aviation Track: Aviation</p> <p>Contributed Session: Aviation Safety and Sustainability</p> <p>Chair(s): Paulo Gomes</p>
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111-1611 Preventive Maintenance of Military Aircrafts Based on the Flying Hours & the Number of Sorties

Young Chun, Professor, Louisiana State University, United States

Seong-Jong Joo, Professor, Air Force Institute of Technology, United States

Using the maintenance records of military aircrafts in the US Air Force, we develop neural network models that predict the probability of mission-critical failures during the next flight. If the probability is higher than a certain limit, the aircraft is subject to a preventive maintenance before the scheduled flight.

111-1476 Circular Economy practices in the Sector of Aviation

Raquel Rosa, Student, Instituto Superior de Economia e Gestão (ISEG) e Academia da Força Aérea (AFA), Portugal

Graça Silva, Assistant Professor, ISEG- University of Lisbon, Portugal

Paulo Gomes, Assistant Professor, Florida International University, United States

CE practices in aviation goes beyond reducing waste and losses during flights. The life cycle must be analyzed following the 7 R's (refuse, reduce, reuse, repair, recover, recycle) view. This study presents a critical literature review of CE practices in the context of aviation and suggest directions for future investigation.

111-1540 Understanding the Aviation Incidents

Burak Cankaya, Assistant Professor, Embry-Riddle Aeronautical University, United States

Bulent Erenay, Assistant Professor, Northern Kentucky University, United States

Kazim Topuz, Assistant Professor, University of Tulsa, United States

Aaron Glassman, Associate Professor, Embry-Riddle Aeronautical University, United States

Aviation incidents are Low-Probability/High-Impact events that a new model loses significant amount of value with even one incident. In this research we are using advanced Machine Learning models including Deep Learning to predict the severity of the incident and create simulation to predict the patterns that can happen.

Invited Session

763	<p>Sunday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 1 Track: Crisis/Disaster Management and Covid-19 Pandemic</p> <p>Invited Session: Crisis Management and Sustainability</p> <p>Chair(s): Sandra Buzon</p>
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111-0317 Estimating the Treatment Effect of Dispatched Resources in Wildfire Suppression

ILBIN LEE, Assistant Professor, University of Alberta, Canada

Mostafa Rezaei, Assistant Professor, ESCP EUROPE, France

Jen Beverly, Assistant Professor, Agricultural, Life and Environmental Sci - Renewable Resources Dept, Canada

Wildfires have caused profound economic and social costs. We estimate the treatment effect of dispatched resources on suppression success under different weather and fire conditions. Our results provide insight for better dispatching decisions and allocation of limited resources. This is the first study estimating the causal effect of suppression resources.

111-0357 Optimal Production Policy when Considering Environmental Regulation and Social Conflict

Sandra Buzon, Student, Texas A&M University College Station, United States

Neil Geismar, Professor, Texas A&M University College Station, United States

Given the use of natural resources, some industries face recurring community pressures. Such conflicts directly affect a company's financial performance by increasing operational costs. This research aims to analyze a firm's optimal production planning decisions, considering regulatory water pollution limits and the impact of conflict with the community.

111-0430 Improving drinking water access in Sub-Saharan Africa

Chengcheng Zhai, Student, Kelley School of Business, United States

Kurt Bretthauer, Professor, Indiana University, United States
 Jorge Mejia, Assistant Professor, Indiana University, United States
 Alfonso Pedraza, Associate Professor, Indiana University, United States

An estimated 2.2 billion people, particularly in rural areas, lack access to safe drinking water. In this paper, we study where to optimal build water projects, which is the main operational responses by water NGOs. In addition, we also explore how potential regional conflict can affect the operational decisions.

Contributed Session

764	Sunday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Contributed Session: Improving Vaccine Distribution	
	Chair(s): OZLEM COSGUN	

111-0951 Optimal COVID-19 Vaccination Facility Location

Jingyuan Hu, Student, University of California Los Angeles, United States
 Fernanda Bravo, Assistant Professor, UCLA Anderson School of Management, United States
 Elisa Long, Associate Professor, UCLA Anderson School of Management, United States

We formulate a COVID-19 vaccination location problem as a large-scale mixed-integer program, selecting from >58,000 pharmacies and >30,000 dollar stores nationwide. The optimal solution allocates 37% of vaccinations to dollar stores, achieving a 62% reduction in travel distance, and reduces racial disparities as measured by a newly constructed Gini coefficient.

111-0247 COVID-19 Vaccination Performance of the U.S. States via DEA and Ensemble Machine Learning Methods

OZLEM COSGUN, Assistant Professor, Harrisburg Univ of Science and Tech., United States
 Gamze Ogc Kaya, Assistant Professor, Sampoerna University, Indonesia
 Cumhur Cosgun, Civil Engineer, Pennsylvania Department of Transportation, United States

U.S. government has given great importance to vaccination. However, which states have performed well in administering COVID-19 vaccines and what makes a state more successful than others are still open questions. To answer these questions, we proposed a hybrid method that consists of Data Envelopment Analysis and Ensemble Methods.

111-1205 The Balancing Role of Distribution Speed against Varying Efficacy Levels of COVID-19 Vaccines under Variants

Daniel Kim, Student, Georgia Institute of Technology, United States
 Pinar Keskinocak, Professor, Georgia Institute of Technology, United States
 Pelin Pekgun, Associate Professor, University of South Carolina, United States
 Inci Yildirim, Associate Professor, Yale University, United States

The SARS-CoV-2 variants raise concerns about diminishing vaccine effectiveness. By utilizing a Susceptible-Infected-Recovered-Deceased model, we evaluate the trade-offs between a vaccine's distribution speed vs. efficacy and demonstrate that speed is a key factor to a successful immunization strategy even when the emerging variants may reduce the efficacy of a vaccine.

Contributed Session

765	Sunday, 11:30 AM - 12:30 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Contributed Session: Disruptive Technologies in the Supply Chain (1)	
	Chair(s): Sandria Weissshuhn	

111-0748 INFLUENCE OF ADDITIVE MANUFACTURING ON SUPPLY CHAIN RESILIENCE: AN EMPIRICAL ANALYSIS

Himali Patil, Student, University of North Texas, United States
 Suman Niranjani, Assistant Professor, University of North Texas, United States
 Arunachalam Narayanan, Associate Professor, University of North Texas, United States

Additive manufacturing technologies may offer major improvements to the supply chains. Yet, there has been scant empirical research on the influence of Additive Manufacturing on supply chains. This study empirically tests whether Additive Manufacturing adoption influences supply chain resilience, supply chain agility and supply chain complexity.

111-0355 Forecasting and Inventory Management Using Internet-of-Things Data at the Point-of-Consumption

Sandria Weissshuhn, Student, Kuehne Logistics University, Germany
 Yale Herer, Associate Professor, Technion Israel Institute of Technology, Israel
 Kai Hoberg, Professor, Kuehne Logistics University, Germany

Newly emerging smart replenishment systems at the point-of-consumption track product usage via smart, connected devices and use this data to automate order processes. Based on a large industry data set from the professional coffee industry, we develop models for demand forecasting, inventory control, and replenishment under inventory inaccuracies.

Invited Session

766	Sunday, 11:30 AM - 12:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Consumer Choice with Search 1	
	Chair(s): Aydin Alptekinoglu Natalia Kosilova	

111-0231 Diamonds in the Rough: Leveraging Click Data to Spotlight Underrated Products

Sajad Modaresi, Assistant Professor, University of North Carolina Chapel Hill, United States
 Seyed Emadi, Assistant Professor, University of North Carolina Chapel Hill, United States
 Vinayak Deshpande, Professor, University of North Carolina Chapel Hill, United States

Inspired by a dataset from JD.com, we study click and purchase behavior of customers using a structural estimation approach. We show that value of click for customers can be quite significant. Moreover, by disentangling the observed and unobserved parts of product utilities, we identify underrated diamond-in-the-rough products.

111-0452 Choice Overload with Search Cost and Anticipated Regret: Theoretical Framework and Field Evidence

Xiaoyang Long, Assistant Professor, University of Wisconsin Madison, United States
 Jiankun Sun, Assistant Professor, Imperial College London, United Kingdom
 Hengchen Dai, Assistant Professor, University of California Los Angeles, United States
 Dennis Zhang, Associate Professor, Washington University St Louis, United States

In this work, we conduct a large-scale field experiment to causally examine how consumers' click and purchase behavior changes as the number of products in a choice set increases. We then develop a model that incorporates consumers' search cost and anticipated regret to explain our results.

Invited Session

769	Sunday, 11:30 AM - 12:30 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Empirical Studies on Operations-Finance Interface - II	
	Chair(s): Sridhar Seshadri	

111-0210 The Effect of Expedited Payments on Project Delays: Evidence from QuickPay Reform

Vibhuti Dhingra, Assistant Professor, York University, Canada
 Volodymyr Babich, Professor, Georgetown University, United States
 Harish Krishnan, Professor, University of British Columbia, Canada
 Jie Ning, Associate Professor, Case Western Reserve University, United States

Contractors are typically not paid instantaneously upon completing the project tasks and furnishing the invoice. We study the impact of payment timings on project delays using data on U.S. public projects. Our identification strategy uses a policy amendment that expedited payments to certain federal contractors as an exogenous shock.

111-1405 Effects of Financial Constraint on Supply Chain Financing Choices and Operational Decisions

Anqi Wu, Student, University of Illinois Urbana-Champaign, United States
 Qi Wu, Assistant Professor, Case Western Reserve University, United States
 Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States

We leveraging staggered state-wise implementations of interstate branching deregulation across U.S. as quasi-experiments to investigate how firms plan on their capacity and inventory when financial constraints are relaxed. We find the deregulation improves firms' access to credit market and has heterogenous effects on financing choices and operational decisions across firms.

111-0709 Building Resilience through Supply Chain Finance (SCF): An Empirical Investigation

Begimai Marlenova, Student, Technische Universitat Munchen, Germany
 David Wuttke, Assistant Professor, Technische Universitat Munchen, Germany
 Eve Rosenzweig, Professor, Emory University, United States

COVID-19 has disrupted many supply chains around the world. In this paper, we examine the various ways buyers and their suppliers can use SCF to mitigate the effects of such disruptions. We rigorously test several hypotheses using a global dataset provided by a leading SCF provider.

Invited Session

770	Sunday, 11:30 AM - 12:30 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Information Issues in Supply Chain Finance - I	
	Chair(s): Panos Kouvelis Puping (Phil) Jiang	

111-0349 GLOBAL SUPPLY CHAINS AND CROSS-BORDER FINANCING

Michael Hertz, Professor, Arizona State University, United States
 Jie Peng, Student, Chinese Univ of Hong Kong, Hong Kong
 Jing Wu, Assistant Professor, The Chinese University of Hong Kong, Hong Kong
 Yu Zhang, Assistant Professor, Peking University, China

This paper provides evidence that the formation of global supply chain partnerships increases access to cross-border financing. The findings are detected in all three major financing markets - equities, syndicated loans, and public debt.

111-0371 Cash Hedging Motivates Information Sharing

Puping (Phil) Jiang, Student, Washington University St Louis, United States
Panos Kouvelis, Professor, Washington University in St. Louis, United States

We study the interplay between firms' information sharing behaviors and cash hedging strategies in supply chains. We find retailers' voluntary market information disclosure can be motivated by a supplier's cash hedging decisions. The driving forces to this phenomenon depend on the supply chain structure.

Invited Session

772	Sunday, 11:30 AM - 12:30 PM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Analytics for Healthcare Policy	
	Chair(s): Lina Song	

111-0872 Does Colocation of Services Matter? Empirical Evidence from a Large Healthcare Setting

Vishal Ahuja, Assistant Professor, Southern Methodist University, United States
Carlos Alvarez, Associate Professor, Texas Tech University, United States
Bradley Staats, Professor, University of North Carolina Chapel Hill, United States

We empirically examine how colocation of mental and physical health services impacts patient outcomes (e.g., hospitalizations, suicide attempts). Using nationwide data on veterans suffering from diabetes and mental illness, we find that colocation improves outcomes. Further, this improvement occurs (partially) through a reduction in no-shows and increase in medication compliance.

111-1096 The Impact of Vertical Integration on Physician Behavior and Healthcare Delivery: Evidence from Gastroenterology Practices

Lina Song, Assistant Professor, UCL School of Management, United Kingdom
Soroush Saghaian, Assistant Professor, Harvard University, United States
Joseph Newhouse, Professor, Harvard University, United States
Mary Beth Landrum, Professor, Harvard University, United States
John Hsu, Associate Professor, Harvard University, United States

We study the impact of hospital-physician vertical integration on healthcare delivery. We find that physicians increase spending and reduce recommended care processes after integration, which results in a substantial increase in patients' post-procedure complications. Policymakers should carefully align the financial incentives of the integrated providers to prevent unintended consequences.

111-1705 Structural Estimation of Intertemporal Externalities on ICU Admission Decisions

Yiwen Shen, Assistant Professor, NA, Hong Kong, China
Carri Chan, Assistant Professor, Columbia University, United States
Fanyin Zheng, Assistant Professor, Columbia University, United States
Gabriel Escobar, MD, Kaiser Permanente, United States

We use two years data from 21 hospitals to study the intertemporal externalities in ICU admissions. We employ a structural model to estimate the discount factor in admission process. We find large heterogeneity in discount factors of hospitals. Hospitals can improve their efficiency safely by altering their discounting factors.

Invited Session

773	Sunday, 11:30 AM - 12:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Empirical Studies in Healthcare 1	
	Chair(s): Maria Ibanez	

111-0412 Building Organizational Capabilities Using Data-Driven Operations Scheduling

Jaeyoung Kim, Student, Clemson University, United States
Ahmet Colak, Assistant Professor, Clemson University, United States
Lawrence Fredendall, Professor, Clemson University, United States
Robert Allen, Research Engineer, Perioperative Services, Prisma Health, United States

We study the impacts of scheduling inputs on hospital's scheduling decision to reduce operating room (OR) scheduling mismatches (i.e., deviations from scheduled durations). We also examine how scheduling mismatch and team overutilization affect the team performance. Our findings show that increasing scheduling inputs can dramatically reduce the scheduling mismatches.

111-0562 Nonprofit vs. For-Profit: Allocation of Beds and Access to Care in U.S. Nursing Homes

Yangzi Jiang, Student, Northwestern University Kellogg School of Management, United States
Lauren Lu, Associate Professor, Dartmouth College, United States
Jan Van Mieghem, Professor, Northwestern University, United States

Motivated by bed allocation patterns of U.S. nursing homes, we formulate a queueing network model to study nonprofit and for-profit nursing homes' bed allocation decisions and the access to care for the public. Our study shows that for-profit nursing homes can actually provide higher access for the Medicaid-covered population

111-1077 "I Quit": The Role of Schedule Volatility in Employee Turnover

Hummy Song, Assistant Professor, The Wharton School, United States
Alon Bergman, Post Doc/Researcher, The Wharton School, United States
Guy David, Associate Professor, The Wharton School, United States

Using time-stamped work log data of home health nurses, we examine how employer-driven volatility in workers' schedules impacts their decision to voluntarily leave their job. We find that higher levels of schedule volatility substantially increase workers' likelihood of quitting. We use policy simulations to illustrate ways to mitigate this phenomenon.

Contributed Session

774

Sunday, 11:30 AM - 12:30 PM, Healthcare OM 2 Track: Healthcare Operations Management 2
Contributed Session: **Healthcare Models in Developing Economies**
Chair(s): David Dreyfus

111-0953 Mobile Laboratories - An Innovative Approach to Increase Diagnostics Capacity in Low- and Middle-Income Countries

Thomas Breugem, Post Doc/Researcher, INSEAD, Netherlands
Tim Sergio Wolter, Post Doc/Researcher, INSEAD, France
Luk Van Wassenhove, Professor, INSEAD, France

Recent innovative mobile health solutions provide great opportunities to improve access. However, the best operational model is not evident for many solutions. We combine an empirical field study with quantitative modeling to assess key factors determining the best operational model for a mobile laboratory solution and provide practical recommendations.

111-1086 Ambulance Dispatching Model with Repairs: A Case Study in Ghana

David Dreyfus, Assistant Professor, Rutgers Business School, United States

It's common for public ambulances within Ghana to be broken down. There are health implications for the nearly 29 million residents, when ambulances are not available. A multi-period aggregate planning model is developed to assist with dispatching, while considering ambulance repairs. Results indicate improvements in population health and ambulance access.

Invited Session

775

Sunday, 11:30 AM - 12:30 PM, Information Systems & OM 1 Track: Information Systems and Operations Management
Invited Session: **Emerging Issues in Healthcare and Manufacturing Operations**
Chair(s): Medha Tekriwal

111-0676 Breadth and Depth of Health Information Exchange: Theory and Empirical Analysis

Qi Lin, Assistant Professor, University of International Business and Economics, China
Yao Li, Assistant Professor, Southern University of Sci and Tech, China

This paper studies the mechanism by which health providers determine the breadth and depth of health information exchange considering competition. We explore the interaction between two health providers based on the Hotelling model and further perform an empirical study to supplement and get insights in comparison with the analytical results.

111-1707 Engagement in Online Physician Listing and Appointment-Scheduling Platforms

Sandeep Khurana, Student, Indian School of Business, India
Subodha Kumar, Professor, Temple University, United States

The session presents a review of current literature on engagement in popular healthcare portals. The coverage includes (a) Physician search, listing, ranking and selection (b) engagement through Q&A through the portal (c) reviews of patient in-clinic and online consultations (d) techniques of content analysis of qualitative feedback (text data).

111-1754 Machine Vision and Artificial Intelligence for Fault Detection in Indian Railway Locomotives.

Manish Choudhary, CEO, MLIT-18 Technology Pvt Ltd, India
Sabari Nair, Product Innovation Head, MLIT-18 Technology Pvt Ltd, India
Kunal Wankhede, Research Engineer, MLIT-18 Technology Pvt Ltd, India
Subodha Kumar, Professor, Temple University, United States

The system enables automated and autonomous locomotive inspection using machine vision and artificial intelligence. Successful deployment of machine vision technologies with battery operated wireless bots collect all data for visual inspection, thermal inspection, and profile inspection of critical items. They system increases speed of inspection and consistency in inspection process.

Contributed Session

777

Sunday, 11:30 AM - 12:30 PM, Inventory Management Track: Inventory Management
Contributed Session: **Heuristics and Algorithms in Inventory Management**
Chair(s): Li-Lian Gao

111-1764 Forecasting of raw material Consumption using LightGBM - Case Study for cable accessories manufacturing Plant

Puja Sarkar, Student, National Institute of Industrial Engineering, India

RONY MITRA, Student, IIT Kharagpur, India

Since supply and demand have complex functions, finding the optimal inventory requires accurate modeling and forecasting of raw material consumption. In this research, we forecast the monthly consumption of raw materials for a prominent cable accessories manufacturing company in southeast Asia using an aggregated LightGBM method.

111-0838 Retailer Sales Forecasting using LightGBM Algorithm

Ritik Singh, Student, Indian Institute of Technology Kharagpur, India

Duhita Wani, Student, Indian Institute of Technology Kharagpur, India

Ratnesh Bhosale, Student, Indian Institute of Technology Kharagpur, India

Vivek Khanzode, Associate Professor, National Institute of Industrial Engineering, Mumbai, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

Sales forecasting is of utmost importance for inventory management to increase profit and reduce inventory storage costs. This paper proposes the LightGBM sales prediction model which combines LightGBM algorithm (a variant of gradient boosting decision tree) and meticulous feature engineering processing for predicting retailer sales problems.

111-0914 A Lagrangian-Relaxation/Dual-Ascent Heuristic for the Multi-Item Capacitated Joint Replenishment Problem

Li-Lian Gao, Associate Professor, Hofstra University, United States

Powell Robinson, Professor, University of Houston, United States

We consider a joint replenishment problem in which a family of products shares a common production facility with limited capacity. The objective is to determine the least-cost production schedule without violation of facility capacity. We present a Lagrangian-relaxation/dual-ascent based heuristic and the computational results.

Invited Session

780	Sunday, 11:30 AM - 12:30 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Pricing and Behavioural Issues in Multi-Channel Platform Economy and Sourcing	
	Chair(s): Yulan Wang Xu Guan	

111-0078 To Keep Price Consistency or Not: Multi-Channel Retailing with Consumers' Fairness Concern

Xiaomeng Guo, Assistant Professor, Hong Kong Polytechnic Univ, Hong Kong, China

Yumeng Li, Student, Shanghai University of Economics and Finance, China

Guang Xiao, Student, Hong Kong Polytechnic Univ, Hong Kong

Wenxin Xu, Assistant Professor, Univ of South Carolina, United States

The rise of multi-channel retailing brings challenges to retailers in determining the selling prices for different channels, especially when consumers have fairness concerns regarding inconsistent prices across channels. We propose a game-theoretic model to investigate a multi-channel retailer's optimal pricing strategy in the presence of consumers' fairness concerns.

111-0624 Dual Sourcing in the Presence of Quality Uncertainty When Consumers Are Fairness Concerned

Xin Wang, Assistant Professor, Hong Kong University of Science & Tech, China

Yulan Wang, Professor, Hong Kong Polytechnic Univ, Hong Kong

Yafei Ma, Student, Hong Kong Polytechnic Univ, Hong Kong

We characterize the effect of the ex post product quality heterogeneity induced by sourcing from different suppliers and the resulting consumer fairness concerns. We examine how the quality differences and fairness concerns affect an OEM's sourcing strategy selection, the supplier's wholesale pricing, and the OEM's optimal ordering decision.

111-0629 Competition between P2P Ridesharing Platforms and Traditional Taxis

Wen Diao, Student, Fudan University, China

Baojun Jiang, Associate Professor, Washington University St Louis, United States

Lin Tian, Associate Professor, Fudan University, China

This paper analytically examines the competition between a p2p platform and a traditional taxi company. We find that an increase in the taxi's inconvenience cost can make both firms worse off. Meanwhile, the platform's distance-based price discrimination can lead to win-win or loss-loss outcomes for both firms.

Invited Session

781	Sunday, 11:30 AM - 12:30 PM, Not-for-Profit OM	Track: Not-for-Profit Operations Management
	Invited Session: OM and Analytics for Social Good	
	Chair(s): Irem Sengul Orgut	

111-0091 Data Analytics for Disaster Management: Opportunities and Challenges for Future Research

Alfonso Pedraza, Associate Professor, Indiana University, United States

Lu (Lucy) Yan, Assistant Professor, Indiana University Bloomington, United States

Yu Kan, Student, University of Washington, United States

We build a framework on data analytics for disaster management (DADM). We use this framework to compare how academics and practitioners use DADM. Then we identify opportunities and challenges for research and illustrate our framework with an empirical application that showcases the impact of offline data on social media engagement.

111-0821 Designing Policies for Allocating Housing to Persons Experiencing Homelessness

Bill Tang, Student, University of Southern California, United States

Phebe Vayanos, Assistant Professor, University of Southern California, United States

Çağıl Koçyiğit, Assistant Professor, University of Luxembourg, Luxembourg

We study the problem of allocating scarce housing resources to individuals experiencing homelessness based on their observed covariates. Our proposed policy assigns an individual the resource maximizing the difference between their mean treatment outcomes and the resource bid price. Our approach has nice asymptotic guarantees and is easily interpretable.

111-1714 Modeling the Impact of Market Architecture on Supply Chain Resilience in a Developing Market

Megan Peters, Student, The George Washington University, United States

Erica Gralla, Associate Professor, George Washington University, United States

Our agent-based model fills a gap in the research where the impact of market architecture on supply chain resilience is not well studied in developing markets. We find that cooperatives are generally less resilient than farmers operating as independent entities, potentially pointing out an unacknowledged risk of cooperatives.

Contributed Session

782	Sunday, 11:30 AM - 12:30 PM, Operational Excellence	Track: Operational Excellence
	Contributed Session: Continuous improvement	
	Chair(s): Guilherme Tortorella Tortorella	

111-0253 Healthcare 4.0 and resilience development in hospitals

Guilherme Tortorella Tortorella, Associate Professor, University of Melbourne, Australia

Tarcisio Saurin, Professor, Universidade Federal Do Rio Grande Do Sul, Brazil

Flavio Fogliatto, Professor, Universidade Federal Do Rio Grande Do Sul, Brazil

Valentina Rosa, Lecturer, Universidade Federal do Rio Grande do Sul, Brazil

Leandro Tonetto, Associate Professor, UNISINOS, Brazil

This paper explores the impact of Healthcare 4.0 on resilience abilities in hospitals. We surveyed 109 experts and the collected data were analyzed using multivariate statistical techniques. Findings indicate that four Healthcare 4.0 technologies have a strong impact on resilience abilities. They reduce over-reliance on human skills, offering new opportunities.

111-0055 The Application of Value Stream Mapping within Craft Brewing

Kevin Burnard, Assistant Professor, Western Connecticut State University, United States

Value Stream Mapping provides a graphical representation of processes. These maps help identify areas of waste, improve utilization and establish information controls. However, limited work exists in the application of quality tools in craft brewing. This study details the application of VSM within a craft brewery towards identifying improvement areas.

Contributed Session

783	Sunday, 11:30 AM - 12:30 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Food Operations & Delivery	
	Chair(s): Christopher Mejia-Argueta	

111-0220 Impact of policy risks on regulatory inspection outcomes and quality performance of food operations

Abhay Grover, Student, University of Maryland - College Park, United States

Adams Steven, Assistant Professor, University of Maryland, United States

Shift in the U.S. political geography every two-years exposes food facilities to differential policy risks. We use political alignment to empirically uncover the impact of time-varying policy risks on quality performance (recalls) of food operations via regulatory inspection outcomes. We identify firm-level strategies to mitigate it and make policy recommendations.

111-0242 Last-Mile Challenges in On-Demand Food Delivery services: Understanding Riders' Perspective in an emerging economy context

Praveen Puram, Student, Indian Institute of Management Kozhikode, India

Anand Gurumurthy, Professor, Indian Institute of Management Kozhikode, India

On-demand food-delivery (ODFD) services have seen rampant growth. However, stakeholders (restaurants, platforms, riders) confront multiple challenges, including financial losses. Delivery riders handle the last-mile distribution, and provide the human-touch to ODFD. This study explores the challenges in ODFD from riders' perspective using the grounded theory methodology, and suggests potential solutions.

111-1313 Delivering locally sourced nutritious foods to Indian households

Christopher Mejia-Argueta, Assistant Professor, Massachusetts Institute of Technology, United States

Tatiana Collese, Post Doc/Researcher, University of Sao Paulo, Brazil

Sanchita Das, Student, University of Washington, United States

We match the demand of food with locally available, culturally preferred supply by designing 'customized food baskets' for different clusters. We used PCA and K-means clustering to segment customers, create a food basket model inspired by the knapsack problem, and use a MILP optimization formulation to solve the distribution problem.

Invited Session

785

Sunday, 11:30 AM - 12:30 PM, Procurement & Supplier Mgmt
Invited Session: Public Procurement 1
Chair(s): Marc Hatton

Track: Procurement and Supplier Management

111-1799 Supply chain management in the federal marketplace: Hard lessons from "Amazon.gov"

Chris Yukins, Professor, George Washington University, United States

The U.S. government's foray into what is known as "Amazon.gov" started with great promise. This research explores why, against all expectations, the initiative may have failed: inertia in the last leg of the supply chain, a failure in the rules system, or a conflict of interest in a bureaucracy?

111-1800 Strategic public procurement: Trend and international practices

Jacobo Villareal, Sr. Specialist in Integrity Policies and Public Procurement, Mexico

This research focuses on the strategic nature of procurement as a pillar of good public governance with features such as its size, impact in public service delivery, trends and increasing the use of public procurement to achieve objectives related to growth, sustainability, innovation, social inclusion, and responsible business conduct.

111-1801 A qualitative study on centralized state procurement: Assessing PPE procurement during COVID-19

Rebecca Montaña-Smith, Director, Research & Innovation, NASPO, United States

Zhaohui Wu, Associate Professor, Oregon State University, United States

Andrea Patrucco, Assistant Professor, Department of Marketing and Logistics, United States

Robert Handfield, Professor, North Carolina State University, United States

Chris Yukins, Professor, George Washington University, United States

This qualitative research examines over 100 hours of interviews with state CPOs and explores how the levels of centralization of state procurement, led by the state Chief Procurement Officer (CPOs), were associated with the responsiveness of state agencies to obtain PPE supplies during the height of the COVID-19 pandemic.

Invited Session

786

Sunday, 11:30 AM - 12:30 PM, Product Innovation & Tech Mgmt
Invited Session: Role of Platforms in New Product Innovation 1
Chair(s): Sreekumar Bhaskaran

Track: Product Innovation and Technology Management

111-0243 The emergence of novel product uses: an investigation of exaptations in IKEA hacks

Tian Chan, Assistant Professor, Emory University, United States

Shi Ying Lim, Professor, National University of Singapore, Singapore

Exaptation refers to the emergence of novel functionalities in existing products. We examine how product-first (vs. problem-first) searching affect the occurrence of exaptations in a user-innovation context. We show that product-first search lowers the likelihood of exaptations. However, higher hacking experience and product modularity reduces the difference.

111-0862 Lost Time in Crowdsourcing Contests

Brian Lee, Assistant Professor, Penn State University State College, United States

Anant Mishra, Associate Professor, University of Minnesota, United States

We capture the heterogeneity in contest awareness on a platform among solvers in terms of lost time (i.e., the time that elapses between the start of a contest and a solver's first visit to the contest) and examine how it impacts submission behavior as well as contest outcomes

Invited Session

787

Sunday, 11:30 AM - 12:30 PM, Public Sector OM
Invited Session: Healthcare and Public Sector Operations
Chair(s): Eric Xu

Track: Public Sector Operations Management

111-1202 The effect of process standardization in healthcare operations

Anand Bhatia, Student, University of North Carolina Chapel Hill, United States

Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

We study the impact of standardization of care on hospital outcomes. Using patient-level panel data we examine the standardization of procedural care of similar patients for all inpatient visits across multiple departments and hospitals. Our results show standardization increases quality and decreases both cost and variation in quality.

111-1263 How Does Physical Access Affect Emergency Department Use? Evidence From Insurance Coverage Expansion

Eric Xu, Student, University of Minnesota, United States

Anant Mishra, Associate Professor, University of Minnesota, United States

Kevin Linderman, Professor, Penn State University University Park, United States

The Patient Protection and Affordable Care Act was an attempt to provide widespread insurance coverage. While the law's Medicaid Expansion provided individuals with a financial means, we find that the impact of physical accessibility, e.g. spatiotemporal characteristics, has a greater impact on healthcare utilization.

111-1352 The Impact of Telemedicine on Mental Healthcare Service Usage and Quality: An Empirical Investigation

Yi Tang, Student, University of Minnesota, United States

Telemedicine is becoming increasingly popular for mental healthcare delivery especially during the COVID-19 pandemic. In this study, we find empirical evidence that enhancing affordability of and access to telemedicine increases patients' usage of such services, which ultimately improves mental healthcare quality.

Invited Session

788	Sunday, 11:30 AM - 12:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Omnichannel Retailing 1	
	Chair(s): Yao Chen	

111-0234 Optimal Return Time Window with Consumer Learning

Punya Chatterjee, Student, Penn State University University Park, United States

Aydin Alptekinoglu, Professor, Penn State University University Park, United States

Nicholas Petruzzi, Professor, University of Wisconsin-Madison, United States

we analytically study a profit-maximizing retailer's optimal return time window when selling an experience product to consumers who are uncertain about their utility from the product pre-purchase, but learns over time through consumption post-purchase. We find that in presence of such learning, consumer return-rate may decrease with allowed return window.

111-0816 When the customer is in my warehouse: An analysis of customer interference on picking operations

Reeju Guha, Student, IE BUSINESS SCHOOL, Spain

Daniel Corsten, Professor, IE BUSINESS SCHOOL, Spain

Online grocery shoppers encounter interference from customers while picking orders, affecting productivity, and service quality due to stockouts, picking errors. Within the day, there are less-busy periods when stores resemble a warehouse. We match similar orders picked during peak vs non-peak periods to establish value of picking during non-busy hours.

111-0169 The Value of Launching Omni-channel Services

Yao Chen, Student, Clemson University, United States

M. Serkan Akturk, Assistant Professor, Clemson University, United States

Benjamin Grant, Assistant Professor, Clemson University, United States

Implementing free in-store pickup services has become increasingly widespread in the retail industry as part of an omni-channel strategy. We develop a prescriptive model that enables a retailer to evaluate the value of adopting an omni-channel service along with customer behavior outcomes before implementation.

Invited Session

789	Sunday, 11:30 AM - 12:30 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Innovative Revenue Management Applications 1	
	Chair(s): Ovunc Yilmaz Xiao Zhang	

111-0939 Dynamic Pricing and Learning with Discounting

Zhichao Feng, Assistant Professor, University of Science and Technology of China, China

Milind Dawande, Professor, University of Texas Dallas, United States

Ganesh Janakiraman, Professor, University of Texas Dallas, United States

Anyan Qi, Assistant Professor, University of Texas Dallas, United States

We consider a dynamic pricing and learning problem that incorporates discounting. Specifically, we consider a retailer selling a product with infinite inventory to a sequence of customers where the parameters of the demand distribution are unknown to the retailer. Our main result is an asymptotically tight pricing policy.

111-0947 Dynamic Two-part Pricing and Bidding for Display Ad Campaigns on Advertising Exchanges

Sami Najafi-Asadolahi, Associate Professor, Santa Clara University, United States

Naren Agrawal, Professor, Santa Clara University, United States

Stephen Smith, Professor, Santa Clara University, United States

We consider an advertising agency that manages ad campaigns by bidding for targeted viewers on an ad exchange. We formulate the problem as a Markov Decision Process and determine the optimal upfront fee and the CPM price to charge each campaign and the optimal dynamic bidding policy to serve campaigns.

Invited Session

790	Sunday, 11:30 AM - 12:30 PM, Service Operations	Track: Service Operations
	Invited Session: Service Systems and Customer Behavior (1)	
	Chair(s): Yanting Li	

111-0615 Overconfidence in a Queue

Na Zhang, Student, University of Florida, United States
Anand Paul, Associate Professor, University of Florida, United States
Xu Sun, Assistant Professor, University of Florida, United States

We study a service system where true service times are unknown and customers exhibit the cognitive bias of being overconfident (overprecise) in their beliefs about service times --- customers underestimate the variability of service times. We study the implications of overconfidence in both an unobservable queue and an observable queue.

111-0181 On Information Disclosure in an Observable Shared Waiting Room

Yanting Li, Student, University of Rochester, United States
Ricky Roet-Green, Assistant Professor, Simon Business School, United States

We study a service system where two types of customers arrive to a system which includes two servers and a shared waiting room. Each type seeks service from only one of the servers. Customers cannot distinguish between types and need to decide whether to join based on inferred queue length

Contributed Session

795	Sunday, 11:30 AM - 12:30 PM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Contributed Session: Managing Supply Chain Risks	
	Chair(s): John-Patrick Paraskevas	

111-1474 Top Management Teams and Supply Chain Risk Management

John-Patrick Paraskevas, Assistant Professor, Haslam College of Business, United States
Laharish Guntuka, Student, Rochester Institute of Technology, United States
Camil Martinez, Professor, University of Los Andes, Colombia
Thomas Corsi, Professor, University of Maryland, United States

Recent events have highlighted the critical importance of supply chain risk management. This research study explores the impact of SCM representation in the C-suite on the firm's risk management strategies through the lens of Upper Echelons Theory. We utilize a unique secondary dataset of manufacturing locations across the world.

111-1051 Investigating Contemporary Risk Cycles in Supply Chain Operations

Naoum Tsolakis, Assistant Professor, International Hellenic University, Greece
Dimitris Zissis, Lecturer, Norwich Business School, United Kingdom
Thanos Papadopoulos, Professor, Kent Business School, United Kingdom

This study is motivated by the observation that global supply chain operations are vulnerable to concurrent risks, e.g., highlighted by prolonged disruptions due to the Covid-19 pandemic and the Suez Canal blockage. This research leverages available data to investigate concurrent risk cycles from a systems perspective.

111-1053 THE ROLE OF REAL-TIME EVENT MONITORING IN DYNAMIC RESPONSE TO DISRUPTIONS

Shailesh Divey, Student, Rensselaer Polytechnic Institute, United States
Mert Hakan Hekimoglu, Assistant Professor, Rensselaer Polytechnic Institute, United States
T. Ravichandran, Professor, Rensselaer Polytechnic Institute, United States

This study examines the benefits of AI- and cloud-based platforms that enable real-time monitoring of events like supply chain disruptions, and how such monitoring capabilities afford firms flexibility to revise their optimal response strategies in order to resolve the uncertainty associated with the length of these disruptions.

Invited Session

796	Sunday, 11:30 AM - 12:30 PM, Sustainable Operations 1	Track: Sustainable Operations
	Invited Session: Reducing Food and Packaging Waste in Supply Chains	
	Chair(s): Yann Bouchery	

111-0132 Can "Ugly Veg" Supply Chains Reduce Food Loss?

Behzad Hezarkhani, Associate Professor, Brunel University, United Kingdom
Yann Bouchery, Associate Professor, Kedge Business School, France
Guven Demirel, Assistant Professor, ?, United Kingdom
Manoj Dora, Professor, Brunel University, United Kingdom

The retailers' tradition of marketing only aesthetically agreeable products contributes to a major source of food loss through "ugly veg". We examine different tiers of agricultural supply chains to study the impact of marketing the ugly veg on different supply chain members and on the overall food loss.

111-0390 Coordinating agricultural dual-channel supply chains considering yield uncertainty

Nina Mayer, Student, Kuehne Logistics University, Germany
Sandra Transchel, Professor, Kuehne Logistics University, Germany
Mirjam Meijer, Student, Eindhoven University of Technology, Netherlands

Growing consumer demand for sustainable food products, makes direct-to-consumer sales a valuable alternative for farmers, next to the retail market. We study how a dual-channel structure can improve an agricultural food supply chain's profitability and sustainable transformation, considering the effect of customer valuation of supply chain transparency and product aesthetics.

111-0484 Managing reusable packaging via a deposit system

Mahyar Taheri Bavil Oliaei, Student, Kuehne Logistics University, Germany
Yann Bouchery, Associate Professor, Kedge Business School, France
Sandra Transchel, Professor, Kuehne Logistics University, Germany
Jan Fransoo, Professor, Tilburg University, Netherlands

We study a CPG company that offers a product in reusable and disposable packaging, and manages reusable packaging via a deposit system. We formulate a decision model in which the CPG company sets product price and deposit fee under price and deposit sensitive demand while considering packaging durability.

Invited Session

797	Sunday, 11:30 AM - 12:30 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Environmentally Sustainable Operations	
	Chair(s): Seulchan Lee	

111-0917 Virtual Microgrids: Implications of Peer-to-Peer Energy Trading on Renewable Energy Investments

Seulchan Lee, Student, Mays Business School, United States
Alexandar Angelus, Assistant Professor, Texas A&M University College Station, United States
Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States

Virtual Microgrid represents a network of electricity consumers self-organized for the purpose of peer-to-peer energy trading. We formulate and solve a continuous-time, infinite horizon stochastic optimization model of a decentralized virtual microgrid, in which each participating consumer renewable generation capacity as well as energy trading decisions.

111-0920 Hybrid Cross-docking in an Energy Supply Chain

Seulchan Lee, Student, Mays Business School, United States

We study optimal inventory and transportation decisions in a multi-product, multi-stage supply system with a cross-docking facility. We explore how individual supply chain members benefit from mutual collaboration and identify the conditions that facilitate that collaboration.

Contributed Session

798	Sunday, 11:30 AM - 12:30 PM, Teaching/Pedagogy in POM	Track: Teaching/Pedagogy in POM
	Contributed Session: E-Learning or On-Line Learning	
	Chair(s): Maria Trindade	

111-0189 Using debate and argumentation for teaching operations in e-learning times

Maria Trindade, Assistant Professor, Maria Alice Trindade, Portugal

We design an online activity to teach operations concepts. The activity was applied to first-year students. Students answered a quiz, before and after the activity, to measure the level of comprehension of the concepts. The high scores of the post-quiz reflect the good acquisition of knowledge.

111-0630 E-learning satisfaction in management courses: a non-parametric study

Tung Nguyen, Student, International University - Vietnam National University Ho Chi Minh City, Vietnam

This paper explores the relationships between e-learning and perceived satisfaction in management courses in a developing nation. A non-parametric approach (PLS-SEM) results have shown that learner interaction is the most critical factor positively affecting student satisfaction with e-learning. Furthermore, content analysis has also confirmed interaction as a key theme.

111-1122 Interaction in the Socially-distanced Classroom: The Virtual Assembly Line

Gihan Edirisinghe, Assistant Professor, Western Kentucky University, United States

The COVID-19 pandemic saw traditional classrooms being reorganized to several socially-distanced formats. This presented a major challenge in POM pedagogy, where interactive activities play an integral part in the learning process. We present a virtual assembly line activity successfully implemented in multiple socially-distanced class formats, which requires no specialized software.

Invited Session

802

Sunday, 12:45 PM - 01:45 PM, Aviation

Track: Aviation

Invited Session: **Analytics in Aviation**

Chair(s): Sushil Gupta

111-0845 Flight Delay Prediction and Analysis using Big Data and Machine Learning Algorithms

Ratnesh Bhosale, Student, Indian Institute of Technology Kharagpur, India

Ritik Singh, Student, Indian Institute of Technology Kharagpur, India

Prajwal Yadav, Student, Indian Institute of Technology Kharagpur, India

Priyanka Verma, Assistant Professor, National Institute of Industrial Engineering, Mumbai, India

Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

This study examines factors that may potentially influence flight delays, analyses multiple machine learning-based algorithms in generalized flight delay prediction tasks, and allows for in-depth analysis of air traffic delay trends. For all stakeholders in commercial aviation, precise prediction is crucial during the decision-making process.

111-1063 Neural Network Methods for Aviation Passenger Traffic Forecasting

Ravi Lakshmanan, Ex CEO- GMR Airports, GMR Airports, India

Deepankar Chakrabarti, Professor, Jaipuria Institute of Management, India

Totakura Bangar Raju, Professor, University of Petroleum and Energy Studies Dehradun, India

Forecasting air passenger traffic is essential for infrastructure planning, investment, and capacity management. On passenger data from Indian airports, this study examines neural network approaches such as ANN, RNN, and LSTM. The comparison results will aid in model selection for passenger traffic forecasts.

111-0965 Engine failure forecast model for saving the operating cost: a case of American Airlines

Nicolas Gomez, Student, University College London, United Kingdom

Lina Song, Assistant Professor, UCL School of Management, United Kingdom

We quantify the impact of applying an engine failure forecast model on the airlines' maintenance operating cost. We build machine learning-based engine failure forecast models. We use American Airlines as an example to show that applying a forecasting model can save up to \$1.16 billion per year on maintenance expenses.

Invited Session

805

Sunday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 1

Track: Crisis/Disaster Management and Covid-19 Pandemic

Invited Session: **Managing Drug Shortages Crisis**

Chair(s): Mili Mehrotra Xueze Song

111-0408 Do Drug Shortages Affect Drug Quality? An Empirical Analysis

Ziheng Zhuang, Student, Penn State University University Park, United States

In Joon Noh, Assistant Professor, Penn State University, United States

Suvrat Dhanorkar, Associate Professor, Penn State University State College, United States

Hui Zhao, Associate Professor, Penn State University University Park, United States

When shortages occur, FDA and pharmaceutical companies are under immense pressure to facilitate a speedy recovery. We investigate whether this would have negative impact on drug quality. Based on causal inference, we find that drug quality is negatively affected after the shortage occurrence. We conduct several robustness and moderation analyses.

111-0974 The Impacts of a Non-profit Organization on Drug Shortages

Junghee Lee, Assistant Professor, University of Notre Dame, United States

Hyoduk Shin, Associate Professor, University of California San Diego, United States

Daewon Sun, Professor, University of Notre Dame, United States

The ongoing drug shortages critically threaten public health. To mitigate the drug shortages, philanthropies and hospital systems founded a non-profit organization that "better" sources drugs. We investigate how the advent of the non-profit entity reshapes the competition and impacts the performance of each entity in a pharmaceutical drug supply chain.

Invited Session

806

Sunday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 2

Track: Crisis/Disaster Management and Covid-19 Pandemic 2

Invited Session: **Immigration and Refugee Policy**

Chair(s): Andrew Trapp Geri Dimas

111-1163 Modeling the United States Immigration Court System: An Application of Simulation and Data Science

Geri Dimas, Student, Worcester Polytechnic Institute, United States

Andrew Trapp, Associate Professor, Worcester Polytechnic Institute, United States

Renata Konrad, Assistant Professor, Worcester Polytechnic Institute, United States

There is a significant and growing backlog in the United States immigration court system. Managing this backlog is challenging due to large influxes of migrants, coupled with antiquated system design and limited resources. We study the intricacies and respective complexities of this system via simulation and data science.

111-0773 Proactive Border Resource Staging via Stochastic Programming and Deprivation

Fatemeh Farajzadeh, Student, Worcester Polytechnic Institute, United States

Andrew Trapp, Associate Professor, Worcester Polytechnic Institute, United States

Migration crises are complex emergencies that evolve over time and feature high levels of uncertainty concerning human needs. We use stochastic programming to position scarce border resources under demand uncertainty with redistribution recourse decisions. We incorporate deprivation costs to fairly account for suffering due to lack of critical aid access.

111-0813 Operations Scalability Challenges in Migrant-receiving Countries: the case of Venezuelan immigration to Brazil

Luiza Cunha, Student, Pontificia Universidade Católica do Rio de Janeiro - PUC-Rio, Brazil

Adriana Leiras, Professor, Pontificia Universidade Católica do Rio de Janeiro - PUC-Rio, Brazil

Paulo Goncalves, Associate Professor, University of Lugano, Switzerland

Considering the unprecedented impacts on migrant-receiving countries worldwide, we analyze the Brazilian Government Operation to receive Venezuelan immigrants. We mapped the operations processes and developed a causal loop diagram enhancing the causal effects across operation scalability factors. We are currently simulating scalability-related policies through a System Dynamics model.

Contributed Session

807	Sunday, 12:45 PM - 01:45 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Contributed Session: Disruptive Technologies in the Supply Chain (2)	
	Chair(s): Rafael Diaz	

111-0164 Developing an Artificial Intelligence Approach to Assess Supply Chain Disruptions

Rafael Diaz, Associate Professor, Old Dominion University, United States

Katherine Smith, Post Doc/Researcher, Old Dominion University, United States

The evolution of defense shipbuilding supply networks toward digital environments increases operational management complexity. Unfortunately, the effects of a systematic cyberattack or other supply disruptions (e.g., Colonial Pipeline) are unknown. We propose developing an AI supply network framework to monitor shipbuilding supply networks and determine ripple effects from disruptions.

111-1648 Quality or Quantity? The Competition between Content Platforms

Yu Bai, Student, Xi'An Jiaotong University, China

Yang Liu, Associate Professor, Harbin Institute of Technology, China

We build an analytical model to examine the consequences of subscription service pricing when two platforms compete for consumers with different preferences. The online digital contents are characterized by two dimensions: quality and quantity. We find that the content quality and quantity have different impacts under different subscription mode.

Invited Session

808	Sunday, 12:45 PM - 01:45 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Consumer Choice with Search 2	
	Chair(s): Aydin Alptekinoglu	

111-0743 The Impact of Information Acquisition Cost on Customer Purchase Behavior: An Empirical Study

Ozalp Ozer, Professor, University of Texas Dallas, United States

Inki Sul, Student, The University of Texas at Dallas, United States

A. Serdar Simsek, Assistant Professor, University of Texas Dallas, United States

We study the effect of cost of acquiring information on customer purchase behavior in e-commerce setting. We model customers' search processes using Bayesian learning framework. We develop a novel estimation method that jointly identifies parameters of prior and posterior distributions of customer reservation price and the cost of information acquisition.

111-0633 Discrete Choice via Sequential Search

Natalia Kosilova, Student, Penn State University University Park, United States

Aydin Alptekinoglu, Professor, Penn State University University Park, United States

Building on the seminal Pandora's Problem introduced by Weitzman (1979), we marry an analytically tractable discrete choice model with a classic model of sequential search with perfect recall. We derive closed-form choice probabilities and develop all the analytical tools to optimize prices for a given assortment of products.

Invited Session

811	Sunday, 12:45 PM - 01:45 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Empirical Studies on Operations-Finance Interface - I	
	Chair(s): Sridhar Seshadri	

111-0186 Bullwhip Effect in Servitized Manufacturing Firms

Yimeng Niu, Student, Shanghai Jiao Tong University, China
 Shenyang Jiang, Post Doc/Researcher, Tongji University, China
 Jing Wu, Assistant Professor, The Chinese University of Hong Kong, Hong Kong
 Zhibin Jiang, Professor, Shanghai Jiao Tong University, China

Through text mining on the 10-K filings, we identify the services offered by each public firm. We find that manufacturers' service offerings reduce the bullwhip effect in two steps: the "felt" bullwhip would decrease after providing basic complementing services, and the intra-firm bullwhip will decrease after providing advanced substituting services.

111-0195 Corporate Social Responsibility in Supply Chains: Green or Greenwashing?

Yilin Shi, Student, The Chinese University of Hong Kong, China

This paper provides the first empirical evidence linking CSR and supply chain information disclosure together. We uncover robust evidence that listed firms voluntarily disclose environmentally responsible suppliers while selectively not disclosing "bad" ones, effectively greenwashing their supply chain image.

Invited Session

812	Sunday, 12:45 PM - 01:45 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Invited Session: Information Issues in Supply Chain Finance - II	
	Chair(s): Panos Kouvelis Paping (Phil) Jiang	

111-0831 The Blockchain Newsvendor: Value of Freshness Transparency and Smart Contracts

N. Bora Keskin, Associate Professor, Duke University Durham, United States
 Chenghui Li, Student, Duke University Durham, United States
 Jeannette Song, Professor, Duke University Durham, United States

We consider a fresh-produce retailer facing stochastic freshness-dependent demand. The retailer can adopt blockchain technology to have more transparent information on the freshness of supply. We quantify the value of blockchain-enabled freshness transparency and smart contracts by analyzing the retailer's expected profit growth and food waste reduction.

111-0344 The Impact of Trade Credit Provision on Retail Inventory: An Empirical Investigation Using Synthetic Controls

Christopher Chen, Assistant Professor, Indiana University, United States
 Nitish Jain, Assistant Professor, London Business School, United Kingdom
 S. Alex Yang, Associate Professor, London Business School, United Kingdom

We examine the impact of trade credit on inventory decisions by exploiting an exogenous shock imparted by French legislation imposing a ceiling on trade credit repayment. We find that the retail sectors which received significantly less trade credit exhibited a sizeable decline in inventory and a reduction.

Contributed Session

814	Sunday, 12:45 PM - 01:45 PM, Healthcare Analytics	Track: Healthcare Analytics
	Contributed Session: Healthcare Delivery in the Care Continuum	
	Chair(s): Jingwen Yang	

111-1195 Designing Safe and Scalable Precision Medicine Supply Chains: Evaluating the Enabling Role of CPIC Guidelines

Jingwen Yang, Student, University of Minnesota, United States
 Anant Mishra, Associate Professor, University of Minnesota, United States
 Kingshuk Sinha, Professor, University of Minnesota, United States

Precision medicine has the potential to improve the practice of medicine. However, its integration into routine clinical practice has been a long-standing challenge. This study empirically examines the effect of CPIC guidelines, which provide knowledge for personalizing drug prescriptions, on enabling safe and scalable delivery of precision medicine.

111-0892 Contextual Learning with Online Convex Optimization: Theory and Applications to Chronic Diseases

Esmail Keyvanshokoo, Assistant Professor, Mays Business School, United States
 Mohammad Zhalechian, Student, University of Michigan - Ann Arbor, United States
 Cong Shi, Assistant Professor, Department of Industrial Engineering, United States
 Mark Van Oyen, Professor, University of Michigan, United States
 Pooyan Kazemian, Student, Harvard University, United States

We formulate a new contextual multi-armed bandit model under a two-dimensional control in the context of medical decision-making. We develop a new contextual bandit and stochastic gradient optimization algorithm for this model and prove its regret. We illustrate the effectiveness of our methodology by using case on type-2 diabetes.

111-1742 Using Machine Learning Algorithms to Identify Physician-Hospital Integration Based on Physician Characteristics Data

Lina Song, Assistant Professor, UCL School of Management, United Kingdom

Yuan Zhen Chen, Student, University College London School of Management, United Kingdom

The integration between physicians and hospitals has been common in recent years. We developed a Machine Learning (ML) based model to predict the physician-hospital vertical integration using physician characteristics data. We constructed the claims-based and claims-free models, and show that both models were comparable, the K-Nearest Neighbour algorithm performed best.

Invited Session

815	Sunday, 12:45 PM - 01:45 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Empirical Studies in Healthcare 2	
	Chair(s): Maria Ibanez	

111-0890 How Cannabis Laws Affect Hospital Operations

Maria Ibanez, Assistant Professor, Kellogg School of Management, United States

Max Yakovlev, Student, Kellogg School of Management, United States

Since 2012, when Colorado and Washington emerged as the first US states to legalize recreational cannabis sales to the public, many other states have followed. Using data from 2009 to 2015 for several states, we investigate the effect of recreational cannabis legalization on hospital operations.

111-1452 Online Resource Allocation with Time-Flexible Customers

Negin Golrezaei, Professor, MIT Sloan School of Management, United States

Evan Yao, Student, Massachusetts Institute of Technology, United States

We study the online resource allocation problem in the presence of time-flexible agents. We present a setting with flexible and inflexible agents who seek a resource or service that replenishes periodically. We present a class of POLYtope-based Resource Allocation (POLYRA) algorithms that achieve optimal or near-optimal competitive ratios.

Contributed Session

816	Sunday, 12:45 PM - 01:45 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Aligning Incentives through Reimbursement Policies	
	Chair(s): Dana Romero	

111-0151 On Reducing Medically Unnecessary Cesarean Deliveries: The Design of Outcome-based Payment-for-Performance Models for Maternity Care

Emily Zhu, Assistant Professor, Texas State University, United States

Beste Kucukyazici, Assistant Professor, Michigan State University, United States

Ting Wu, Assistant Professor, Nanjing University, China

This research focuses on identifying clinically necessary C-sections and hence designing an outcome-based pay-for-performance reimbursement mechanism for obstetricians, after identifying medically inappropriate C-Sections during a pregnancy, based on historical live birth records. The resulting mechanism can improve birth quality with a lower overall C-section rate and reduce birth-related healthcare expenses.

111-1784 Multi-channel Chronic Patient Care in a Performance-based Reimbursement Framework

Mete Ozbek, Student, Koc University, Turkey

Hessam Bavafa, Associate Professor, University of Wisconsin-Madison, United States

Evrin Gunes, Associate Professor, Koc University, Turkey

Lerzan Ormeci, Professor, Koc University, Turkey

We model and analyze the operational decisions of a primary care practice, particularly the panel size and time allocated to different channels, under a performance-based contract like the Comprehensive Primary Care Plus reimbursement system. We also propose an optimal contract strategy for the payer within a principal-agent framework.

111-1526 The Role of Financial Reimbursement Alignment in the Shift to Value-Based Healthcare

Dana Romero, Student, University of Utah, United States

Glen Schmidt, Professor, University of Utah, United States

Brent James, Professor, Stanford University, United States

Stephen Walston, Professor, University of Utah, United States

We develop an optimization model to explore what drives a healthcare provider's willingness to invest in value-based process improvement, focusing on financial reimbursement (mis)alignment. We supplement the model with interviews of senior healthcare leaders, to better understand the obstacles they face in progressing toward value-based care.

Invited Session

817	Sunday, 12:45 PM - 01:45 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Artificial intelligence in Healthcare	
	Chair(s): Ritu Khurana	

111-1717 Telepsychology in the COVID era

Vishwadeep Tehlan, Researcher, Heal.Expert Private Limited, India
 Shreya Sharma, Researcher, Heal.Expert Private Limited, India
 Srishti Trehan, Researcher, Heal.Expert Private Limited, India
 Sakshi Didal, Researcher, Heal.Expert Private Limited, India

Psychology services have been drastically impacted due to covid pandemic leading to reduction in face to face psychology sessions. This has created new challenges in terms of quality of care. We are exploring opportunities to enhance the effectiveness of online psychology using tech and AI.

111-1719 Legal challenges of AI use in healthcare

Ritu Khurana, Physician, Noble Medical Care, United States

With increasing use of technology by the clinicians and patients, increasing amount of data is available, creating novel applications of AI/ML. Ethical and Privacy issues are critical with Artificial intelligence applications in health care. AI use has to be compliant with the law before it's clinical applications are widely used.

111-1720 Intimate Partner Violence detection using Artificial intelligence

Bharti Khurana, Associate Professor, Harvard Medical School, United States

The team is creating AI tools to empower physicians to identify and help patients who are experiencing IPV, using clinical and radiological data from known IPV cases and teaching a computer program to learn the signs of IPV.

Contributed Session

819	Sunday, 12:45 PM - 01:45 PM, Inventory Management	Track: Inventory Management
	Contributed Session: Inventory Management-Industry Applications	
	Chair(s): Pelin Kesrit	

111-0256 Appointment Template Design in Multi-Stage Outpatient Clinics under Patient Heterogeneity

Pelin Kesrit, Student, Mays Business School, Texas A&M University, United States
 Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States
 Jon Stauffer, Assistant Professor, Mays Business School, Texas A&M University, United States

We design effective appointment schedule templates, based on the block scheduling concept, for two-stage outpatient clinics under patient heterogeneity having different mean service times. Our objective is to find daily appointment schedules that minimize a weighted sum of patients' waiting time, the physician's and physician assistant's idle time, and overtime.

111-0145 A Hybridized Selective Control Approach to Inventory Management of a Hospitality-based Organization

Ram Roy, Senior Lecturer, Eastern Institute of Technology, Napier,, New Zealand

This paper has investigated into existing inventory management system of an SME. The company has been using unscientific inventory control which used to impact its customer service level. However, this paper suggests a hybridized technique including ABC and FSN classifications to inventory management in a very cost-effective and efficient manner.

Invited Session

822	Sunday, 12:45 PM - 01:45 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Marketing and Operations Management with Strategic Consumers	
	Chair(s): Krista Li	

111-1082 Implications of Online Product Reviews and Consumer Loss Aversion for Information Disclosure

Yao Yao, Student, Tianjin University, China
 Jianxiong Zhang, Professor, Tianjin University, China
 Xiaoqing Fan, Student, Tianjin University, China

This paper studies the informational role of online product reviews and the behavioral role of consumer loss aversion (CLA) in the seller's disclosure incentives. We find CLA enhances seller's motivation to disclose quality information but hinders his motivation to disclose preference information.

111-0577 A Loss-Averse Newsvendor Model with Stochastic Reference Points

Na Zhang, Student, University of Florida, United States

We study a loss-averse newsvendor model where the newsvendor is loss-averse toward inventory over-stock and under-stock. In our context, both the over-stock and under-stock reference points are stochastic and endogenously determined. We study whether the newsvendor's loss aversion toward inventory over-stock and under-stock can explain the well-known pull-to-center effect.

111-0672 Consumer Engagement and Co-production of Corporate Social Responsibility
Yunlong Peng, Student, Tsinghua University, China
Fei Gao, Assistant Professor, Indiana University Bloomington, United States
Jian Chen, Professor, Tsinghua University, China

Recently, more and more firms begin to invite consumers to engage in the co-production of corporate social responsibility (CSR). In this paper, we talk about the impact of consumer engagement on the firm and the society, and we also study the incentive design for consumer engagement.

Invited Session

823	Sunday, 12:45 PM - 01:45 PM, Not-for-Profit OM	Track: Not-for-Profit Operations Management
	Invited Session: Management of volunteers (1)	
	Chair(s): Mariana Escallon-Barrios	

111-0609 The Role of Volunteer Experience on Performance on Online Volunteering Platforms

Gloria Urrea, Assistant Professor, University of Colorado Boulder, United States
Eunae Yoo, Assistant Professor, Indiana University Bloomington, United States

Online volunteering platforms allow humanitarian organizations to scale their volunteer force at the cost of increasing heterogeneity in volunteers' experience. We investigate empirically how volunteers' experience impacts two performance metrics on online volunteering platforms: project completion rate and volunteer retention. Our dataset includes 5,162 online volunteering projects with 2,169,683 contributions.

111-1110 Volunteer Management Policies: Incorporating Volunteer Preferences

Shikha Safaya, Student, Georgia Institute of Technology, United States
Basak Kalkanci, Associate Professor, Georgia Institute of Technology, United States
Ravi Subramanian, Professor, Georgia Tech, United States

Non-profit Organizations are often challenged with volunteer retention in absence of monetary incentives. We explore the tradeoff between incorporating volunteer preferences during task assignment and pooling all volunteers to alleviate supply uncertainty. We derive conditions under which either task matching or pooling may be preferred.

Contributed Session

824	Sunday, 12:45 PM - 01:45 PM, Operational Excellence	Track: Operational Excellence
	Contributed Session: Lean in the digital era	
	Chair(s): Henrik Franke	

111-0623 Using Interpretable Machine Learning to Predict and Improve On-Time Delivery

Austin Saragih, Student, Massachusetts Institute of Technology, United States
Fabio Castro, Student, Massachusetts Institute of Technology, United States
Elenna Dugundji, Assistant Professor, Massachusetts Institute of Technology, United States
Matthias Winkenbach, Assistant Professor, Massachusetts Institute of Technology, United States

Trustworthy models can help ensure fast and reliable delivery. This study provides a framework and implementation of model-based and post-hoc interpretability to predict late deliveries and identify improvement opportunities through SHapley Additive exPlanations (SHAP) feature importance scores. Our findings provide stellar interpretable model performances (89% Accuracy) and managerial insights.

111-1153 Autonomy versus Control: A Digitalized Production System using Smartwatches

Daniel Kwasnitschka, Student, Swiss Federal Institute of Technology Zurich, Switzerland
Henrik Franke, Post Doc/Researcher, Swiss Federal Institute of Technology Zurich, Switzerland
Torbjørn Netland, Assistant Professor, Eth Zurich, Switzerland

The digitalization of manufacturing affects how workers receive work and whether workers can oversee the shop floor. Research has covered each aspect in isolation, yet not together. In a field experiment at a global manufacturing company, we tested implications of delegated versus autonomous work orchestrated by a smart watch system.

111-1503 Advanced Failure-Time Analytics: An Operational Risk Assessment Solution

Keivan Sadeghzadeh, Associate Professor, Northeastern University, United States

Failure-time data is the outcome of many processes in manufacturing and service operations. Determining important features, specifically in the presence of complexity and nonlinearity in large-scale failure-time datasets, provides an excellent opportunity for operational risk assessment. We present practical procedures for facilitating feature selection in such datasets.

Contributed Session

825	Sunday, 12:45 PM - 01:45 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Agricultural Supply Chains	
	Chair(s): Jessica Teller	

111-0999 Impact of access to credit on supply chain outcomes

Subhankar Saha, Student, Indian Institute of Management Bangalore, India

Sreelata Jonnalagedda, Associate Professor, Indian Institute of Management Bangalore, India

We examine a supply chain where a newsvendor-like retailer encounters stochastic demand and procures fresh produce from a smallholder farmer. We apply the notion of differential accessibility to credit between smallholder farmers and retailers to study the ordering decision along with the performance of the individuals and overall supply chain.

111-0605 Blockchain Technology for Agricultural Supply Chain

Jasmine Chang, Assistant Professor, New Jersey Inst of Technology, United States

Jim Shi, Professor, New Jersey Inst of Technology, United States

This study examines the implications of Blockchain Technology on Agricultural Supply Chain Management and studies the fundamentally inherent adoption. We consider a stochastically dynamic programming model, where a firm seeks to maximize the total expected discounted profit via jointly managing (i) blockchain adoption, (ii) production and (iii) pricing.

111-1422 COOP Operations Model for Hemp Based Geotextiles

Yaneth Correa-Martinez, Assistant Professor, Colorado State University Pueblo, United States

Jessica Teller, Student, Colorado State University - Pueblo, United States

Kevin Sparks, Assistant Professor, Colorado State University - Pueblo, United States

A feasibility analysis for using industrial hemp for biogeotextiles for erosion control and soil remediation is presented and a Coop model is analyzed for the production of those textiles in Southern Colorado. SWOT analysis and entry barriers are discussed as well.

Invited Session

827	Sunday, 12:45 PM - 01:45 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Public Procurement 2	
	Chair(s): Marc Hatton	

111-1802 Hybrid Government and the Quest for Sustainable Value Creation

Andrea Patrucco, Assistant Professor, Department of Marketing and Logistics, United States

Ana Dimand, Assistant Professor, Boise State University, United States

Milena Neshkova, Associate Professor, Florida International University, United States

We foresee that public organizations still face several procurement and supply chain challenges which prevent them to achieve these objectives. To better identify the current status and capacity gaps in the procurement of construction projects we interacted with almost 350 management officials responsible for procuring construction for their agencies.

111-1803 A multi-method study with Competing Values Framework (CVF): Measuring organizational culture to meet mission objectives

Thomas Kull, Associate Professor, Arizona State University Tempe, United States

David Jablonski, Customer Engagement Lead, Procurement Innovation Lab, Department of Homeland Security, United States

This multi-method study first examines qualitative interviews to establish four constructs of the Competing Values Framework (CVF). Second, a survey instrument was distributed and completed by 1,361 respondents to capture respondent values for each construct. Lastly, quantitative analysis was performed on the data collected.

111-1804 A Case Study in Public Procurement Innovation: Examining socio-technical systems in Federal Acquisition Teams

Marc Hatton, Student, Arizona State University, United States

Thomas Kull, Associate Professor, Arizona State University Tempe, United States

Set within the U.S. Federal government, this research reviews eight cases that describe procurement process innovation through the lens of socio-technical system theory. We identify five archetypes of process innovation adoption. We also present working propositions that act as a precursor to these archetypes and eventual performance implications.

Invited Session

828	Sunday, 12:45 PM - 01:45 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Role of Platforms in New Product Innovation 2	
	Chair(s): Sreekumar Bhaskaran	

111-0171 Co-creation in New Product Development: Collaborating with Competitor in the Presence of a Shared Supplier

Abhishek Roy, Assistant Professor, Temple University, United States

In many industries, important suppliers are shared by competing manufacturers, who may benefit from forming alliances and co-creating new products jointly with their shared supplier. Using a game theoretic model, we analyze the strategic interactions in such a collaborative alliance, and examine the trade-offs arising in such interactions.

111-0249 Preference Uncertainty and Information Asymmetry in Online Matching Platforms

Amit Basu, Professor, Southern Methodist University, United States

Sreekumar Bhaskaran, Associate Professor, Southern Methodist University, United States

Rajiv Mukherjee, Assistant Professor, Southern Methodist University, United States

Online matching platforms are valuable for both firms and individuals seeking potential partners. We analyze whether an online platform should enhance search services with a positioning capability that helps match-seekers determine compatibility of potential matches, and also whether it should offer an authentication service that reliably confirms their credentials

Invited Session

829	Sunday, 12:45 PM - 01:45 PM, Public Sector OM	Track: Public Sector Operations Management
	Invited Session: Contract & Project Mgmt in the Public Sector	
	Chair(s): Dwaipayan Roy	

111-0512 Delays in Project Supply Chains: A Global Network Perspective

Vibhuti Dhingra, Assistant Professor, York University, Canada
 Harish Krishnan, Professor, University of British Columbia, Canada
 Juan Camilo Serpa, Associate Professor, McGill University, Canada

A project involves several participants—clients, contractors, and subcontractors—each working on multiple projects concurrently. By tracking a network of 2.61 million public projects, we show that when a project suffers a localized disruption, other projects in the network get delayed because participants reallocate resources to the disrupted project.

111-0707 Learning to contract in the digital era: Jointly developing contractual data clauses in public-private collaborations

Tom Aben, Student, Tilburg University, Netherlands
 Wendy Van der Valk, Professor, Tilburg University, Netherlands

We study intra-contract learning (i.e., learning within an ongoing contract period) in the context of public-private relationships undergoing a digital transformation. By studying two in-depth case studies of maintenance outsourcing by a public buyer to private contractors, we uncover how joint intra-contract learning processes help to develop contractual data clauses.

Contributed Session

830	Sunday, 12:45 PM - 01:45 PM, Retail Operations	Track: Retail Operations
	Contributed Session: Omnichannel Retailing 2	
	Chair(s): Shandong Mou	

111-1595 On Multichannel Retailer's Channel Choice and Product Pricing: Influence of Fit-disclosing Technology and Website Hassle

Raunak Joshi, Student, Indian Institute of Management Calcutta, India
 Sumanta Basu, Associate Professor, Indian Institute of Management Calcutta, India
 Sreelata Jonnalagedda, Associate Professor, Indian Institute of Management Bangalore, India
 Balram Avittathur, Professor, Indian Institute of Management Calcutta, India

We study how fit-disclosing technology and search hassle on the website of the multichannel retailer influences the pricing and channel placement strategies of its product when it competes with a pure online retailer. Our work informs managers about the fit-disclosing technology they should employ under various conditions.

111-1315 E-commerce Business to Business (e-B2B) Distribution Strategy and Network Design for Nanostores

Austin Saragih, Student, Massachusetts Institute of Technology, United States
 Syed Ahmed, Student, Massachusetts Institute of Technology, United States
 Chelsey Graham, Student, Massachusetts Institute of Technology, United States
 Matthias Winkenbach, Assistant Professor, Massachusetts Institute of Technology, United States
 Christopher Mejia-Argueta, Assistant Professor, Massachusetts Institute of Technology, United States

This study outlines a non-exclusive e-B2B strategy to minimize cost-to-serve. We extend the Two-Echelon Capacitated Location-Routing Problem (2E-CLRP) with augmented routing cost estimation and we solved it using continuous approximation methods to incorporate features such as wallet share, market penetration, delivery frequency, drop size, and urban circuitry.

111-1722 In-Store Order Fulfillment in Omni-Channel Retail Stores

Shandong Mou, Assistant Professor, Central University of Finance And Economics, China

Efficient in-store order fulfillment is critical to providing timely omni-channel shopping experiences. Utilizing the framework of a bi-objective order picking optimization model, this study provides extensive discussions on unique features of omni-channel grocery stores. Some managerial insights are lastly provided.

Invited Session

831	Sunday, 12:45 PM - 01:45 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: Innovative Revenue Management Applications 2	
	Chair(s): Ovunc Yilmaz Xiao Zhang	

111-0124 Booking Limit Control for Air Cargo Network Revenue Management

Zikun Ye, Student, University of Illinois at Urbana Champaign, United States
 Xin Chen, Professor, University of Illinois at Urbana Champaign, United States

Yifan Hu, Student, University of Illinois at Urbana Champaign, United States

We study the booking limit control for air cargo network revenue with random reservations, no-shows, capacity and routing flexibility, which is formulated as two-stage stochastic optimization with nonconvex objective due to the random truncation. Our proposed algorithm achieves global convergence with the same complexity as a convex objective.

111-1218 Machine Learning based Hybrid Framework for Airline Dynamic Pricing

Ravi Kumar, Lead Scientist, PROS, United States

Shahin Boluki, Scientist, PROS, United States

Darius Walczak, TBD, PROS Inc, United States

Karl Isler, Proprietor, Karl Isler Consulting GmbH, Switzerland

Many sellers are interested in dynamically pricing their products based on unique product features and other relevant information available at the time of the request. We present a novel hybrid framework which combines the high predictive power of modern ML methods with more interpretive econometrics methods for airline dynamic pricing.

Invited Session

832	Sunday, 12:45 PM - 01:45 PM, Service Operations	Track: Service Operations
	Invited Session: Service Systems and Customer Behavior (2)	
	Chair(s): Benjamin Grant	

111-1307 Advance Selling and Upgrading in Priority Queues

Yaolei Wang, Lecturer, University of Science and Technology of China, China

Ping Cao, Associate Professor, School of Management, China

Jingui Xie, Associate Professor, Technical University of Munich, Germany

Dongyuan Zhan, Assistant Professor, University College London, United Kingdom

In amusement parks, customers are heterogeneous in waiting costs and choose the fast-track or regular queue, depending on both their type and the demand level. They can purchase regular tickets in advance and upgrade to fast-track tickets on-site. We find that compared with advance selling, allowing upgrading brings more revenue.

111-0188 Area- and location-based determinates of care continuity

John Lowrey, Assistant Professor, Northeastern University, United States

Benjamin Grant, Assistant Professor, Clemson University, United States

Primary care continuity has been linked to improved health outcomes. We explore the area- and location-based determinates of care continuity using a combined in-patient and out-patient dataset, which includes health access and outcome data for 54,000 obese pediatric patients. Patients in more deprived areas have more fragmented care.

Contributed Session

837	Sunday, 12:45 PM - 01:45 PM, Supply Chain Risk Management	Track: Supply Chain Risk Management
	Contributed Session: Supply Chain Disruptions	
	Chair(s): Aman Goswami	

111-1792 Detecting and Mitigating Impact of Criminal Disruptions in Pharmaceutical Supply Chains

Aman Goswami, Student, Rutgers Business School, United States

Alok Baveja, Professor, Rutgers University, United States

Weiwei Chen, Associate Professor, Rutgers Business School, United States

Benjamin Melamed, Professor, Rutgers University, United States

Viswanath Narayan, Lecturer, Rutgers Business School, United States

Roberts Fred, Professor, Rutgers University, United States

Criminal organizations continue to disrupt pharmaceutical supply chains. This research maps a generic pharmaceutical supply chain and identifies threats based on past case studies. A framework for classifying disruptions, assessing their performance impact, and finding strategies for detecting and mitigating these impacts of criminal exploits has been developed.

111-1741 Robust facility location selection under public health emergency in close- loop supply chain.

Leng Jianzhi, Student, Beijing Institute of Technology, China

Lun Ran, Professor, Beijing Institute of Technology, China

Zihao Jiao, Student, Beijing Technology and Business University, China

Mengling Zhang, Student, Beijing Institute of Technology, China

Yanzi Zhang, Post Doc/Researcher, Tsinghua University, China

Public health emergencies such as natural disasters and epidemics have brought great trouble to closed-loop supply chains. In particular, the failure of the facility has caused a sharp increase in production costs. Our job is to make supply chains more robust in different situations and locations.

111-1419 Supply Chain Recovery: A Graph Theory Perspective

Laharish Guntuka, Student, Rochester Institute of Technology, United States

Steven Carnovale, Assistant Professor, Rochester Institute of Technology, United States

We examine how different factors of a supply network graph which includes eigen vector centrality, betweenness, eccentricity, density, and relational depth, influence the down time of a node.

Invited Session

839	Sunday, 12:45 PM - 01:45 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Corporate ESG Finance and Operations 1	
	Chair(s): Selva Nadarajah	

111-0565 Corporate Solar Partnership Projects: Aggregated PPA and Community Solar

Siddharth Prakash Singh, Lecturer, UCL School of Management, United Kingdom

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Owen Wu, Associate Professor, Indiana University, United States

Corporations are ramping up efforts to meet renewable energy targets. We study two solar partnership models to achieve them: signing an aggregated PPA involving multiple corporate off-takers and anchoring a community solar project. We capture the risks underlying each alternative and provide insight into whether they are complements or substitutes.

111-1027 Balancing Financial and Social Objectives via Decision Learning and Menu Optimization

Parshan Pakiman, Student, University of Illinois at Chicago, United States

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Yun Fong Lim, Associate Professor, Singapore Management University, Singapore

Consider a firm showing a menu of tools and users choosing tools to complete tasks. The user's decision probabilities are unknown and impact the firm's financial and social objectives. We propose a framework that learns these probabilities from online decision data and optimizes the menu to align both system objectives.

Contributed Session

840	Sunday, 12:45 PM - 01:45 PM, Teaching/Pedagogy in POM	Track: Teaching/Pedagogy in POM
	Contributed Session: Learning By Doing	
	Chair(s): Seth Powless	

111-1398 Global Health Innovation Lab: Experiential Learning in Action

Wiljeana Glover, Associate Professor, Babson College, United States

Rex Wong, Associate Professor, University of Global Health Equity, Rwanda

To encourage innovation and investment in global health, Babson College and the University of Global Health Equity (UGHE) began an innovation lab initiative in 2020 in partnership with local healthcare organizations. Our presentation will share our experiential learning framework, project examples, best practices for executing bi-continental learning experiences.

111-1364 A Project Based Learning Approach in Teaching Accelerated Online SCM Capstone Course

Bulent Erenay, Assistant Professor, Northern Kentucky University, United States

Gokhan Egilmez, Associate Professor, University of New Haven, United States

Mai Dao, Student, Northern Kentucky University, United States

Alexander Kennedy, Student, Northern Kentucky University, United States

Garrett Turner, , ,

A project-based learning approach designed for a capstone course in an undergraduate Global Supply Chain Management program is presented. The course requires student teams to design a new product and its end-to-end supply chain using DFSS and Project Management. A case study is presented.

111-0312 Learn-By-Doing and Its Effectiveness for Teaching and Impacting Retention in 2022 OM/SCM Curricula.

Seth Powless, Assistant Professor, Penn State University, United States

Denise Bergdolt, Student, Earlham College, United States

LBD pedagogy encompasses multiple pedagogical methods that students report preferring versus traditional lecture models. LBD utilizes applied-, case-based-, and project-based learning to foster hands-on learning approaches to contemporary business challenges. This workshop introduces LBD, discuss its benefits to both faculty and students, and share practical examples for participants to utilize.

Invited Session

843	Sunday, 02:00 PM - 03:00 PM, 3- POMS Tutorials, Panels, & Workshops	Track: All Tutorials, Invited Panels, and Workshops
	Invited Session: Panel: The Future of Graduate Business School Education	
	Chair(s): Arvind Mahajan	

111-1873 Panel: The Future of Graduate Business School Education

Arvind Mahajan, Professor, Texas A&M University College Station, United States
 Aravind Chandrasekaran, Associate Professor, Ohio State University, United States
 Xianjun Geng, Professor, Tulane University, United States
 Jennifer Blackhurst, Professor, University of Iowa, United States
 Bala Shetty, Professor, Mays Business School, United States

Various forces are rapidly changing the landscape of graduate education. A panel of distinguished associate deans for graduate programs will share their thoughts on the future of graduate education. This session is moderated by Prof. Arvind Mahajan (Texas A&M University) and the panelists are Prof. Jennifer Blackhurst (University of Iowa), Prof. Aravind Chandrasekaran (Ohio State University), Prof. Xianjun Geng (Tulane University) and Prof. Bala Shetty (Texas A&M University).

Contributed Session

845	Sunday, 02:00 PM - 03:00 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Contributed Session: Behavioral Operations and Technology 1	
	Chair(s): Swanand Kulkarni	

111-0857 Behavioral Aspects of Technology Transfer: Motivating Operational Changes Among Smallholder Farmers

Nopparuj Chindasombatcharoen, Student, University of Cambridge, United Kingdom
 Mukesh Kumar, Lecturer, University of Cambridge, United Kingdom
 Eoin O'Sullivan, Lecturer, University of Cambridge, United Kingdom
 Pichawadee Kittipanya-ngam, Assistant Professor, Thammasat University, Thailand

Many smallholder farmers in developing countries are vulnerable to food insecurity due to the increasingly challenging sector landscape. This project incorporates theories from industrial and organizational psychology to analyze and understand the psychological factors that influence the effectiveness of agricultural extension services in motivating operational changes and technology adoption.

111-0979 Offline Friendships: Role and Impact on Outcomes in Online Crowdfunding Platforms

Smriti Srivastava, Student, University of North Texas, United States
 Hossein Mohit, Student, University of North Texas, United States
 Pranay Prateek, Student, University of North Texas, United States

We propose and validate a model based in Theory of Planned Behavior to examine how offline friendships influence a person's intention to contribute to an online crowdfunding campaign. Initial analysis using MPlus for Structural Equation Modelling indicates that Social Norm mediates the relationship between information sharing intent and contribution behavior.

111-1052 Spatial Information Sharing on On-Demand Service Platforms: A Behavioral Examination

Swanand Kulkarni, Student, Georgia Institute of Technology, United States
 Basak Kalkanci, Associate Professor, Georgia Institute of Technology, United States

We examine how spatial characteristics of demand-supply mismatch information sharing influence a platform's matching efficiency. Motivated by practice, we compare sharing demand-supply mismatch information publicly (with all drivers) or locally (with only nearby drivers), theoretically and experimentally. Experiments reveal that local information sharing is effective despite being dominated theoretically.

Invited Session

847	Sunday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Epidemics & Humanitarian Supply Chains	
	Chair(s): Caspar Höyng Maria Besiou	

111-0381 Towards Universal Health Coverage: Strengthening healthcare supply chain resilience to mitigate the impact of epidemics

Caspar Höyng, Student, Kuehne Logistics University, Germany
 Maria Besiou, Professor, Kuehne Logistics University, Germany
 Timna Eckschmidt, Post Doc/Researcher, Kuehne Logistics University, Germany
 Silvia Rossi Tafuri, Supply Chain Officer, UN World Food Programme, Italy

We investigate the resilience of public healthcare supply chains to epidemic outbreaks, and explore the effectiveness of different preparedness strategies using system dynamics. We assess preparedness strategies looking at two dimensions: the evolution of the epidemic and healthcare continuity.

111-0680 Simulating COVID-19 Personal Protective Equipment (PPE) Use in Acute Care Hospitals

Molly McGuigan, Student, Massachusetts Institute of Technology, United States
 Jarrod Goentzel, Senior Lecturer, Massachusetts Institute of Technology, United States

This research presents a simulation method to forecast PPE use in acute care hospitals for COVID-type pandemics. Results were used by the state of Massachusetts to understand residual demand scenarios, inform stockpile preparedness plans, and illuminate policy levers that are most effective for shaping PPE demand during emergencies.

111-1151 Analyzing sustainability and resilience for COVID-19 testing

Fannie Cote, Student, Polytechnique Montréal, Canada

Nadia Lahrichi, Assistant Professor, Ecole Polytechnique, Canada

Erica Gralla, Associate Professor, George Washington University, United States

This study analyzes the efficiency of a mixed public-private system of COVID-19 PCR testing laboratories. A discrete-event simulation model represents the flow of samples in the labs from specimen collection to reporting results. Scenarios investigate the potential resilience of laboratories to different disruptions and demand variation during a pandemic.

Invited Session

848	Sunday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Modern Slavery and Humanitarian Operations	
	Chair(s): Kezban Yagci Sokat Shawn Bhimani	

111-0971 Modern Slavery Allegations in Global Supply Chains And Response Analysis

Kezban Yagci Sokat, Assistant Professor, San Jose State University, United States

Ayca Erdogan, Assistant Professor, San Jose State University, United States

Nezih Altay, Professor, Depaul University, United States

Globalization of technology use has increased the awareness regarding human trafficking and modern slavery allegations by both connecting customers and investors to news and enabling them to share their reactions. In this paper, we analyze consumer response to labor trafficking and modern slavery allegations both qualitatively and quantitatively.

111-0841 Modern Slavery and Humanitarian Operations: Cross-learnings for a Better World

Kezban Yagci Sokat, Assistant Professor, San Jose State University, United States

Maria Besiou, Professor, Kuehne Logistics University, Germany

Modern slavery is a disaster of our time. Human trafficking supply and humanitarian supply chains often operate in the same environments and hence face some similarities. In this presentation, we focus on the idea of cross learnings among them.

Contributed Session

850	Sunday, 02:00 PM - 03:00 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Consumer Driven Supply Chain Models 1	
	Chair(s): Yunchuan Liu	

111-0278 Influencing the Influencer with Consumer Heterogeneity

Luying Wang, Student, Tianjin University, China

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

We study the effects of consumer bias on marketer engagement on WoM. Influencer can persuade followers and allow sponsorship from marketer for product promotion. Our results suggest consumer heterogeneity plays an important role in marketer's engagement in influencing market upon sponsorship disclosure and product sales.

111-0968 Advertising and Consumer Selection

Zhibao Li, Lecturer, Tianjin University of Technology, China

Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

Extant literature usually focus attention on how consumers select product among multiple firms. We investigate how a firm selects among consumers for subsequent encouragement programs. We find consumers may self-signal to the firm and the firm should adjust accordingly.

Invited Session

853	Sunday, 02:00 PM - 03:00 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Supply chain finance solutions	
	Chair(s): Manmohan Sodhi Florian Lucker	

111-0372 FinTech Lending, Open banking, and Supply Chain Implications

Xiaoyu Wang, Student, Washington University in St. Louis, United States

Fasheng Xu, Assistant Professor, Syracuse University, United States

Lingxiu Dong, Professor, Olin Business School, Washington University, United States

Open banking allows third-party platforms to access their clients' banking account and acquire financial data, which enables platforms to offer personalized services and products. Our research focuses on a supply chain setting and quantifies the data acquisition decisions. We aim to answer the question who benefits from the open banking.

111-0828 Matching suppliers with financing sources: A practical review and analysis of supply chain finance

Isik Bicer, Assistant Professor, York University, Canada

Early payment schemes, reverse factoring, letter of credit and dynamic discounting are commonly used in practice to finance trade and establish trust between supply chain parties. In this talk, I will discuss main trade-offs of each financing option, how to combine and match them with different suppliers.

111-0880 Financing Inventory under Bank Capital Regulation and Seller Orchestration

Yuxuan Zhang, Assistant Professor, University of International Business And Economics, China

S. Alex Yang, Associate Professor, London Business School, United Kingdom

Simin Huang, Professor, Tsinghua University, China

Banks worldwide are required to hold a certain amount of regulatory capital to cushion against loans' unexpected losses. This paper analyzes how bank capital regulation affects supply chain decisions such as inventory and pricing, and how the seller should orchestrate a joint finance program in the presence of regulatory requirements.

Contributed Session

854

Sunday, 02:00 PM - 03:00 PM, Finance & OM 2

Track: Finance and Operations Management 2

Contributed Session: Operations and Finance Interface: Miscellaneous 1

Chair(s): Derui Wang

111-0805 Inventory and financial performance analysis in the global pharmaceutical industry

Jeong Hoon Choi, Associate Professor, University of Nebraska Kearney, United States

Sangdo Choi, Associate Professor, Bloomsburg University, United States

Nallan Suresh, Professor, Suny At Buffalo, United States

We investigate the relationship between the inventory performance and financial performance of a large panel of global pharmaceutical firms from 1990 to 2019. We explore the difference among strategic directions of global pharma companies through Earnings-Turns matrix derived from the DuPont analysis on profitability and inventory turns.

111-0007 Capital Market Opening and Stock Market Systemic Financial Risk Measurement

Xiaojun Li, Student, Southeast University, China

This paper theoretically expands the two-stage generalized dynamic factor model, and combines with the event research method to measure the systemic financial risk of stock market from the three perspectives of financial market linkage, dependence and contagion to test the quality of capital market opening.

111-0661 Competitive Trading in Forward and Spot Markets Under Yield Uncertainty

Lusheng Shao, Associate Professor, University of Melbourne, Australia

Derui Wang, Student, Fudan University, China

Xiaole Wu, Professor, Fudan University, China

Many agricultural commodities are traded in both forward and spot markets. This paper studies how the interplay of yield uncertainty and forward market affects the firms' strategic behaviors and spot price volatility in a hybrid market with spot and forward transactions.

Invited Session

856

Sunday, 02:00 PM - 03:00 PM, Healthcare Analytics

Track: Healthcare Analytics

Invited Session: Analysis of Hospitals' and Physicians' Behavior

Chair(s): Tan Lekwijit

111-0549 Stockpiling Medicines During the COVID-19 Pandemic: An Empirical Analysis of National Drug Sales and Prices

Minje Park, Student, Boston University, United States

Anita Tucker, Professor, Boston University, United States

Erin Fox, PharmD, University of Utah, United States

Rena Conti, Professor, Boston University, United States

We leverage a quasi-experimental design on IQVIA's national prescription drug sales data from 2018- 2020 with a focus on medicines related to US hospital-based COVID-19 treatment and a set of control medicines not used for COVID-19, to demonstrate stockpiling among US medical providers in the early phase of the pandemic.

111-0767 How Nurses' Response to Sepsis Alerts Impacts Physicians' Process Compliance

Zahra Mobini, Student, The University of Texas at Dallas, United States

Mehmet Ayvaci, Associate Professor, University of Texas Dallas, United States

Ozalp Ozer, Professor, University of Texas Dallas, United States

Using data from a large hospital group in the U.S., we investigate the impact of nurses' timely completion of alert-related tasks on physicians' compliance with sepsis care standards. Additionally, we examine how this impact changes under heavy workload and prior experiences with false alerts.

111-0877 Impact of physicians' workstyles on EHR workload

Umit Celik, Student, UNC Kenan-Flagler Business School, United States

Sandeep Rath, Assistant Professor, University of North Carolina Chapel Hill, United States

Bradley Staats, Professor, University of North Carolina Chapel Hill, United States

Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States

Time spent on Electronic-Health-Records(EHR) affects physician burnout, productivity, quality of care, and the workload of physicians. We show that in addition to clinical complexity, physician work style impacts the amount of time the physicians spend on EHR. We provide recommendations towards time management that incorporate the effect of EHR usage.

Contributed Session

857	Sunday, 02:00 PM - 03:00 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Empirical Studies in Healthcare 3	
	Chair(s): Xinyu Shirley Liang	

111-0963 Generic Drug Treatment Effectiveness: An Empirical Study

Xinyu Shirley Liang, Student, University of Michigan Ann Arbor, United States
 Jun Li, Associate Professor, University of Michigan - Ann Arbor, United States
 Ravi Anupindi, Professor, University of Michigan Ann Arbor, United States

The cost-saving benefit of generic drugs can only be realized when its effectiveness is ensured. We study the effectiveness of generic drugs by exploiting the market entry of atorvastatin-the generic version of the best-selling drug Lipitor. We find that generic drugs lead to higher healthcare service and worse clinical performance.

111-0801 Patient Admission Decisions in the Emergency Department: An Empirical Investigation

Hui Jia, Student, University of Tennessee Knoxville, United States
 Bogdan Bichescu, Associate Professor, University of Tennessee Knoxville, United States
 Haileab Hilafu, Assistant Professor, University of Tennessee Knoxville, United States

Emergency departments (ED) play a critical role in determining inpatient admissions. We leverage secondary data sources and rigorous econometric modeling to evaluate the role that ED physician integration plays on patient admission decisions into the inpatient ward.

111-0945 Tension Between Standardization and Customization in Healthcare: Vital Signs Monitoring's Moderating Role on Length-of-stay Reduction

Qi Wang, Student, Xi'an Jiaotong University, China
 Sarah Zheng, Assistant Professor, University of Victoria, Canada
 Anita Tucker, Professor, Boston University, United States

To study the policy of length-of-stay on patient outcomes with the moderating role of vital-signs monitoring, we employ logit models with 8,690,663 patient-level records in MIMIC database. In increasing length-of-stay with higher frequency of vital-signs monitoring, vulnerable and elderly patients are associated with higher mortality. A customized policy is proposed.

Contributed Session

858	Sunday, 02:00 PM - 03:00 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Impact of Patient Complexity on the Delivery of Care	
	Chair(s): Wiljeana Glover	

111-1393 From Complex to Complete: An Empirical Examination of Task Complexity in Healthcare Task Management

Wiljeana Glover, Associate Professor, Babson College, United States
 Dessi Pachamanova, Professor, Babson College, United States
 Zhi Li, Lecturer, Babson College, United States

The increasing complexity of healthcare administrative tasks adversely effects healthcare system efficiency. This study uses healthcare task management platform data to examine the relationship between task complexity, number of assigned individuals, and task touches towards completion across 7472 unique tasks episodes in a mental health practice.

111-1783 Weeping Hospitals: How Patient Complexity and Hospital Operational Characteristics Affects the Psychiatric Readmission Problem

Hossein Hejazian, Student, Desautels Faculty of Management, Canada
 Beste Kucukyazici, Assistant Professor, Michigan State University, United States
 Javad Nasiry, Associate Professor, McGill University, Canada
 Vedat Verter, Professor, Michigan State University, United States
 Daniel Frank, Associate Professor, McGill University, Canada

We study the psychiatric readmission problem with two quality outcomes as readmission rate and length of hospital stay. We provide empirical evidence for our hypotheses that the effects of hospital characteristics differ between patients based on complexity and severity of their health conditions, using 16,000 patient records from 28 hospitals.

111-0027 The Effect of Patient Complexity and Hospital Scale on the Effectiveness of Clinical Care Pathways

Paulo Gomes, Assistant Professor, Florida International University, United States
 Curba Lampert, Associate Professor, Florida International University, United States
 Minyoung KIM, Associate Professor, University of Kansas, United States
 Joseph Featherall, Post Doc/Researcher, University of Utah, United States
 Carlos Higuera, Center Director, Cleveland Clinic, United States

This study analyzes how process innovation in healthcare delivery achieves efficiency and health outcomes. In particular, we investigate the clinical and financial consequences of total knee arthroplasty care pathways implementation at eleven Cleveland Clinic hospitals. Results show that the effect on episode cost is moderated by patient and organizational.

Invited Session

859 Sunday, 02:00 PM - 03:00 PM, Information Systems & OM 1 Track: Information Systems and Operations Management
Invited Session: **Platform Governance and Business Models 1**
Chair(s): Ming Fan

111-1513 Leveraging Social Fabrics to Lower E-Commerce Participation Barriers

Ming Fan, Associate Professor, University of Washington, United States

Aravinda Garimella, Assistant Professor, University of Illinois at Urbana Champaign, United States

One challenge in global e-commerce is the last mile delivery to people living in rural areas. We investigate how to spread e-commerce by leveraging social fabrics to provide last mile delivery and service. We show innovative business models can increase e-commerce adoption and create a more inclusive marketplace.

111-1536 Blockchain technology and seller competition on e-commerce platforms

Yonghua Ji, Associate Professor, University of Alberta, Canada

Yu Jiang, Student, University of Science and Technology of China, China

Blockchain Technology has been used in supply chain for product authentication. However it also causes the concern of information leakage. We study a setting where a brand-name seller and a non-brand-name seller compete on an online platform and explore the sellers' incentives in adopting blockchain technology.

111-0501 A Co-Opetitive Game Analysis of Platform Compatibility Strategies under Value-added Services

Yanjie Liang, Student, Tianjin University, China

Weihua Liu, Professor, Tianjin Uiversity, China

Large-scale platforms with valuation and awareness advantages have been allowing competing small-scale platforms to be embedded in their APPs. This phenomenon observed in the two-sided market is called platform compatibility. This study explores their strategic and operational decisions on platform compatibility under value-added services.

Contributed Session

861 Sunday, 02:00 PM - 03:00 PM, Inventory Management Track: Inventory Management
Contributed Session: **Multi-period/Multi-product Inventory Management**
Chair(s): Suting Liu

111-0422 Managing Hybrid Manufacturing/Remanufacturing Inventory Systems with Random Production Capacities

Xiting Gong, Associate Professor, The Chinese University of Hong Kong, China

Suting Liu, Student, The Chinese University of Hong Kong, China

We study hybrid manufacturing/remanufacturing inventory systems with random production capacities. We partially characterize the optimal policy for general model and completely characterize it when one capacity is deterministic. We further characterize the optimal policy and obtain additional insights for model with unlimited manufacturing capacity and finally conduct a numerical study.

111-1515 A novel decomposition-based method for solving general-product structure assemble-to-order systems

Mohsen Elhafsi, Professor, University of California Riverside, United States

Essia Hamouda, Assistant Professor, California State University at San Bernardino, United States

Jianxin Fang, Assistant Professor, Xi'an JiaoTong-Liverpool University, China

We consider a general-product structure ATO problem modeled as an infinite horizon Markov decision process. As the optimal policy of such a system is computationally intractable, we develop a heuristic policy that is based on a decomposition of the original system, into a series of two-component ATO subsystems.

111-0026 Constrained assortment optimization problem under the mixed logit model with design options

Sven Müller, Professor, Otto-von-Guericke-University, Germany

Knut Haase, Professor, Universitaet Hamburg, Germany

Select a subset of products of a given size and decide on the attributes of each product such that a function of market share is maximized. We develop a Benders decomposition to solve the MIP reformulation of the original MINLP. We employ variance reduction techniques to enhance efficiency of Benders.

Invited Session

863 Sunday, 02:00 PM - 03:00 PM, Manufacturing Operations Track: Manufacturing Operations
Invited Session: **Novel Problems in Manufacturing**
Chair(s): Tharanga Rajapakshe Avinash Geda

111-0035 Cross-docking Operations in an Energy Supply Chain

Seulchan Lee, Student, Mays Business School, United States
 Alexandar Angelus, Assistant Professor, Texas A&M University College Station, United States
 Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States
 Jon Stauffer, Assistant Professor, Mays Business School, Texas A&M University, United States

We study optimal inventory and transportation decisions in a multi-product, multi-stage supply system with a cross-docking facility. We explore how individual supply chain members benefit from mutual collaboration and identify the conditions that facilitate that collaboration. We quantify the cost savings generated by optimizing cross-docking operations.

111-0546 Supplier Selection in the Presence of Process Variability

Tharanga Rajapakshe, Associate Professor, University of Florida, United States
 Anand Paul, Associate Professor, University of Florida, United States
 Anupam Agrawal, Associate Professor, Texas A&M University College Station, United States

We consider an OEM who assigns machining operations of components to a pre-selected supplier pool to minimize the makespan of the final product. The machining sequences of components are common knowledge. The machining times of components assigned to a supplier are correlated.

111-1171 Production rationing across different regulation clusters: Carbon emissions perspective

Avinash Geda, Assistant Professor, University of North Carolina Wilmington, United States
 Nazli Turken, Assistant Professor, Johns Hopkins University, United States
 Goutham Takasi, Student, University of Texas at Dallas, United States

Nowadays supply chains are becoming more and more global. We look at a firm's production rationing decisions across different geographical regulation clusters. In specific, we aim to understand how production rationing decisions across two regions are impacted when the regulation clusters are subjected to various symmetric vs. asymmetric regulations.

Invited Session

864	Sunday, 02:00 PM - 03:00 PM, Marketing & OM	Track: Marketing and Operations Management
	Invited Session: Advances in Retailing Study	
	Chair(s): Xuying Zhao	

111-0495 Pay-to-Win in Video Games: Microtransactions and Fairness Concerns

Duc Vu, Student, University of Texas at Dallas, United States
 Xuying Zhao, Associate Professor, University of Notre Dame, United States
 Kathryn Steckle, Professor, University of Texas at Dallas, United States

Although microtransaction generates extra revenue, it also leads to fairness concerns ("pay-to-win") from players who do not buy the add-on. Such fairness concerns reduce the profitability of the main game. A game publisher needs to balance these two sides, given the cross-externalities between game players and add-on buyers.

111-0849 Retailer-Driven Blind Boxes in a Decentralized Supply Chain

Ashutosh Prasad, Professor, University of California, Riverside, United States
 Lifei Sheng, Assistant Professor, University of Houston Clear Lake, United States
 Xuying Zhao, Associate Professor, University of Notre Dame, United States

We study the selling of blind boxes in a decentralized supply chain, where a manufacturer provides two products to a retailer and the retailer can sell them explicitly or as a blind box. Considering the game between the two parties, we find when and how to sell blind boxes.

111-0882 Probabilistic Selling for Vertically Differentiated Products in Supply Chain

Zhechao Yang, Student, University of Florida, United States
 Xiajun Pan, Assistant Professor, University of Florida, United States

We study probabilistic selling for vertically differentiated products in a supply chain. The supplier or retailer can create a probabilistic product (PP). Capturing consumers' enjoyment of receiving the high-quality product when purchasing PP, we discover that both the supplier and retailer may prefer the supplier to create the PP.

Invited Session

865	Sunday, 02:00 PM - 03:00 PM, Not-for-Profit OM	Track: Not-for-Profit Operations Management
	Invited Session: Management of volunteers (2)	
	Chair(s): Mariana Escallon-Barrios	

111-1042 Integrating Targeted and Organic Traffic on Matching Platforms

Vahideh Manshadi, Associate Professor, Yale School of Management, United States
 Scott Rodilitz, Post Doc/Researcher, Stanford University, United States
 Daniela Saban, Assistant Professor, Stanford University, United States
 Akshaya Suresh, Student, Yale School of Management, United States

Nonprofit platforms connecting volunteers and opportunities use on-platform ranking engines and off-platform promotion to engage volunteers. Partnering with the largest, VolunteerMatch, we show off-platform traffic constitutes significant engagement but opportunities receive disparate levels. We develop ranking policies utilizing off-platform traffic to maximize engagement and demonstrate their effectiveness on VolunteerMatch's data.

111-0792 Integrating dual scheduling modes in workforce management

Mariana Escallon-Barrios, Student, Northwestern University, United States

We present a model to combine self-scheduled and centrally-scheduled workforce to meet organizational objectives, with a focus on volunteers engaging with nonprofit organizations through emerging scheduling technology. Our model accounts for workforce satisfaction and engagement. Through a case study in emergency response, we demonstrate the potential of the integrated approach.

Contributed Session

867	Sunday, 02:00 PM - 03:00 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Contributed Session: Social and Environmental Responsibilities in Agribusiness	
	Chair(s): Arezoo Jafari	

111-1775 Inspection strategies for detecting labor violations among employers of migrant workers

Arezoo Jafari, Student, Northeastern University, United States

Priscila de Azevedo Drummond, Student, Northeastern University, United States

Shawn Bhimani, Assistant Professor, Northeastern University, United States

Amy Farrell, Associate Professor, Northeastern University, United States

Kayse Maass, Assistant Professor, Northeastern University, United States

Labor trafficking has been documented within U.S. agricultural supply chains with workers on H2-A visas being vulnerable to exploitation. Given the limited resources to inspect worksites, this study helps identify unsafe working conditions by merging and analyzing public data regarding employer wage and hour violations and H2-A certification applications

111-1789 Understanding the Poverty Trap for Smallholder Farmers in Tanzania: The role of Input Supply Chains

Elizabeth Eldridge, Student, HEC Montréal, Canada

Marie-Eve Rancourt, Associate Professor, HEC Montréal, Canada

Ann Langley, Emeritus Professor, HEC Montréal, Canada

Dani Heroux, Logistics Officer, HEC Montréal, Canada

Our study of smallholder farmers' relationships with suppliers and various actors across the Tanzanian agro-input supply chain, attributes endemic poverty to an unequal power dynamic arising between actors during input-sourcing activities. Using grounded theory and causal loop mapping methodologies, we explain this complex environment and the factors perpetuating this dynamic.

Invited Session

869	Sunday, 02:00 PM - 03:00 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Blockchain and retail platform	
	Chair(s): Jianghua Wu Jiahao Yu	

111-1531 Platform's Information Sharing and Selling Contract Strategy with Blockchain Adoption

Jiahao Yu, Student, Renmin University of China, China

Jianghua Wu, Professor, Renmin University of China, China

We study the interface between e-commerce platform's blockchain and selling format strategy in a platform supply chain from the perspectives of information transparency and transaction cost. Moreover, we provide guidance for the government to subsidize the platform's blockchain adoption from the perspective of social welfare.

111-1537 Pricing and Market Entry of the Green Product with Blockchain Technology

Jianghua Wu, Professor, Renmin University of China, China

chenchen zhao, Student, Renmin University of China, China

We consider a market where consumers do not know the green product quality of the entrant which can be revealed by blockchain technology. We examine the conditions under which the incumbent should tolerate or deter the entrant, and when blockchain technology will be implemented.

Invited Session

870	Sunday, 02:00 PM - 03:00 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Incentives in Innovation 1	
	Chair(s): Karthik Ramachandran	

111-1473 Impact of Inventory Risk on Sales Effort Provisioning: Theoretical Predictions and Empirical Evidence

Sreekumar Bhaskaran, Associate Professor, Southern Methodist University, United States

Canan Savaskan, Associate Professor, Southern Methodist University, United States

Tom Tan, Associate Professor, Southern Methodist University, United States

We examine the impact of the allocation of inventory risk on the sales effort decisions when a firm sells products directly to consumers through a network of independent agents. Theoretical predictions are tested using a novel dataset to understand and validate key drivers of firm's and agent's decision making.

111-1522 The Impact of Narrow Framing and Overconfidence on Entrepreneurial Product Development

Janne Kettunen, Associate Professor, George Washington University, United States

Shivraj Kanungo, Associate Professor, George Washington University, United States

We investigate how biases, such as the use of narrow framing in decision making and overconfidence, cause departure from rational entrepreneurs' propensity to pivot from initiated development project. We develop an analytical model to study the impacts of these biases whilst accounting for entrepreneurs' differences in their risk aversion.

Contributed Session

871	Sunday, 02:00 PM - 03:00 PM, Public Sector OM	Track: Public Sector Operations Management
	Contributed Session: Transportation Policies and Improvements	
	Chair(s): Dhanshyam Mahavadi	

111-0285 Quality Improvement Strategy in Private Toll Roads

Lu Wang, Student, Peking University, China

Lihua Chen, Professor, Peking University, China

Managing the service quality of private toll roads is challenging for governments worldwide. Based on whether there is a target quality, this paper examines two incentive strategies and compare these two strategies with two basic scenarios for better understanding their effects on quality improvement and then social welfare.

111-1532 Traffic risk Mitigation mechanisms in Build-Operate Transfer (BOT) road concessions using dynamic real options approach

Dhanshyam Mahavadi, Student, Indian Institute of Management - Lucknow, India

Samir Srivastava, Professor, Indian Institute of Management Lucknow, India

Traffic demand risk is a crucial risk source in Build-Operate-Transfer (BOT) road concessions. We analyze combinations of risk mitigation mechanisms - minimum traffic guarantee, minimum revenue guarantee, subordinated loans, capital grants and tax holidays to suggest optimal mix using real options approach, and demonstrate using an Indian road highway concession.

Invited Session

872	Sunday, 02:00 PM - 03:00 PM, Retail Operations	Track: Retail Operations
	Invited Session: Omnichannel Operations	
	Chair(s): Leela Nageswaran	

111-1467 Taming the Retail Returns Through Joint Optimization of Inventory Replenishment and Return Flow Management

Stefanus Jasin, Associate Professor, University of Michigan, United States

Joline Uichanco, Assistant Professor, University of Michigan, United States

Jiaxin Liang, Student, University of Michigan - Ann Arbor, United States

The high volume of product returns and the high processing cost have been huge concerns for E-retailers. To address the issue, we propose a dynamic joint replenishment and return flow bifurcation scheme. We analyze the structural properties of the optimal policy and construct a class of implementable heuristics accordingly.

111-1128 Snob And Follower Effects In Luxury Products Competition

Lai Wei, Assistant Professor, Boston College, United States

One unique feature of luxury products is the coexistence of two opposite externalities: snob customers experience negative externalities with product sales while follower customers experience positive externalities. In this paper, we study the effects of these externalities on the optimal strategy under a competitive market and social welfare.

111-0082 Exploring the Competitive Dimension of Omnichannel Retailing

M. Serkan Akturk, Assistant Professor, Clemson University, United States

Michael Ketzenberg, Associate Professor, Texas A&M University College Station, United States

Using transaction data from a national retailer, we evaluate the competitive impact of the launch of a buy-online-and-pick-up-in-store (BOPS) service by a major competitor. Our findings show that after the competitor's launch, both online and store sales at the focal retailer are negatively affected.

Invited Session

873	Sunday, 02:00 PM - 03:00 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Invited Session: New Business Models and Assortment Planning 1	
	Chair(s): Xi Shan Dorothee Honhon	

111-1702 Managing an Assortment of Durable Goods

Xabier Barriola, Post Doc/Researcher, Aalto University, Finland

Mihalis Markakis, , ,

Victor Martínez-De-Albéniz, Professor, IESE Business School, Spain

We analyze the problem of durable goods acquisition and usage. Using a dynamic programming model, we characterize consumer usage and purchase behavior over time studying the influence of prices, holding costs, decay, seasonality, and uncertainty on the process.

111-1692 Assortment Planning for Complements

Dorothee Honhon, Associate Professor, University of Texas Dallas, United States

Xi Shan, Assistant Professor, Bemidji State University, United States

Chenglin Zhang, Associate Professor, Southwestern University of Finance & Economics, United States

In this paper, we consider complements to the canonical assortment model in which a news-boy stimulates purchases by offering complementary products. Our model is suitable for both traditional bricks and mortar retailing and online retailing (e-commerce)

Contributed Session

874	Sunday, 02:00 PM - 03:00 PM, Service Operations	Track: Service Operations
	Contributed Session: Employee Perspectives in Service Operations	
	Chair(s): Nagesh Murthy	

111-1148 Implications of Worker Classification in On-Demand Economy

Ming Hu, Professor, University of Toronto, Canada

Jianfu Wang, Associate Professor, City University of Hong Kong, Hong Kong

Zhoupeng Zhang, Student, University of Toronto, Canada

Is it better to classify gig workers as employees rather than contractors? We show that long-term workers will not necessarily be better off, while consumers and a company will generally be worse off. It can be better to classify long-term workers as employees but ad hoc workers as contractors.

111-0468 Why Having Good People is Not Enough

Barry Cross, Assistant Professor, Queens University, Canada

Pandemic effects have reduced the employee base available to many organizations significantly, leading to increased focus on HR/OB practices, financial incentives and recruiting techniques in general. What if the resources we need were within the firm already? Here focus on processes, their effect on resources and the service experience.

111-1373 Protecting Emotional Labor from Rude Customers: Implications for Managing Call Centers

Hyojeong Kim, CEO, Mine's Lab, South Korea

Nagesh Murthy, Professor, University of Oregon, United States

Anurag Agarwal, Professor, Florida Gulf Coast University, United States

Kwangtae Park, Professor, KUBS(Korea University Business School), South Korea

When call center agents perceive the efficacy of the firm's policies to protect them from rude customers to be low, it can lead to poor organizational performance, notwithstanding increased turnover. This study analyzes data from call centers of a major multi-national firm in Korea.

Contributed Session

880	Sunday, 02:00 PM - 03:00 PM, Sustainable Operations 1	Track: Sustainable Operations
	Contributed Session: Renewable Energy	
	Chair(s): Ricardo Cassel	

111-0612 The Impact of Entry of Community Energy on Commercial Channel and Renewable Energy Industry

Jing Wang, Student, Tianjin University, China

In contrast to starting from the supply side, the other way to promote the development of the renewable energy industry is to start from the demand side. A typical representative is energy community, which is based on open and voluntary participation and controlled by members or shareholders.

111-0701 Systemic Analysis of the Impact of Distributed Generation of Energy

Ricardo Cassel, Associate Professor, Univ Federal Do Rio Grande Do Su, Brazil

Tais Alfonso, Student, Univ Federal Do Rio Grande Do Su, Brazil

Distributed generation of energy has grown over the years, bringing more complexity and impacts on the energy distribution systems. This study uses a systemic approach to analyze these impacts. A Causal Loop Diagram was built to better understand the relationship among the variables and to find points of attention.

Invited Session

881	Sunday, 02:00 PM - 03:00 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Corporate ESG Finance and Operations 2	
	Chair(s): Selva Nadarajah	

Sunday, 02:00 PM - 03:00 PM

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111-0117 How Does Flexibility Affect Environmental Performance? Empirical Evidence from the Power Generation Industry

David Drake, Assistant Professor, University of Colorado Boulder, United States

Suresh Muthulingam, Associate Professor, Penn State University University Park, United States

We examine the environmental consequences of flexibility in the power sector. We analyze the carbon emissions of 3,543 fossil-based power units from 1998-2016 and delineate the effects of possessing and exercising flexibility. We contribute by crystallizing the environmental trade-offs involved with deploying flexibility in the power sector.

111-0118 Microgrid Capacity Investment: Price Dependent and Independent Demand Cases and Their Comparison

Fariba Farajbakhsh Mamaghani, Assistant Professor, Tulane University, United States

Metin Cakanyildirim, Professor, University of Texas Dallas, United States

Finding the optimal capacity for a microgrid by considering demand randomness and dependency factors is a challenge. In this paper, we provide a profit maximization formulation for a microgrid and reveal the effect of demand and price dependency on the optimal capacity and the investment decisions.

Contributed Session

882

Sunday, 02:00 PM - 03:00 PM, Teaching/Pedagogy in POM Track: Teaching/Pedagogy in POM

Contributed Session: Learning with Different Methodologies

Chair(s): Hulya Yazici

111-1127 Playing Goldratt's Dice Game in Large Classes

LAN LUO, Assistant Professor, University of Hartford, United States

Charles Munson, Professor, Washington State University Pullman, United States

We describe an Excel-based simulation of the classic Dice Game from the book, The Goal. Student teams try to select the best combination of capacity and beginning inventory options to maximize profit. Results are tabulated and winners identified quickly. The game readily accommodates class sizes of 100 or more.

111-0553 Student perceptions of video conferencing technologies and e-professionalism

Hulya Yazici, Professor, Florida Gulf Coast University, United States

Chrissann Ruehle, Senior Lecturer, Florida Gulf Coast University, United States

This research focuses on the results of the surveys with respect to video conferencing technologies used and e-professionalism. The survey was conducted in SCM and Management classes for over 100 students. Results will be shared along with tips how to manage blended hy-flex courses.

Sunday, 03:15 PM - 04:15 PM

Invited Session

885

Sunday, 03:15 PM - 04:15 PM, 3- POMS Tutorials, Panels, & Workshops Track: All Tutorials, Invited Panels, and Workshops

Invited Session: Workshop: Pandemics preparedness: inventory, capacity, and capability

Chair(s): Manmohan Sodhi

111-1820 Workshop - Pandemics preparedness: inventory, capacity, and capability

Manmohan Sodhi, Professor, City University - London, United Kingdom

The US experience with the Strategic National Stockpile showed that storing inventory for use in rarely occurring disasters, including pandemics, is neither cheap nor effective. Accessible, if expensive, (domestic) manufacturing capacity and investment in "capability" create such capacity can reduce expected costs and improve effectiveness. We discuss research opportunities.

Contributed Session

887

Sunday, 03:15 PM - 04:15 PM, Behavioral OM 1 Track: Behavioral Operations Management

Contributed Session: Behavioral Operations and Technology 2

Chair(s): Paulo Goncalves

111-1281 Logistics digitization and the firm performance: the moderating role of paradoxical leader behavior

Muhammad Hasan Ashraf, Student, University of Rhode Island, United States

Mehmet Yalcin, Assistant Professor, University of Rhode Island, United States

Anis Triki, Associate Professor, University of Rhode Island, United States

21st century shopping and shipping mania has made it unavoidable for the Third-Party Logistics (3PL) firms to invest in Industry 4.0 technologies. This research utilizes a 2x2 experimental design based on a scenario/sorting-game to explore the moderating role of Paradoxical Leadership Behavior between Logistics Digitization and 3PL performance.

111-1518 Designing Coordinating-bots as Mechanisms to Debias Behaviors in Supply Chain Management: A Human-to-human Experimental Study

Shuyuan Zhu, Student, Tsinghua University Department of IE, China
Xiaobo Zhao, Professor, Tsinghua University, China
Wanshan Zhu, Professor, Renmin University of China, China
Jinxing Xie, Professor, Tsinghua University, China

We design coordinating-bots to help implement buyback and revenue-sharing contracts in supply chain management and conduct experiments. We find that the coordinating-bots significantly improve supply chain performance under the buyback contract but cannot improve the performance under the revenue-sharing contract. We build behavioral model to test their intricate interactions with

111-1646 Delay impairs communication and punishment

Ali Akhavan, Student, University of Lugano, Switzerland
Paulo Goncalves, Associate Professor, University of Lugano, Switzerland

Scholars have proposed communication and punishment as self-governance mechanisms of common-pool resources (CPRs). However, a review of previous studies suggests that researchers have often ignored the inherent dynamics of CPRs. Using experimental data, we show that nonlinearities, delays, and feedback complexities can negatively impact the effectiveness of communication and punishment.

Contributed Session

892	Sunday, 03:15 PM - 04:15 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: New Business Models, conflicts, and regulations	
	Chair(s): Hubert Pun Yongqin Lei	

111-0032 Triple Uncertainties: Credence Goods, Deceptive Counterfeits, and Fake Reviews

Yongqin Lei, Student, Ivey Business School, Western University, Canada
Hubert Pun, Associate Professor, University of Western Ontario, Canada
Fredrik Odegaard, Associate Professor, Ivey Business School, Western University, Canada

Credence goods are products whose qualities are difficult to evaluate even after consumption. We use a game-theoretic model to study an online marketplace of credence goods in the presence of fake product reviews. We show that when will sellers and customers benefit from fake reviews.

111-1138 Driver Safety, Platform Algorithm and Government Regulation in Meal Delivery Service

Wenchang Zhang, Assistant Professor, Kelley School of Business, United States
Christopher Tang, Professor, University of California Los Angeles, United States
Liu Ming, Assistant Professor, Chinese Univ of Hong Kong (Shenzhen), China
Yue Cheng, Assistant Professor, Peking University, China

The meal delivery industry causes various societal impacts, especially the safety issues. We aim to understand platforms' operations and market design under drivers' safety concerns and regulations. Meanwhile, we tackle the governments' regulatory design challenge by seeking the socially optimal solution.

111-1338 R&D-Marketing Conflicts on Product Innovation in a Competitive Market

Siyi Wang, Student, Univ of Science and Technology of China, China
Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States

In this paper, we study the intra-firm conflicts between the R&D and marketing divisions which may affect the innovation strategies. This paper develops a game theoretical model to study the economic incentives for a firm that managing the interaction and conflict between divisions for competitive innovation.

Contributed Session

896	Sunday, 03:15 PM - 04:15 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Contributed Session: Operations and Finance Interface: Miscellaneous 2	
	Chair(s): BHARATI SINGH	

111-1560 Defensive Portfolio Allocation

BHARATI SINGH, Student, Indian Institute of Management Ahmedabad, India

Using a scenario-based portfolio optimization technique, where we consider unequal probabilities for scenarios, our portfolio optimization criteria is more loss-centric than has been attempted in previous studies. The out-of-sample analysis shows that the resultant portfolio has a minimum count of losses across all scenarios for a given level of return.

111-0138 Risk assessment of crowdfunding project investment using fuzzy super-efficiency SBM-based FMEA

Mengshan Zhu, Student, Tongji University, China
Wenyong Zhou, Professor, Tongji University, China
Chunyan Duan, Associate Professor, Tongji University, China

Funding a crowdfunding project is risky for backers. We propose a risk assessment approach integrating FMEA and fuzzy super-efficiency SBM to identify critical risks, and provide insights on backers' decisions and risk management.

111-0292 Incentive Mechanism in Inventory Financing Considering Altruistic Preference and Supervision Ability

Lu Wang, Student, Peking University, China

Lihua Chen, Professor, Peking University, China

Aiming at inventory financing, considering both parties' altruistic preference behaviour and asymmetric supervision ability information of Third Party logistics (TPL), this paper investigates how to design the incentive contract for TPL to improve supervision quality. The results show the separate and compound impacts of these two elements on contract design.

Contributed Session

899	Sunday, 03:15 PM - 04:15 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Empirical Studies in Healthcare 4	
	Chair(s): Joel Goh	

111-1787 The Impact of Appointment System Quality and Information Quality on Patients No-show Behavior

Miao Hu, Post Doc/Researcher, Soochow University, China

Shenyang Jiang, Assistant Professor, Tongji University, China

No-show behavior by patients has become an important issue in healthcare operations. In this paper, we seek to quantify the impact of appointment system quality and information quality on patients' no-show behavior based on the Belief-Attitude-Intention paradigm.

111-1767 Racial and Socioeconomic Impact on Age at Procedure: Total Hip Arthroplasty

Brian Moriarty, Student, Rutgers University, United States

Devin Vasoya, Student, Rutgers University, United States

Xin Ding, Assistant Professor, Rutgers Business School, United States

Total Hip Arthroplasty is a surgical procedure to treat severe osteoarthritis, a disease primarily associated with aging. Delaying this procedure can result in a decreased quality of life. Our study analyzes the impact of race and socioeconomic factors at the time of procedure, stratified by age.

111-0851 Estimating the Effect of Appointment Reminders on Patient Waiting Times

Lianjun Li, Post Doc/Researcher, National University of Singapore, Singapore

Haiping Zhao, Post Doc/Researcher, National University of Singapore, Singapore

Noah Lim, Professor, National University of Singapore, Singapore

Joel Goh, Associate Professor, NUS Business School, Singapore

Bernard Ng, Associate Professor, University of Washington, United States

Using data from 130 Veterans Affairs health centers across the US, we empirically investigate the impact of the introduction of an electronic appointment reminder system on the number of days that patients had to wait from appointment booking to completion.

Contributed Session

900	Sunday, 03:15 PM - 04:15 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Healthcare Case Studies and Literature Review	
	Chair(s): Harwin De Vries	

111-1602 Exploring the role of Total Productive Maintenance in Healthcare - A Literature Review

Swagata Chattopadhyay, Student, Indian Institute of Management, Kozhiko, India

Anand Gurumurthy, Professor, Indian Institute of Management Kozhikode, India

Rohit G, Student, Indian Institute of Management, Kozhiko, India

Total Productive Maintenance (TPM) is a maintenance philosophy widely used in capital-intensive industries like manufacturing. But despite its role in service quality improvement, TPM is scarcely used in technology-driven, equipment-based healthcare context. Hence, we carried out a literature review to explore its barriers, suitability and benefits within healthcare.

111-1009 Colorectal Cancer Screening - a Lean Six Sigma Perspective.

Marcos Adriano Junior, Head of Surgical Oncology, Prevent Senior, Brazil

Erika dos Santos, Projects and Processes, Prevent Senior, Brazil

Yeda Kuboki, Medical Endoscopist, Prevent Senior, Brazil

Roberto Cunha Filho, Head of Projects and Processes, Prevent Senior, Brazil

Antonio da Silva, Head of Quality Management System, Prevent Senior, Brazil

Colorectal cancer is the third most common cancer worldwide and their screening must be optimized to allow effective and sustained reduction of incidence and mortality. This project aims to create a colorectal cancer screening program in a private Brazilian health insurance company since giving disease's information and screening tests accomplished.

111-0720 Inventory Management Practices in Private Healthcare Facilities in Nairobi County

Varun Karamshetty, Assistant Professor, National University of Singapore, Singapore

Luk Van Wassenhove, Professor, INSEAD, France

Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands

Sarah Dewilde, --, INSEAD, Belgium

Prashant Yadav, Professor, Harvard University, United States

We conducted semi-structured interviews with inventory managers of 39 private healthcare facilities in Nairobi to examine causes of over- and understocking of essential medicines. Our results show that resource limitations (budget and time/human resource), managerial issues (skills and systems), and mechanisms that limit coverage and underage costs are primary causes.

Invited Session

901	Sunday, 03:15 PM - 04:15 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Platform Governance and Business Models 2	
	Chair(s): Ming Fan	

111-1776 Sustainability of Non-Profit UGC Platforms: The Role of Content Creation and Donations

Ziqi Dong, Student, Temple University, United States

Emre Demirezen, Assistant Professor, University of Florida, United States

Subodha Kumar, Professor, Temple University, United States

The online encyclopedia, Wikipedia, is created and maintained by volunteer editors (UGC model) and financially supported by users' donations (PWYW model). We fill the gap in the literature by studying PWYW and UGC concurrently to shed light on the business practices of organizations like Wikipedia and generate managerial insights.

111-1680 Direct Communication and Two-sided Matching Quality on Digital Platform: A Consideration Set-Base Perspective

Xia Zhao, Assistant Professor, University of Georgia, United States

Peijian Song, Professor, Nanjing University, China

Ling Xue, Associate Professor, Georgia State University, United States

Elena Karahanna, Professor, University of Georgia, United States

Using a multi-method approach and a context of a P2P platform of real estate rental property, the study shows that longer direct phone communication between renters and hosts improves two-sided matching quality by supporting renters to choose relatively more unique alternatives within their consideration sets.

111-1529 The Effects of Platform Post-Entry Strategies on Third-Party Performance

Haoyan Sun, Assistant Professor, Lehigh University, United States

Eric Fang, , , ,

Beibei Dong, Assistant Professor, Lehigh University, United States

Xiaoling Li, , ,

Our study investigates how third party sellers (TPS) respond to competition after the platform owner enters the marketplace, we find both spillover effect and crowding out effect when platform competes with the TPS. We also find evidence of both direct response and indirect response to the competition from the TPS.

Contributed Session

903	Sunday, 03:15 PM - 04:15 PM, Inventory Management	Track: Inventory Management
	Contributed Session: Inventory Management-Data Driven Approaches	
	Chair(s): Reza Valimoradi	

111-1779 Data-Driven optimization for dynamic inventory replacement and replenishment strategy in humanitarian logistics

Jianping Cai, Student, Beijing Technology and Business University, China

Jing Wang, Professor, Beijing Technology and Business University, China

Zihao Jiao, Student, Beijing Technology and Business University, China

Emergency supplies expiration causes high cost and rescue delay. This paper proposes a dynamic inventory replacement and replenishment strategy in humanitarian logistics to balance the economic benefits and social benefits. We adopt a dynamic programming model to solve this problem and offer important managerial implications and insights in inventory management.

111-0718 A data-driven solution framework for an inventory management problem

Reza Valimoradi, Student, Sabanci University, Turkey

Raha Akhavan, Professor, Sabanci University, Turkey

Burak Gokgur, Assistant Professor, Sabanci University, Turkey

The approach comprises two stages, first, identifying the structure of uncertainty using the relationship between sales and forecasts, second, inventory planning with the consideration of demand uncertainty. The model decreased the finished goods products inventory of the company from 20 days of service (DOS) to 10 DOS.

Contributed Session

907	Sunday, 03:15 PM - 04:15 PM, Not-for-Profit OM	Track: Not-for-Profit Operations Management
	Contributed Session: Using Data and Experiments to Improve Nonprofit Operations	
	Chair(s): Karthik Kannan	

111-1671 Auditing for Discrimination in Algorithms Delivering Job Ads

Basileal Imana, Student, University of Southern California, United States
Aleksandra Korolova, Assistant Professor, University of Southern California, United States
John Heidemann, Professor, University of Southern California, United States

We develop a new methodology for auditing for discrimination in the delivery of digital job ads while controlling for job qualification and other confounding factors. We apply our methodology to two prominent ad platforms, Facebook and LinkedIn, and find evidence of discriminatory ad delivery on Facebook, but not LinkedIn.

111-1650 Superstitious Learning in Dynamic Environments: the case of Humanitarian Organizations

Mariya Andreeva, Student, University of Lugano, Switzerland
Paulo Goncalves, Associate Professor, University of Lugano, Switzerland

Humanitarian Organizations' managers face decisions regarding allocation of organizational capacity between relief provision and capacity building that create learning opportunities about the optimal allocation. We test whether learning or superstitious learning occurs in an online experiment with targets at various levels using a system dynamics model and an online interface.

111-1438 Data-Driven Decision Making in U.S. Non-Profit Sector

Karthik Kannan, Assistant Professor, Southern Methodist University, United States

We analyze the impact of Bloomberg Philanthropies' Arts Innovation and Management (AIM) program that seeks to build the capacity of small and mid-sized arts and cultural organizations. We use difference-in-difference with matching to estimate the short and long term impact of this program.

Contributed Session

908	Sunday, 03:15 PM - 04:15 PM, Operational Excellence	Track: Operational Excellence
	Contributed Session: Behaviorial perspectives on operational excellence	
	Chair(s): Gopesh Anand	

111-0365 Lean practices and culture for dynamic capabilities development: A microfoundational perspective

Leopoldo Gutierrez, Associate Professor, University of Granada, Spain
Bart Lameijer, Assistant Professor, University of Amsterdam, Netherlands
Vijaya M, Assistant Professor, Indian School of Business, India
Jiju Antony, Professor, Khalifa University, United Arab Emirates
Gopesh Anand, Associate Professor, University of Illinois Urbana-Champaign, United States

Using data from 153 lean manufacturing firms dispersed over five continent, this research analyses the relationships between lean practices - operations and supply chain-, dynamic capabilities (DCs) microfoundations development and ultimately process innovation. In addition, the moderating effect of a learning- and innovative-oriented lean culture is tested.

111-0203 Job Satisfaction Through the Lens of Turnover Intentions and Burnout for Academic Faculty

Amrita Thomas, Student, University of Texas Arlington, United States

We are examining what correlations may exist between how faculty members feel about their responsibilities toward the university in relation to teaching, research, and service commitments and their job satisfaction. We are developing a model that can be used as an indicator for predicting a faculty member's job satisfaction.

111-0329 Sustaining Organizational Excellence with Leadership: The Case of HondaJet

Haruo Horaguchi, Professor, Hosei University, Japan
Vidyaranya Gargeya, Professor, The University Of North Carolina At Greensboro, United States
Reiko Takenouchi, Professor, Seijo University, Japan

How does an organization gain a technological advantage and sustain excellence in a global industry? What are the factors that contribute in that quest? Using the Berry and Hill (1992) framework, this exploratory research will delve into these questions using the case of HondaJet, an aircraft manufacturing company.

Invited Session

606	Sunday, 03:15 PM - 04:15 PM, POM in Food & Agriculture	Track: POM in Food and Agriculture
	Invited Session: Contract Design and Information Sharing Among Agricultural Producers	
	Chair(s): Zhaofang Mao Yulan Wang	

111-1456 Blockchain adoption and information sharing in the fresh produce supply chain

Songxuan Ma, Student, Chongqing University, China
Bin Dan, Professor, Chongqing University, China

To be traceable and responsive in the operation of fresh produce supply chain, we investigate blockchain adoption strategy and information sharing strategy under logistics outsourcing. The interaction between the two strategies and the impact of information transfer on the equilibrium strategy are also analyzed.

111-0874 Contractual Coordination of Agricultural Marketing Cooperatives with Quality Provisions

Xiaoyan Qian, Associate Professor, Dongbei University of Finance and Economics, China

We propose a two-stage stochastic program to study the quality coordination problem in a setting where a co-op specifies a quality standard and offers a multi-stage payment scheme in its contract with multiple farmers who can exert quality-related effort and also show preference towards prompt payment timing.

Invited Session

911	Sunday, 03:15 PM - 04:15 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Sourcing and resilience strategy in pharmaceutical supply chains	
	Chair(s): Jagjit Srail Nitin Joglekar	

111-0075 Novelty and scope of process innovation: The role of related and unrelated manufacturing experience

Ivan Lugovoi, Post Doc/Researcher, Ohio State University, United States
Dimitrios Andritsos, Assistant Professor, Hec Paris, France
Claire Senot, Associate Professor, Tulane University, United States

We find that experience with manufacturing related products is associated with a decrease in the novelty and an increase in the scope of the process patents. Conversely, experience with manufacturing unrelated products is associated with an increase in a focal product's process patents' novelty and a decrease in their scope

111-1241 Evaluation Of Government Interventions To Mitigate The US Drug Shortages

In Joon Noh, Assistant Professor, Penn State University, United States
Sergey Naumov, Assistant Professor, Smeal College of Business, United States
Hui Zhao, Associate Professor, Penn State University University Park, United States

Using a two-stage system-dynamics model, we capture essential features of the pharmaceutical market and supply chains related to drug shortages in the US and evaluate a number of existing or possible government interventions to improve supply chain resilience and mitigate drug shortages.

111-1448 Reconfiguring pharmaceutical supply chains for resilience

Jagjit Srail Professor, University of Cambridge, United Kingdom
Ettore Settanni, Post Doc/Researcher, University of Cambridge, United Kingdom
Nitin Joglekar, Associate Professor, Questrom School of Business, United States

We explore the challenges of supply security within pharmaceuticals through a modular supply chain configuration lens. Using evidence from real-world medicines supply centred in the UK, we identify opportunities for modular Supply and Usage options. However these opportunities require public-private partnerships to support investments in upstream processing and stock management.

Invited Session

912	Sunday, 03:15 PM - 04:15 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Incentives in Innovation 2	
	Chair(s): Karthik Ramachandran	

111-1404 Optimal Presentation of Alternatives

Morvarid Rahmani, Assistant Professor, Georgia Institute of Technology, United States
Karthik Ramachandran, Associate Professor, Georgia Institute of Technology, United States
Zeya Wang, Student, Georgia Institute of Technology, United States

In many contexts such as technology and management consulting, clients seek the expertise of providers to find solutions for their business problems. When a provider identifies multiple alternatives that could potentially solve the client's problem, a key decision for the provider is how to present these alternatives to the client.

111-1220 How Do Robots Affect Firms' Innovation Performance? Evidence from Spanish Manufacturers

Yiyao Zhou, Student, UCL School of Management, Great Britain
Bilal Gokpinar, Professor, University College London, United Kingdom

Automation and robots have transformed the manufacturing industry, yet we have limited understanding on how automation affects firms' innovation practices and performance. Using rich data of Spanish manufacturing firms over 27 years, we provide causal evidence on whether and to what extent robots facilitate or impede innovation.

Contributed Session

913	Sunday, 03:15 PM - 04:15 PM, Public Sector OM	Track: Public Sector Operations Management
	Contributed Session: Public Policies for the Energy Sector	
	Chair(s): Zhiying Zhao	

111-1328 Whose cake was moved? The impact of subsidies removal on new energy vehicle industrial chain

Xusheng Yao, Student, Tianjin University, China

Based on three fiscal subsidy removal events enacted by China's government from 2016 to 2019, this study analyses the impacts of the events on various segments of the new energy vehicle industrial chain under the framework of event study method and difference-in-difference.

111-0614 The Impact of The Government to The Renewable Energy Financing

Zhiying Zhao, Student, Tianjin University, China

In order to alleviate the financial pressure faced by renewable energy start-ups, the government has provided subsidies to eligible firms, but in recent years, subsidies have been declining, whether the financing mode of renewable energy firms will be affected, we explore this issue.

111-1781 A Risk-Averse Stochastic Optimization for Fuel-tax Increase and Choice of Indexing for Revenue Adequacy

Isil Koyuncu, Assistant Professor, University of Texas at San Antonio, United States

Abhay Lidbe, Post Doc/Researcher, Alabama Transportation Institute, United States

Olga Bredikhina, Student, Alabama Transportation Institute, United States

Transportation funding from fuel taxes is becoming unviable. We model the fuel tax indexing problem with coherent risk measures as a two-stage stochastic optimization problem and solve using a Monte Carlo Approximation. The results show that the policymaker's risk acceptance level affects the expected tax increase and the indexing method.

Invited Session

914	Sunday, 03:15 PM - 04:15 PM, Retail Operations	Track: Retail Operations
	Invited Session: Empirical Retail Operations	
	Chair(s): Nil Karacaoglu	

111-0156 Incentivizing Recycling to Improve Sustainability: Evidence from Field Experiments

Saravanan Kesavan, Professor, University of North Carolina Chapel Hill, United States

Dayton Steele, Student, University of North Carolina Chapel Hill, United States

The growing focus on sustainability initiatives for businesses has increased the need to understand how to encourage customers to participate. Through a partnership with a consumer electronics company, we conduct a set of field experiments to understand how its customers respond to incentives to return products to be recycled.

111-0932 Bias Effects in Discretionary Pricing: Evidence from an OTC Drug Pricing Quasi-Experiment

Xinyu Shirley Liang, Student, University of Michigan Ann Arbor, United States

Yixin Iris Wang, Assistant Professor, University of Illinois Urbana-Champaign, United States

Jun Li, Associate Professor, University of Michigan - Ann Arbor, United States

Collaborating with a pharmacy retailer, we analyze a quasi-field experiment that delegates pricing power to local pharmacy managers. Our analysis reveals that under discretionary pricing, managers incorporate local information into their pricing decisions. However, they are also subject to behavioral biases, which leads to aggressive, sub-optimal price adjustments.

111-1139 Algorithmic Assortment Curation: An Empirical Study of Buybox in Online Marketplaces

Santiago Gallino, Assistant Professor, The Wharton School, United States

Nil Karacaoglu, Assistant Professor, Fisher College of Business, Ohio State U, United States

Antonio Moreno, Associate Professor, Harvard University, United States

This project explores how algorithmic assortment curation algorithms affect marketplaces. We collaborate with a large online marketplace and study how the introduction of buybox impacts sellers, customers, and marketplace dynamics.

Contributed Session

915	Sunday, 03:15 PM - 04:15 PM, Revenue Management & Pricing	Track: Revenue Management and Pricing
	Contributed Session: New Business Models and Assortment Planning 2	
	Chair(s): Xi Shan Dorothee Honhon	

111-1701 Resource-Constrained Assortment Optimization with Demand Learning, and extensions.

Yining Wang, Assistant Professor, University of Florida, United States

We study resource-constrained assortment optimization with demand learning under an MNL choice model. Our algorithmic framework combines the technique of primal-dual method in optimization and Upper-Confidence-Bound (UCB) algorithm in learning. I will also discuss several extensions..

111-1703 Strawberry Or Vanilla This Week? How To Optimize Tailored Assortments For Variety-Seeking/Avoiding Consumers

Dorothee Honhon, Associate Professor, University of Texas Dallas, United States

Ismail Kirci, , ,

Sumit Kunnumkal, Assistant Professor, Indian School of Business, India

Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States

We consider the problem of a retail personalizing an assortment to a consumer who is variety-seeking or variety-avoiding, that is, less or more likely to buy the same product as in the previous period. We characterize the structure of the optimal assortment in single- and multi-period settings.

Contributed Session

916	Sunday, 03:15 PM - 04:15 PM, Service Operations	Track: Service Operations
	Contributed Session: Service Design and Performance	
	Chair(s): Peter Carrera	

111-1094 Managing AI in Professional Service Operations

Iain Reid, Reader, Manchester Metropolitan University, United Kingdom
Murray Dalziel, Professor, University of Baltimore, United States

Artificial Intelligence (AI) in Professional Service Firms (PSFs) offers numerous research opportunities. We study why firms may adopt different strategies with respect to rules-driven and data-driven AI capabilities for their value proposition. This empirical study focuses on structural equation reports in relation to technology adoption and acceptance.

111-1571 Designing Sequential Experiences with Application to Museums

Ali Aouad, Assistant Professor, London Business School, Great Britain
Abhishek Deshmene, Student, IESE Business School, Spain
Victor Martínez-De-Albéniz, Professor, IESE Business School, Spain

Museums provide entertaining and educating experiences to their visitors based on their artwork-display program. In this paper, we develop a data-driven analytics framework to inform such operational and curatorial decisions by uncovering significant relationships between visitor movement and artwork characteristics, layout distances, and other environmental factors like congestion and time.

111-0587 The effects of near misses in luxury hospitality quality audits

Peter Carrera, Student, Ohio State University, United States

In the luxury hospitality market, margins between passing and failing are small when providing 5-star service; near misses come at immense costs. Analysis of mystery shops in luxury hotels/restaurants shows the influence that a near miss during a "test" shop has on the actual shop.

Contributed Session

922	Sunday, 03:15 PM - 04:15 PM, Sustainable Operations 1	Track: Sustainable Operations
	Contributed Session: Circular Supply Chains	
	Chair(s): Moritz Jäger-Roschko	

111-1116 Increasing the use of recycled plastics: Exploring transformation needs along the e-waste recycling supply chain

Moritz Jäger-Roschko, Student, Kuehne Logistics University, Germany
Moritz Petersen, Professor, Kuehne Logistics University, Germany
Maria Besiou, Professor, Kuehne Logistics University, Germany

Low usage rates of recycled plastics in new products are often caused by a lack of supply of plastics recycle. Based on the results from over 30 interviews along the e-waste recycling supply chain we develop a grounded theoretical model proposing measures to increase the use of recycled plastics.

111-0842 Motivating circularity: Contract design to foster repair operations

Gizem Mullaoglu, Post Doc/Researcher, Eindhoven University of Technology, Netherlands
Tarkan Tan, Associate Professor, Technische Universiteit Eindhoven, Netherlands

Our study focuses on the coordination between a supplier and a manufacturer in which performance-based contracts are designed to incentivize circularity in repair operations. We aim to shed light on the contract design issues from the circular economy perspective and provide some managerial insights for improvement.

111-1759 Quick Response Strategy in Circular Supply Chain Management: Is It A Good Inventory Planning Policy?

Hau Ling Chan, Lecturer, College of Professional and Continuing Education, The HK Polytechnic University, Hong Kong, China
Tsan-Ming Choi, Associate Professor, National Taiwan University, Taiwan, Republic of China

Recycling is a circular supply chain operational practice that is commonly observed in the fast fashion industry to enhance environmental sustainability. Motivated by this practice, this study aims to analytically investigate the performance of quick response strategy with recycling in fast fashion. Preliminary findings and managerial insights are reported.

Contributed Session

923	Sunday, 03:15 PM - 04:15 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Contributed Session: Industry 4.0, Technology Adoption, and Sustainability	
	Chair(s): Maximiliano Udenio	

111-1054 Retreat, Defend, or Attack? Optimal Investment Decisions in Green Technology under Competition

Osman Alp, Associate Professor, University of Calgary, Canada
Tarkan Tan, Associate Professor, Technische Universiteit Eindhoven, Netherlands
Maximiliano Udenio, Assistant Professor, KU Leuven, Belgium

We analyze a focal firm's optimal "green" investment strategy under competition. Specifically, we model the decision-making of a logistics service provider that considers investing in alternative fuel vehicles and the associated charging infrastructure under increasing, but uncertain, customer pressure to become more sustainable.

111-1549 Smart Green Supply Chain Management: A configurational approach through digital transformation

Laura Visintainer Lerman, Student, Universidade Federal Do Rio Grande Do Sul, Brazil

Guilherme Benitez, Student, Federal University of Rio Grande do Sul, Brazil

Julian Marius Müller, Student, Kufstein University of Applied Sciences, Austria

Paulo de Sousa, Associate Professor, Fundação Dom Cabral, Brazil

Alejandro Frank, Associate Professor, Universidade Federal Do Rio Grande Do Sul, Brazil

Digital transformation and Green Supply Chain Management can support manufacturing companies to reach their desired performance goals. Considering this, we conducted a survey with 473 manufacturing companies to investigate the interconnections between these concepts and to provide an integrative view of a Smart Green Supply Chain Management (Smart GSCM).

111-1292 Blockchain Meta-Analytic Typology for Achievement of Sustainable Development Goals

Cigdem Gurgur, Associate Professor, Purdue University, United States

We explore enabling conditions to facilitate blockchain deployment in supply chains and examine characteristics of blockchain in relation to the enforcement of sustainability standards. We analyze meta-analytic classification of indicators and sources of information in various blockchain systems used to promote sustainable supply chains.

Contributed Session

924	Sunday, 03:15 PM - 04:15 PM, Teaching/Pedagogy in POM	Track: Teaching/Pedagogy in POM
	Contributed Session: Learning & Related Issues	
	Chair(s): shailly chaurasia chaurasia	

111-1121 Is Edtech platform shining in India?

shailly chaurasia chaurasia, Student, IIMK, India

Amit Ranjan, Co-founder, Immersive Vision Technology Pvt. Ltd., India

Amresh Kumar, Co-founder, Immersive Vision Technology Pvt. Ltd., India

The EdTech platform is rising nowadays and providing a virtual reality for the students. We are introducing a simulation Immersive addresses both through virtual labs which are far more affordable (10x cheaper vis-à-vis physical lab) & engaging (90% students with better learning outcomes). Our vision to make it affordable, convenient.

111-0102 Bringing Diversity, Equity, and Inclusion into the Operations Classroom

Amy David, Associate Professor, Krannert School of Management, United States

Lilia Pincheira, Student, Krannert School of Management, United States

As reflected in the 2020 AACSB accreditation standards, it is important that business school incorporate diversity, equity, and inclusion concepts throughout their curricula. This session will focus on where and how DEI topics can be incorporated in Operations Management courses.

Invited Session

929	Sunday, 04:30 PM - 05:30 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Factors in Retail Operations	
	Chair(s): Han Oh	

111-0477 Algorithm Reliance Under Pressure: The Effect of Customer Load on Service Workers

Clare Snyder, Student, University of Michigan Ann Arbor, United States

Samantha Keppler, Assistant Professor, University of Michigan Ann Arbor, United States

Stephen Leider, Professor, University of Michigan Ann Arbor, United States

Augmented (human + algorithm) intelligence can increase customer service efficiency and quality, allowing companies to increase service scale - if human servers use the algorithms. With two lab experiments, we show that servers' algorithm reliance increases with customer load, particularly because customer load influences learning about the algorithm's performance.

111-0929 Do managers overreact when in backlog? Evidence of scope neglect from a supply chain experiment

Huseyn Abdulla, Student, Texas A&M University College Station, United States

Rogelio Oliva, Professor, Texas A&M University College Station, United States

Paulo Goncalves, Associate Professor, University of Lugano, Switzerland

We empirically examine, in a Beer Distribution Game, whether individuals order more aggressively (i.e., overreact) when they face shortages than when they hold inventory. We find that, contrary to the overreaction when in backlog hypothesis, individuals order less aggressively and become insensitive to stock signal when in backlog.

111-1249 Behavioral Analysis Of Consumer Return Policy Decisions

Han Oh, Student, Texas A&M University College Station, United States
Huseyn Abdulla, Student, Texas A&M University College Station, United States
Rogelio Oliva, Professor, Texas A&M University College Station, United States

We investigate consumer return policies recognized and studied by operations management scholars as an important managerial decision in a retail environment. Our research investigates, through randomized experiments, the behavioral aspects of return policy decisions and their interaction with other operational decisions.

Contributed Session

934	Sunday, 04:30 PM - 05:30 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Socially responsible models	
	Chair(s): Furkan Sezer	

111-0040 Social Welfare Maximization and Conformism via Information Design in Linear-Quadratic-Gaussian Games

Furkan Sezer, Student, Texas A&M University, United States
Ceyhun Eksin, Assistant Professor, Texas A&M University, United States
Hossein Khazaei, Post Doc/Researcher, Texas A&M University, United States

We consider linear-quadratic-Gaussian (LQG) games. An information designer decides the fidelity of information revealed to agents in order to maximize the welfare of agents or reduce the disagreement among agents. Leveraging the semi-definiteness of the information design problem, we derive analytical solutions for these objectives under specific LQG games.

111-1766 Priority Queues and Consumer Surplus

Martin Lariviere, Professor, Northwestern University, United States

We examine whether priority queues benefit consumers relative to first-in first-out service. Through an analytical model we show that priorities often decrease consumer surplus and potentially make all customers worse off as low priority customers may pay a higher out-of-pocket price than they would under FIFO service.

Contributed Session

938	Sunday, 04:30 PM - 05:30 PM, Finance & OM 2	Track: Finance and Operations Management 2
	Contributed Session: Recent Topics in Operations and Finance Interface	
	Chair(s): Yunchuan Liu	

111-0677 Supply Chain Finance with Product Quality: Cooperating or Non-cooperating?

Tao Zhou, Assistant Professor, Hefei University of Technology, China
Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States
Hong Fu, Assistant Professor, Hefei University of Technology, China
Kai Li, Professor, Hefei University of Technology, China

This paper investigates how supplier reliability affects the buyer's finance and procurement decisions in supply chain finance, and examines how quality design interacts with financing options. Interestingly, we show that with the inclusion of quality, the buyer may be more likely to apply advance payment to a less reliable supplier.

111-0466 Financial Model Selection and Evolutionary Stability Analysis of Platform Enterprise Smart Supply Chain Financial Model

Zhixuan Chen, Student, Tianjin University, China
Weihua Liu, Professor, Tianjin University, China

This article introduces two smart supply chain financial models based on whether the enterprise platform can use its own funds to borrow. Correspondingly, two types of evolutionary game models are built to discuss the evolutionary stability strategy of each subject and the transformation law of the two types of modes.

111-1049 How does digital technology reconstruct the trust relationship of supply chain finance network?

Siqi HAN, Student, Renmin University of China, China
Hua Song, Professor, Renmin University of China, China
Wenyi Liu, Student, Renmin University of China, China

From the perspective of actor network theory, we discuss the processes of building supply chain finance network by financial service providers and the formation of trust relationship in network construction. This research forms an integrated theoretical framework, which further enriches actor-network theory and the content of trust relationship construction.

Contributed Session

941	Sunday, 04:30 PM - 05:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Healthcare Design	
	Chair(s): Weifen Zhuang	

111-1055 Incentivized Referral System with Co-payment and Green Channels

Pengfei Guo, Professor, Hong Kong Polytechnic Univ, Hong Kong
 Houyuan Jiang, Associate Professor, University of Cambridge, United Kingdom
 Qingxia Kong, Associate Professor, Erasmus University Rotterdam, Netherlands
 Weifen Zhuang, Professor, Xiamen University, China

We study two incentive mechanisms based on a co-payment approach and a specialist resource-allocation approach to establish a tiered healthcare delivery system in China. Our results show that a combination of both mechanisms can largely coordinate the system while the co-payment mechanism can only coordinate the system in some cases.

111-0752 Accuracy of referrals to EoL healthcare

Soode Vaezinejad, Student, University of Rhode Island, United States
 Dara Schniederjans, Associate Professor, University of Rhode Island, United States

This study identifies various factors impacting accuracy of referrals to EoL healthcare. Considerations include the minimization of patients being discharged over 180 day period and the maximization of ratings and recommendations from caregivers. Data from CAHPPS and CHHS is utilized from 2017-2020 to provide recommendations.

111-0002 Designing a Network of Dialysis Facilities: Impact of Regulating Private Sector Profits on Access

Hedayat Alibeiki, Assistant Professor, California State University San Marcos, United States
 Michael Klein, Assistant Professor, San Jose State University, United States

Regardless of the travel burden, many patients with kidney failure always opt to go to a facility, while some always opt for home dialysis. For others, the choice varies depending on the location of available facilities. We propose a new model to determine the best network of dialysis facilities.

Invited Session

943	Sunday, 04:30 PM - 05:30 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Multichannel Retailing	
	Chair(s): Ping Tang	

111-0428 Should a Multi-channel Retailer Replace the Store with a Showroom?

Jingxuan Geng, Student, Temple University, United States
 Amit Mehra, Associate Professor, University of Texas Dallas, United States
 Subodha Kumar, Professor, Temple University, United States

The competition between multi-channel retailers and online retailers has become increasingly complex due to showrooming and webrooming behavior of consumers. We propose the showroom as an alternative channel that the multi-channel retailer can use. We show that whether the showroom provides higher net profits depends on the product category.

111-0840 The Role of First- and Second-Instance Showrooming on Assortment and Pricing Strategies of Multi-channel Retailer

Ping Tang, Student, UT Dallas, United States
 Amit Mehra, Associate Professor, University of Texas Dallas, United States
 Prasenjit Mandal, Assistant Professor, Indian Institute of Management Calcutta, India

In this paper, we reveal two types of showrooming behaviors: first- and second-instance showrooming. We show that second-instance showrooming can benefit the multi-channel retailer, which gives the multi-channel retailer an incentive to carry a larger assortment size at the BM store.

Contributed Session

946	Sunday, 04:30 PM - 05:30 PM, Logistics Management	Track: Logistics Management
	Contributed Session: Distribution Network Design	
	Chair(s): Funda Sahin	

111-1154 Supply Chain Network Design with Trailer Drop & Swap

Funda Sahin, Associate Professor, University of Houston, United States
 Li-Lian Gao, Associate Professor, Hofstra University, United States
 Powell Robinson, Professor, University of Houston, United States

We develop an MIP distribution network design model with consideration of trailer 'drop and swap' as a method for extending branch facility coverage while complying with FMCSE regulations on truck driver hours of service. We compare its solution to traditional network design approaches and show significant profit improvements.

111-1559 EXACT METHODS FOR HUB LOCATION PROBLEMS INVOLVING CONCAVE COST MINIMIZATION

Arka Das, Student, IIM Ahmedabad, India
 Ankur Sinha, Associate Professor, IIM Ahmedabad, India
 Sachin Jayaswal, Professor, Indian Institute of Management Ahmedabad, India

Hub Location problem is a class of network design problems. The routing through inter-hub links results in non-linear economies of scale, which leads to a concave minimization problem by introducing concave cost in the objective. We report exact methodologies for single and multiple allocation formulations of this problem.

111-1736 Network structure of micro hubs designed for the instant delivery

Ana Luna, Professor, Universidad del Pacifico, Peru

Michelle Rodriguez, Professor, Universidad del Pacifico, Peru
 Valeria Vidal, Assistant Professor, Universidad del Pacifico, Peru
 Andres Regal, Student, Universidad del Pacifico, Peru
 Mario Chong, Professor, Universidad del Pacifico, Peru

This project focuses on the traditional channel, representing 40% of the total sales of mass consumption companies in cities. The objective is to evaluate the supply network structure of micro-hubs designed for instant delivery. Likewise, urban space and the optimal location will be analyzed in an innegacity of Lima

Contributed Session

950	Sunday, 04:30 PM - 05:30 PM, Operational Excellence	Track: Operational Excellence
	Contributed Session: Dynamic perspectives for continuous improvement	
	Chair(s): Yunfan Wang	

111-1656 The Influence of Supply Chain Network Efficiency and Firm Survival

Marouen Ben-Jebara, Assistant Professor, University of South Carolina Aiken, United States
 Sachin Modi, Professor, Wayne State University, United States

This study investigates the influence of firm's supplier and customer network efficiency on its survival. We also examine the complementary role of operations efficiency. The proposed framework is tested using data from the pharmaceutical industry. The results provide theoretical and managerial insights regarding the link between efficiency and firm survival.

111-1772 Foundations of Employee Productivity in a Hybrid Workplace: Business Process Reengineering, Leadership, and Digital Transformation

Radoslaw Nowak, Professor, New York Institute of Technology, United States
 MINQI ZHENG, Student, New York Institute of Technology, United States

In the post-pandemic era, it becomes clear that hybrid work is here to stay. This paper investigates the effects of business process reengineering, leadership, and digital transformation on employee productivity in the context of organization performance.

111-0644 Effects of Project Team diversity on Performance and Turnover

Fabrizio Salvador, Professor, IE business School, Spain
 Yunfan Wang, Student, IE BUSINESS SCHOOL, Spain

How does project team diversity (demographic and experiential) affect turnover? It may enrich a worker's experience but also be a source of stress due to mutual adaptation. We investigate this effect using data from 814 knowledge-intensive projects executed in 2014-2019, and find positive effects on both retention and performance.

Contributed Session

955	Sunday, 04:30 PM - 05:30 PM, Public Sector OM	Track: Public Sector Operations Management
	Contributed Session: Improving Public Health Systems	
	Chair(s): Suzana Loureiro	

111-0697 Frequency Determination Policies for Mobile Family Planning Delivery

Luk Van Wassenhove, Professor, INSEAD, France
 Lisa Swinkels, Post Doc/Researcher, INSEAD, France
 Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands

We use a large dataset from an NGO to model how visit frequencies for mobile family planning teams affect client volumes. This model is then used to study optimal visit frequencies and develop simple policies. We prove worst-case bounds for the policies and test them in a simulation environment.

111-1007 The Influence of Direct Costs on the Efficiency of Basic Health Units in a Municipality

Saulo Fabiano Vieira, Associate Professor, State University of Londrina (UEL), Brazil
 Suzana Loureiro, Student, state university of londrina (UEL), Brazil

This study aims to analyze the influence of direct cost on the efficiency of basic health units (UBS) in the municipality of Arapongas / PR. This research is quantitative and descriptive. The direct costs was calculated and was made the analysis of the efficiency of the units, through the DEA.

111-0724 Policies for National Medicine Stockpiles

Stef Lemmens, Assistant Professor, Erasmus University Rotterdam, Netherlands
 Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands

Europe and the US face a worsening problem of medicine shortages. In response, countries are designing policies that oblige manufacturers or wholesalers to stockpile X months of demand for essential medicines. We study the question how to design such policy, trading off cost, complexity, and impact (on medicine shortages).

Invited Session

956	Sunday, 04:30 PM - 05:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Retail Operations: Final Mile Delivery Strategy	
	Chair(s): Annibal Sodero	

111-0363 Supply Chain Collaboration in Transformative Vertical Industries

Annibal Sodero, Assistant Professor, Ohio State University, United States
Zach Zacharia, Associate Professor, Lehigh University, United States

We investigate barriers and institutional pressures for drop-shipping adoption and the resulting operational performance and relational outcomes. We analyze survey data gathered before and after the COVID-19 pandemic outbreak from both retailers and vendors, thereby providing a nuanced understanding of differences in antecedents and outcomes of adoption of SCM practices.

111-0416 The Fleet Sizing Problem with Crowdsourcing

Vince Castillo, Assistant Professor, Ohio State University, United States
Walter Zinn, Professor, Ohio State University, United States
Marc Posner, Professor, Ohio State University, United States
Annibal Sodero, Assistant Professor, Ohio State University, United States

Retailers use a combination of own fleet (anticipatory capacity) and crowdsourced drivers (reactive capacity) to make final mile deliveries. Our analytical model investigates optimal anticipatory capacity under supply uncertainty and surge pricing in the reactive capacity. We empirically test the analytical model using simulation and a pharmaceutical retailer's proprietary data.

111-0776 The Effect of Pop-up Stores on Customer Acquisition and Retention: Evidence from a Quasi-Field Experiment

Xinyi (Kate) Ren, Assistant Professor, Ohio State University, United States
Philip Evers, Associate Professor, University of Maryland, United States
Robert Windle, Professor, University of Maryland, United States

This paper examines the value of pop-up stores using industry data collected from a leading North American retailer. Results reveal that having pop-up stores leads to long-term demand benefits that extend beyond a pop-up store's limited operational window. This effect is then compared with the opening of traditional retail stores.

Monday, 09:00 AM - 10:00 AM

Invited Session

1010	Monday, 09:00 AM - 10:00 AM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Emerging Scholars Program-1	
	Chair(s): Craig Froehle	

111-1858 Emerging Scholars Program-1

Craig Froehle, Professor, University of Cincinnati, United States
Elliot Bendoly, Professor, Ohio State University, United States
Mark Ferguson, Professor, University of South Carolina, United States
Pengyi Shi, Associate Professor, Purdue University, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence. This program provides new university professionals in OM with career-building advice in developing excellence in their personal programs of teaching, research, and service.

Invited Session

1013	Monday, 09:00 AM - 10:00 AM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Operations and Social Impact 1	
	Chair(s): Leon Valdes	

111-0568 The Role of Transparency in Incentivizing Consumer Trade in Behavior

Erin Mckie, Assistant Professor, Ohio State University, United States
Vishal Agrawal, Associate Professor, Georgetown University, United States
Anna Saez De Tejada Cuenca, Assistant Professor, IESE Business School, Spain

Increasing pressures on fashion retailers to enable sustainable disposal practices has led to the proliferation of take-back initiatives. Despite strong motivations for these initiatives, consumer participation remains low. In response, we examine how recycling transparency and specificity influences consumers' propensity to participate in trade-in programs for apparel.

111-0017 Supplying Cash-Constrained Retailers: Understanding Shopkeeper Behavior at the Bottom of the Pyramid

Sebastian Villa, Assistant Professor, Indiana University Bloomington, United States

Rafael Escamilla Aragon, Student, Tilburg University, Netherlands
Jan Fransoo, Professor, Tilburg University, Netherlands

Nanostores in emerging markets form the largest retail channel in the world. Shopkeepers are cash constrained and need to manage multiple suppliers with different visit frequencies. We investigate empirically the effect of changes to visit frequency by suppliers, and subsequently explore through behavioral experiments the factors explaining shopkeepers ordering decisions.

Invited Session

1015	Monday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Covid-19 Pandemic Mitigation Strategies 1	
	Chair(s): Sebastian Souyris	

111-1244 Capacitated SIR Model with an Application to COVID-19

Chaoyu Zhang, Student, University of Toronto, Canada
Ming Hu, Professor, University of Toronto, Canada
Ningyuan Chen, Assistant Professor, University of Toronto, Canada

Based on the SIR model, we impose a testing capacity and differentiate the infected people into symptomatic and asymptomatic. In this capacitated SIR model, we show first- and second-order structural properties of one measure, the number of uninfected people, with respect to the testing capacity, degree of testing people.

111-1528 A Bayesian Regularized Framework for Epidemic Modeling

Snigdhasu Chatterjee, Professor, University of Minnesota, United States
Ujjal Mukherjee, Assistant Professor, University of Illinois Urbana-Champaign, United States

In this paper, we develop a Bayesian regularization based framework for epidemic modeling from sparse data. We develop theoretical properties of the model.

111-1805 A Bayesian Regularized Model for Prediction of Epidemic Diffusion Over a Network of Spatial Locations

Ujjal Mukherjee, Assistant Professor, University of Illinois Urbana-Champaign, United States
Snigdhasu Chatterjee, Professor, University of Minnesota, United States

Epidemic transmission over a network of locations exhibits significant spatial and temporal dependence. We propose a Bayesian regularized multi-location epidemic model that accounts for the complex temporal and spatial dependencies and allows consistent prediction from sparse data. We demonstrate the performance of the model on data from the COVID-19 pandemic.

Invited Session

1016	Monday, 09:00 AM - 10:00 AM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Development Programs in Humanitarian OM	
	Chair(s): Chengcheng Zhai	

111-0161 Analysis of Farm Equipment Sharing in Emerging Economies

Olufunke Adebola, Senior Consultant, Deloitte, United States
Priyank Arora, Assistant Professor, University of Massachusetts Amherst, United States
Can Zhang, Assistant Professor, Duke University Durham, United States

We study the farm equipment sharing platforms in emerging economies. We capture a new role within these platforms—booking agents, who collect demand from individual farmers and submit the aggregated demand on the platform. We show that the platform's optimal decisions can significantly differ compared to settings without booking agents.

111-1152 Mobile Outreach Teams and the Increasing Need for Contraceptive Implant Removals

Lisanne van Rijn, Student, Erasmus University Rotterdam, Netherlands
Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands
Luk Van Wassenhove, Professor, INSEAD, France
Dominik Gutt, Assistant Professor, Rotterdam School of Management, Netherlands

Family planning outreach teams increasingly provide contraceptive implants, creating an increasing need for implant removals. We study drivers of the need for outreach teams to provide removals and operational decisions that can help meet this need. These insights help organizations with outreach site selection and team deployment.

111-0290 Keep water flowing: maintenance of water projects in rural Africa

Chengcheng Zhai, Student, Kelley School of Business, United States
Rodney Parker, Associate Professor, Indiana University, United States
Kurt Bretthauer, Professor, Indiana University, United States
Alfonso Pedraza, Associate Professor, Indiana University, United States
Jorge Mejia, Assistant Professor, Indiana University, United States

Building water project to bring people access to water is an unequivocally important step 1, however, keeping water flowing is a very important step 2. In this project, we study a circuit-rider program that is commonly implemented to increase water point functionality, using a stochastic dynamic model.

Contributed Session

1017	Monday, 09:00 AM - 10:00 AM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Contributed Session: OM Innovation and Disruptive Technologies	
	Chair(s): Hugo Lam	

111-0786 The Power of Star Creators: Evidence from the Live Streaming Industry

Kun Qian, Student, University of Texas at Dallas, United States

Xie Ying, Associate Professor, University of Texas at Dallas, United States

We study the asymmetric competition between content creators in the digital content market and explore its implications for content provision and creators' entry problem. We build a theoretical model to generate a set of predictions that we submit to an empirical test in the context of live streaming industry.

111-1726 Effect of virtual reality enabled manufacturing practices on production efficiency and firm risk

YANGCHUN XIONG, Student, University of Liverpool, United Kingdom

Hugo Lam, Senior Lecturer, University of Liverpool, United Kingdom

Sahar Karimi, Senior Lecturer, University of Liverpool, United Kingdom

Our study employs quasi-experimental approach to examine whether virtual reality enabled manufacturing practices increase production efficiency and decrease firm risk. We exploit propensity score matching to construct samples, and difference in difference model to test hypotheses. Our findings enhance the understandings about value creation of virtual reality in manufacturing management.

111-0173 Evaluating Organizational Operations Readiness for Mixed Reality Adoption

Scott Warren, Professor, University of North Texas, United States

Janetta Robins Boone, Student, University of North Texas, United States

Before adopting mixed reality or similar innovations, it is important to determine whether an organization is prepared to implement it successfully. This presentation explores how to conduct and evaluation of operational readiness relative to vendor support, organizational policies, stakeholder product acceptance, product costs, training, and measurements of return on assets.

Contributed Session

1018	Monday, 09:00 AM - 10:00 AM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Pricing Models	
	Chair(s): Yue Feng	

111-0385 Benefit from a high store-visit cost in an omnichannel with BOPS

Yue Feng, Student, Tianjin University, China

Jianxiong Zhang, Professor, Tianjin University, China

Offering buy-online and pick-up in-store (BOPS) service can benefit the firm when the store-visit cost is high. The firm can benefit from a higher store-visit cost under BOPS. Dual-channel consumers can indirectly benefit from BOPS. This study well explains the surge in omnichannel sales during COVID-19.

111-0423 Behavior-Based Pricing with Conspicuous Psychology

Enfeng Xing, Student, Tianjin University, China

Jianxiong Zhang, Professor, Tianjin University, China

We explore firms' behavior-based pricing (BBP) strategies with conspicuous psychology in a two-period duopoly market. Unlike the traditional view that BBP is harmful to firms, we find that the conspicuous psychology enlarges the benefits brought by the decrease in price-sensitivity in the first period, which motivates firms to choose BBP.

111-0520 Dynamic Pricing for Two-dimensional Heterogeneities Consumers: Support vs. Nonsupport Advancing Consumption

Zhiying Zhao, Student, Tianjin University, China

We study this problem considering customers are two-dimensional heterogeneous in preferences and initial endowments, and discuss the impact of the consumption credit on the seller's dynamic pricing decisions.

Invited Session

1021	Monday, 09:00 AM - 10:00 AM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Reinforcement Learning for Energy Operations and Valuation - I	
	Chair(s): Selva Nadarajah	

111-0897 Federated Learning for Privacy-preserving Reinforcement Learning in Coordinated Massively Multi-agent Demand Response

Doseok Jang, Student, University of California at Berkeley, United States

Lucas Spangher, Student, University of California at Berkeley, United States

Costas Spanos, Professor, University of California at Berkeley, United States

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Intelligent controls for grid-based demand response prices may help facilitate a flexible grid; however, privacy preservation poses a challenge. We propose a solution where neural weight updates are sent to local price-setting agents via a centralized hypernetwork which return federated gradients. Centralizing information increases learning and still preserves privacy.

111-1596 Regularized Inverse Optimization of a Long-term Electricity Price Model

Roozbeh Qorbanian, Student, University of Luxembourg, Luxembourg
Nils Löhndorf, Associate Professor, University of Luxembourg, Luxembourg
David Wozabal, Assistant Professor, Technische Universität München, Germany

We present a stochastic long-term price model for the day-ahead electricity market. Long-term price models are important for pricing renewable power purchase agreements which are a key ingredient for companies to meet sustainability targets. We use regularized inverse optimization to estimate parameters of a fundamental long-term power price model.

Invited Session

1023 Monday, 09:00 AM - 10:00 AM, Global Supply Chain Management Track: Global Supply Chain Management
Invited Session: Culture, International Operations, and Global Supply Chain
Chair(s): Yi-Su Chen

111-0077 Customer-Country Diversification and Inventory Efficiency: Comparative Evidence from the Manufacturing Sector

Jian-yu Ke, Associate Professor, California State University Dominguez Hills, United States
James Otto, Assistant Professor, Towson University, United States
Chaodong Han, Professor, Towson University, United States

This study empirically examines the impact of geographic customer diversification on inventory efficiency and proposes a customer-country diversification strategy for manufacturing firms. This study finds that a geographically diversified customer base significantly reduces inventory efficiency during the pre-pandemic period, but that such a relationship was mitigated during the COVID-19 period.

111-0435 The Impact of National Culture on Global Supply Chain Relationships under Disruptions

Kedong Chen, Assistant Professor, Old Dominion University, United States
Yuhong Li, Assistant Professor, Old Dominion University, United States
Yi-Su Chen, Associate Professor, University of Michigan-Dearborn, United States
Weiyong Zhang, Associate Professor, Old Dominion University, United States

It is critical for a firm to sustain its global supply chain relationships, especially under disruptions. We posit that national culture plays an important role in the strength and duration of global buyer-supplier relationships. We empirically examine the impact of national culture on these relationships at dyad and network levels.

111-1414 The Influence of Dependence Dynamics on Supplier Productivity

Ta-Wei (Daniel) Kao, Assistant Professor, University of Michigan - Dearborn, United States
Hung-Chung Su, Associate Professor, University of Michigan-Dearborn, United States
Young Ro, Associate Professor, University of Michigan Dearborn, United States

Using data concerning major customer relationships from Compustat segment files, we find that there exists a 'dark side' to mutual dependence. More importantly, the interaction between mutual dependence and relative dependence provides insights on managing the power dynamics between a supplier and its major customers.

Invited Session

1024 Monday, 09:00 AM - 10:00 AM, Healthcare Analytics Track: Healthcare Analytics
Invited Session: Health Analytics and Contemporary Issues in Health Care
Chair(s): Sriram Venkataraman

111-0765 Research Opportunities in Healthcare Analytics

Randy Bradley, Lecturer, University of Tennessee, United States
Bogdan Bichescu, Associate Professor, University of Tennessee Knoxville, United States
David Dobrzykowski, Associate Professor, University of Arkansas, United States
Antoinette Smith, Professor, Florida International University, United States

Healthcare delivery is data intensive and data dependent, but hospitals have struggled to leverage data to improve operational performance. We analyze the literature, secondary data (over 13,000 hospital year observations), and primary data (collected during interactions with over 1,300 practitioners) to provide theoretically grounded future research opportunities.

111-1107 Electronic Prescription Monitoring and the Opioid Pandemic

Diwas KC, Professor, Emory University, United States
Tongil TI Kim, Assistant Professor, University of Texas at Dallas, United States
Jiayi Liu, Student, Emory University, United States

To combat the nationwide opioid epidemic, many states have implemented policies that require prescribers to check a patient's prescription history prior to initiating or refilling opioid prescriptions. This study examines the impact of electronic sharing of prescription information on population-level prescription opioids as well as illicit alternatives.

111-1319 Impact of Emergency Department Workload on Under-triage Behavior

Arshya Feizi, Student, Boston University, United States

William Baker, Associate Professor, Boston University, United States

Triage is the first step in emergency department (ED) care, and used to determine a patient's severity level. Despite the clear protocols, worker judgement still plays a role in the decisions that lead to the final assessment. We perform a causal analysis to evaluate how ED workload impacts triage levels.

Invited Session

1025

Monday, 09:00 AM - 10:00 AM, Healthcare OM 1

Track: Healthcare Operations Management

Invited Session: **Technology and Policy in Healthcare 1**

Chair(s): Feng (Susan) Lu

111-0895 Geographic Pooling of Hospital Resources: Data-Driven Tradeoff between Waiting and Traveling

Yangzi Jiang, Student, Northwestern University Kellogg School o, United States

Hossein Abouee-Mehrizi, Associate Professor, University of Waterloo, Canada

Jan Van Mieghem, Professor, Northwestern University, United States

Using patient-level data from 72 MRI hospitals in Ontario from 2013 to 2017, we conduct a data-driven analysis to quantify the reduction in the Fraction Exceeding Target for MRI services. Our resource pooling model lowers the FET from 67% to 34% while limiting patients' driving time to three hours.

111-1461 Managing COVID-19 Vaccine Rollouts under Scarce Supply

Ho-Yin Mak, Associate Professor, Oxford University, United Kingdom

Tinglong Dai, Professor, Johns Hopkins University, United States

Christopher Tang, Professor, University of California Los Angeles, United States

We model and analyze inventory dynamics of the rollout process under three rollout strategies: (1) holding back second doses, (2) releasing second doses, and (3) stretching the lead time between doses. We also develop an SEIR model to evaluate these strategies in terms of infections, hospitalizations, and mortality.

Contributed Session

1026

Monday, 09:00 AM - 10:00 AM, Healthcare OM 2

Track: Healthcare Operations Management 2

Contributed Session: **Lean Management of Continuum of Care**

Chair(s): Felipe Padovani

111-1197 Management and control optimization related to home health services: a Lean Six Sigma application

Felipe Padovani, MD, Prevent Senior, Brazil

Roberto Cunha Filho, Head of Projects and Processes, Prevent Senior, Brazil

Lilian Reis, Process Management Analyst, Prevent Senior, Brazil

Mariana Graciotti, Process Management Trainee, Prevent Senior, Brazil

Danielle Rampim, Home Health Service - Director, Prevent Senior, Brazil

The management and controlling process related to home health services reflects a highly complex work. This project aims to apply the Lean Six Sigma methodology to optimize the process and follow up on indicators, resulting in high operational performance.

111-1303 The Lean Six Sigma methodology applied on home health care supply chain management

thiago batista, process analyst, Prevent Senior, Brazil

Lilian Reis, Process Management Analyst, Prevent Senior, Brazil

nathalia lima, process analyst, Prevent Senior, Brazil

clara leutewiler, infectologist, Prevent Senior, Brazil

valeria martins, doctor, Prevent Senior, Brazil

The management complexity of organizations tends to be reduced with the allocation of certain activities to other companies. This Project aims to reduce waste, implement the assessment, management and control of home care service providers through the application of tools and methodologies of a Lean Six Sigma project

111-1222 Physical therapy services expansion sizing: a Lean Six Sigma application

Aline Oyakawa, Physiatry Coordinator, Prevent Senior, Brazil

Juliana Donnarumma, Rheumatology Coordinator, Prevent Senior, Brazil

Samir Orra, Neurology physician, Prevent Senior, Brazil

Claudia Ribeiro, Head of Process Management, Prevent Senior, Brazil

Danielle Rampim, Home Health Service - Director, Prevent Senior, Brazil

The growth of a health care provider portfolio focused at the elderly demands adequate service offer planning. This project aims to apply the Lean Six Sigma methodology to create a model for territorial expansion and adequate sizing of physical therapy services following a regionalization model.

Invited Session

1027	Monday, 09:00 AM - 10:00 AM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Live Streaming and E-commerce	
	Chair(s): Si Xie	

111-1493 The Role of Product Assortment Size and Presentation Style in Live Streaming E-Commerce

Si Xie, Student, The University of Texas at Dallas, United States

A prominent trend in e-commerce is the selling of goods using live streams. We study the impact of the design of live streaming, such as assortment size and presentation style on sales.

111-0427 Capacity Reservation for Intermittent Random Demand Surges: A Model for Cost Optimization in Cloud Computing

Junfei Lei, Student, University of Washington, United States

The adoption of cloud computing has been accelerating, while firms are struggling to manage their growing cloud spending in the face of intermittent demand surges. A firm can purchase a standard reservation contract from the cloud providers, supplemented by employment of short-term reservation contracts as well as on-demand capacity.

Invited Session

1030	Monday, 09:00 AM - 10:00 AM, Logistics Management	Track: Logistics Management
	Invited Session: E-fulfillment Operations I	
	Chair(s): Debjit Roy	

111-1187 Dynamic Order Assignment in E-commerce Order Fulfillment under Disruption Risk

Govind Kumawat, Assistant Professor, Indian Institute Of Management, Udaipur, India

Debjit Roy, Professor, Indian Institute of Management Ahmedabad, India

E-commerce companies are facing several disruptions in their order fulfillment operations due to outbreaks, such as COVID-19, natural calamities, and technology failures. To mitigate the risk of disruption and minimize delayed deliveries, fulfilling orders from the right warehouse is essential. Using MDPs, we develop order assignment strategies for e-fulfillment centers.

111-1004 WAREHOUSING ROBOTIZATION WITH WHEEL.ME GENIUS

Martin Amaral Halseide, Student, NTNU, Norway

Atle Timenes, CEO, ., Norway

Fabio Sgarbossa, Reader, NTNU, Norway

This paper investigated how storage pods can move autonomously with the use of autonomous wheels (by wheel.me) transforming robotic mobile fulfillment systems into puzzle-based storage systems. Through analytical modelling, machine learning solving algorithm and simulation, the main objective is to identify criteria for where these new system can be applied.

111-1199 Performance estimation and design of truck-based autonomous mobile robot delivery systems

René De Koster, Professor, Erasmus University Rotterdam, Netherlands

Bipan Zou, Assistant Professor, Zhongnan University of Economics and Law, China

Yaohan Shen, Lecturer, Wuhan University of Technology, Wuhan, P.R. China, China

Delivery robots are increasingly used in last-mile delivery. They collaborate with a truck, acting as a mothership. We determine throughput capacity for a given fleet size, and given truck capacity, for different delivery policies. The results are used to determine systems that realize given leadtimes at minimal costs.

Invited Session

1031	Monday, 09:00 AM - 10:00 AM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: Illicit Supply Chains 1	
	Chair(s): Burcu Keskin	

111-0823 Interdiction of Wildlife Trafficking Supply Chains: An Analytical Approach

Emily Barbee, Student, University of Alabama Tuscaloosa, United States

Burcu Keskin, Professor, University of Alabama Tuscaloosa, United States

Aaron Ferber, Student, University of Southern California, United States

Bistra Dilkina, Associate Professor, University of Southern California, United States

Lucas Lafferty, Student, University of Alabama Tuscaloosa, United States

Illicit Wildlife Trafficking (IWT) is harmful to biodiversity, human health, and national security. We investigate network interdiction for IWT and incorporate difficulties identifying wildlife products, impacts of charismatic species and geopolitical differences, and the varied information and objectives traffickers utilize. We present solutions for several key IWT supply chains.

111-1144 Transnational Cocaine Supply Chain Modeling

Ridvan Aksu, Student, University of Alabama, United States

Kendra McSweeney, Professor, Ohio State University, United States

Andrew Meador, Student, University of Alabama, United States

Nicholas Magliocca, Assistant Professor, University of Alabama, United States

The structure of transnational cocaine supply chains are unknown due to everchanging routes and demand across the world. We developed a cocaine supply chain model by integrating seizure data, agricultural commodity trade capacities, and port security metrics to analysis the trade from Central America to US and Europe.

Contributed Session

1032

Monday, 09:00 AM - 10:00 AM, Marketing & OM

Track: Marketing and Operations Management

Contributed Session: Pricing and Consumer Behavior

Chair(s): Yiting Deng

111-1372 Measuring Effectiveness of Experiential Marketing

Lauren Laker, Associate Professor, Xavier University, United States

Working with live events hosted for Fortune 100 companies, our goal is to develop and test a mathematical model to measure the effectiveness of a variety of experiential marketing techniques.

111-0475 Impact of Transformative Marketing and Operations Management on Customers' Behavior

Ali Shirzadeh Chaleshtari, Post Doc/Researcher, College of Business, United States

Ehsan Elahi, Associate Professor, University of Massachusetts Boston, United States

Mahdi Fathi, Assistant Professor, University of North Texas, United States

Marzieh khakifirooz, Assistant Professor, Tecnologico de Monterrey, Mexico

Maling Ebrahimpour, Professor, University of Rhode Island, United States

This research investigates the impact of transformative marketing and operations management on customers' purchase and return behavior in retail markets. An inclusive analytical model is constructed capable of capturing the impacts of significant factors and extensive numerical experiments are conducted which reciprocate most of practical circumstances.

111-0258 The Effects of Surge Pricing on Driver Behavior in the Ride-Sharing Market

Wei Miao, Assistant Professor, University College London, United Kingdom

Yongdong Liu, Assistant Professor, University College London, United Kingdom

Wei Wang, Associate Professor, University of International Business And Economics, China

Yiting Deng, Assistant Professor, University College London, United Kingdom

Christopher Tang, Professor, University of California Los Angeles, United States

Leveraging a quasi-experimental setting, we investigate the causal impact of surge pricing on driver behavior with causal forest. We find that surge pricing increased a driver's weekly revenue. We then decompose the driver's weekly revenue into "intensive margin" and "extensive margin" factors. Finally, we find considerable heterogeneity across drivers.

Contributed Session

1033

Monday, 09:00 AM - 10:00 AM, Not-for-Profit OM

Track: Not-for-Profit Operations Management

Contributed Session: Topics on Nonprofits, Private Firms and BoP initiatives

Chair(s): Gulden Busra Karkili

111-0647 Private Sector Engagement with Humanitarian Actors: How far does it go from donations?

Maximilian Löffel, Student, Swiss Federal Institute of Technology Zurich, Switzerland

Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

Humanitarian Organizations (HO) regularly use outside resources to support their missions and improve the provisioning of assistance. We particularly investigate partnerships between HO and private firms. Studying different organizations and partnerships within, we derive distinct types of purpose, type, and organization combinations of partnerships from HO and firm perspectives.

111-0949 Analyzing Interactions Between Mission-oriented And Profit-oriented Organizations In Subsidy Welfare Programs

Gulden Busra Karkili, Student, University of Massachusetts Amherst, United States

Priyank Arora, Assistant Professor, University of Massachusetts Amherst, United States

Senay Solak, Associate Professor, University of Massachusetts Amherst, United States

Motivated by subsidy welfare programs, we study interactions between profit-oriented and mission-oriented organizations that work together to generate social impact. Our model interrelates resource allocation decisions of the state agency and service providers to analyze privately- and socially-optimal decisions and equilibrium outcomes.

111-1370 Logistics and supply chain management in Bottom of the Pyramid (BOP) projects

Arnold Maltz, Associate Professor, Arizona State University Tempe, United States

Adegoke Oke, Associate Professor, Arizona State University Tempe, United States

Jarrod Goentzel, Senior Lecturer, Massachusetts Institute of Technology, United States

Qualitative analysis of 84 teaching cases reveals that discussion of logistics and supply chain management in Bottom of the Pyramid (BOP) initiatives lacks depth and breath. Results explore how success factors align with prior theory and focus academic efforts toward market segments and populations with the most potential for impact.

Invited Session

1035

Monday, 09:00 AM - 10:00 AM, POM in Food & Agriculture Track: POM in Food and Agriculture
 Invited Session: **Intelligent Agriculture & Food Supply Chains**
 Chair(s): Guo Li Weihua Liu

111-0241 Evolution of Food-sector Platforms in the Sharing Economy: a Systematic Literature Review and Future Agenda

Praveen Puram, Student, Indian Institute of Management Kozhikode, India

Anand Gurumurthy, Professor, Indian Institute of Management Kozhikode, India

Platform-based businesses have grown exponentially in various sectors. However, extant literature is dominated by studies on accommodation and ride-sharing. This study reviews the non-agricultural, food-sector businesses in the sharing economy (on-demand food delivery, prepared meal-sharing, and surplus food-sharing) to understand the current progress, impacts of COVID-19, and suggest future directions.

111-1188 Using Last Mile Data to Build Decision Making Models Predicting Retail-level Food Safety and Loss

Charles Herron, Student, Auburn University, United States

Amit Morey, Associate Professor, Auburn University, United States

Shashank Rao, Professor, Auburn University, United States

Laura Garner, Post Doc/Researcher, Auburn University, United States

Aftab Siddique, Student, Auburn University, United States

Less than truckload (LTL) shipping allows temperature abuse of food in the last mile leading to food safety and spoilage issues. Using simulated LTL combined with Monte Carlo simulations and state-space model, we developed decision making models termed as "First-Expire, First-out" model for retailers.

111-1633 A novel scoring auction for agricultural supply chain trading with CSR and poverty alleviation

Su Xiu Xu, Professor, Beijing Institute of Technology, China

This paper proposes a novel scoring auction for agricultural supply chain trading. In such a mechanism, both corporate social responsibility (CSR) and poverty alleviation are considered. Our mechanism realizes incentive compatibility and high efficiency. The effectiveness and robustness of our mechanism are verified by numerical study.

Invited Session

1037

Monday, 09:00 AM - 10:00 AM, Procurement & Supplier Mgmt Track: Procurement and Supplier Management
 Invited Session: **Experimental research for studying buyer-supplier relationships 1**
 Chair(s): Henrik Franke Leopold Ried

111-0042 The impact of minority-ownership disclosures on consumer evaluations

Saif Mir, Assistant Professor, Lehigh University, United States

Stephanie Thomas, Associate Professor, University of Arkansas - Fayetteville, United States

Christian Hofer, Associate Professor, University of Arkansas, United States

Contributing to the scarce literature on diversity in the SCM domain, our research examines the implications in terms of consumer evaluations of minority status disclosures in an online shopping context. We find that there is no "one size fits all" approach when comparing across different minority groups.

111-0060 The Use of Risk Salience Priming in Shifting Consumer Attitudes Toward Unattended In-Home Package Delivery

Finnegan McKinley, Student, Brigham Young University, United States

Rebekah Brau, Assistant Professor, Brigham Young University, United States

Hugo DeCampos, Assistant Professor, Wayne State University, United States

John Gardner, Associate Professor, Brigham Young University, United States

Unattended in-home package delivery offers solutions for issues that often arise in last mile delivery efforts. However, consumers are hesitant. Using Risk Salience Theory, we posit consumer attitudes can be shifted through risk salience priming. We test the effectiveness of three methods for shifting customer attitudes using three experiments.

Invited Session

1038

Monday, 09:00 AM - 10:00 AM, Product Innovation & Tech Mgmt Track: Product Innovation and Technology Management
 Invited Session: **Cooperative Product/ Service Design 1**
 Chair(s): Sara Rezaee Vessal

111-1562 Breaking the frenemy dilemma: Two-sided pricing and compatibility decisions in competitive platform ecosystems

Weijun Zhu, Student, Shanghai Univ. of Finance and Economics, China

Jiaping Xie, Professor, Shanghai Univ. of Finance and Economics, China

Lihong Wei, Student, Shanghai Univ. of Finance and Economics, China

Hardware/software platforms are frenemies due to both competition in hardware sales and cooperation in software interoperability. This paper built game-theoretic models of platform competition within hardware/software ecosystems by incorporating both same-side and cross-side network effects, and studied the optimal two-sided pricing in incompatibility, two-way compatibility, and one-way compatibility scenarios, respectively.

111-1686 Take it or leave it: Renegotiating in Collaborative Product Development

Sara Rezaee Vessal, Assistant Professor, ESSEC Business School, France

Timofey Shalpegin, Lecturer, University of Auckland, New Zealand

We model a collaborative development process in which the buyer can accept an underperforming product after the first stage. This leads to renegotiation in the second stage of the product development. We explore the effect of the bargaining power on the development efforts.

Contributed Session

1039	Monday, 09:00 AM - 10:00 AM, Public Sector OM	Track: Public Sector Operations Management
	Contributed Session: Driving Innovation and Growth in the Public Sector	
	Chair(s): Dwaipayan Roy	

111-1133 Search and Matching for Adoption from Foster Care

Nils Olberg, Student, University of Zurich, Switzerland

Ludwig Dierks, Post Doc/Researcher, University of Zurich, Switzerland

Sven Seuken, Associate Professor, University of Zurich, Switzerland

Vincent Slaugh, Assistant Professor, Cornell University, United States

Utku Unver, Professor, Boston College, United States

We perform a game-theoretic analysis of two approaches to finding adoptive parents for children in foster care. We develop a new search-and-matching model and identify several advantages of having children's caseworkers drive the search process rather than prospective parents.

111-0267 A Prototype for the Diagnostic Sectors in Colombia

Eduyn López, Assistant Professor, Universidad Distrital Francisco José de, Colombia

German Méndez-Giraldo, Professor, Universidad Distrital Francisco José de, Colombia

Carlos Franco, Assistant Professor, Universidad del Rosario, Colombia

This work consists of a sectoral diagnostic prototype applicable to the sectors of the Colombian economy framed in the manufacturing industry, in accordance with the ISIC Classification. The methodology was applied sectors: Food processing, pharmaceutical, and plastics. These were selected using the AHP method considering GDP, employment, competitiveness, and exports.

111-1556 Preference Programs and Growth of Small Businesses

Dwaipayan Roy, Assistant Professor, University of Virginia, United States

This study investigates whether preferentially awarding contracts through the US federal government's set-aside policy disincentivizes small business growth.

Invited Session

1040	Monday, 09:00 AM - 10:00 AM, Retail Operations	Track: Retail Operations
	Invited Session: Omnichannel Operations and Product Returns 1	
	Chair(s): Paolo Letizia	

111-0679 Omni-channel Partnerships To Manage Consumer Returns

Tolga Aydinliyim, Associate Professor, Baruch College, United States

Monire Jalili, Assistant Professor, Bentley University, United States

Motivated by partnerships between online and B&M retailers where the online retailer operates a micro-store within the B&M store (e.g., Amazon within Kohl's), we study consumers' purchase and returns channel choices and induced B&M store customer traffic implications as well as when such partnerships are profitable for the involved parties.

111-1017 The Omnichannel Effect of Store Closures on Sales and Consumer Behavior

Ragip Gurlek, Student, Emory University, United States

Diwas KC, Professor, Emory University, United States

Paolo Letizia, Associate Professor, University of Tennessee, United States

Endogeneity issues in identification of cross-channel effects complicate sales channel design. We leverage COVID-19 shock, using gubernatorial election results as an instrument, to empirically identify the effect of store closures on omnichannel sales, and returns and sales dispersion in online channel. Our findings inform design of online and offline channels.

111-0320 Impact of Competitor Store Closures on a Major Retailer

M. Serkan Akturk, Assistant Professor, Clemson University, United States

Michael Ketzenberg, Professor, Texas A&M University College Station, United States

We investigate the impact of competitor store closures on a retailer and find that store sales increase with respect to a store's proximity to closed competitor locations. We also find that online sales increase in regions where competitors close stores and where the focal retailer has strong store presence.

Contributed Session

1042

Monday, 09:00 AM - 10:00 AM, Service Operations

Track: Service Operations

Contributed Session: **Services and Society**

Chair(s): Brad Meyer

111-1123 A Typology of Transformative Services

Paulo Hollaender, Student, Eaesp - Fgv, Brazil

Juliana Bonomi, Assistant Professor, Eaesp - Fgv, Brazil

Transformative Service Research (TSR) investigates well-being promotion by service operations. Although many services have some degree of well-being promotion potential, it is unreasonable to expect services to be equally transformative. This paper develops a theoretical typology of transformative services, which are "Personal Aiding", "Taking Care", "Paradigm Fixing", and "Paradigm Shifting".

111-0780 Potty Parity: Process Flexibility via Unisex Restroom

Setareh Farajollahzadeh, Student, Rotman School of Management, Canada

Ming Hu, Professor, University of Toronto, Canada

We study the problem of inequitable access to public restrooms by women and the LGBTQ+ community. We analytically show the benefits of having unisex restrooms: (1) improving wait time parity, (2) enhancing utility parity among users, and (3) increasing safety perception. Additionally, we identify optimal restroom designs and renovation plans.

111-1408 Robust Systems, Fragile People

Brad Meyer, Associate Professor, Drake University, United States

A theoretical consideration of the impact of service systems on society. What happens when we improve service to the point that no one has to wait, customers don't need to communicate clearly, and every desire is met. Do robust systems derail the development of a resilient populace?

Invited Session

1046

Monday, 09:00 AM - 10:00 AM, Supply Chain Management 2

Track: Supply Chain Management 2

Invited Session: **Emerging Topics in Supply Chains and Platforms**

Chair(s): Honggang Hu Zhechao Yang

111-0627 Conspicuous Consumption in Primary, Secondary and Rental Markets

Di Wu, Student, Xi'an Jiaotong University, China

Gang Li, Professor, Xi'an Jiaotong University, China

Xiajun Pan, Assistant Professor, University of Florida, United States

Consumers purchase conspicuous products to satisfy material needs as well as social needs. We propose a monopoly model of conspicuous consumption using the rational expectations framework, and then examine how allocation strategy, pricing strategy, and purchase decisions are affected by the desire for exclusivity and conformity.

111-1519 Retail Category Management with Store Brand Sourcing

Yasin Alan, Assistant Professor, Vanderbilt University, United States

Mumin Kurtulus, Associate Professor, Vanderbilt University, United States

Alexander Maslov, Post Doc/Researcher, Vanderbilt University, United States

We analyze a retailer's interactions with a national brand manufacturer (NBM) using a setting in which the retailer makes category management and store brand (SB) sourcing decisions and the NBM strategically determines whether it should produce the retailer's SB. Our analysis sheds light on different SB strategies observed in practice.

111-0902 Agency or Wholesale? The Role of Retail Pass-Through

Honggang Hu, Student, Warrington College of Business, United States

Quan Zheng, Associate Professor, University of Science and Technology of China, China

Xiajun Pan, Assistant Professor, University of Florida, United States

Prior studies suggest that e-tailers prefer agency selling to traditional wholesale selling due to channel efficiency. However, in a common e-tailer channel, we discover that the e-tailer's choice of selling format is critically moderated by the relative intensity of supplier competition, driven by the cross-brand pass-through behavior and competition mode.

Invited Session

1048

Monday, 09:00 AM - 10:00 AM, Sustainable Operations 1

Track: Sustainable Operations

Invited Session: **International Development and Innovative Business Models 1**

Chair(s): Andre Calmon Gonzalo Romero

111-1431 Drivers of Competition among Small Drug Stores in Developing Countries

Prashant Yadav, Professor, Harvard University, United States

Somya Singhvi, Assistant Professor, University of Southern California, United States

Heather Lanthorn, Researcher, ID Insight, United States

Monday, 09:00 AM - 10:00 AM

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Small drug stores play a key role in healthcare delivery for most developing countries. Despite their important role, key factors that drive competition among these stores are not well understood. This research identifies important supply chain and operational characteristics that affect the competitiveness in the market.

111-1504 Index-based yield-protection for smallholder farmers

Kehan Lu, Student, Fuqua School of Business, United States
Jing-Sheng Song, Professor, Duke University Durham, United States
Can Zhang, Assistant Professor, Fuqua School of Business, United States

Protecting smallholder farmers from low crop yields is challenging due to high cost of yield assessment. In this paper, we study an innovative index-based approach, under which benefits are paid based on a predetermined index (e.g., rainfall). Our analysis generates insights on the design and value of such yield-protection schemes.

Invited Session

1049	Monday, 09:00 AM - 10:00 AM, Sustainable Operations 2	Track: Sustainable Operations 2
	Invited Session: Sustainable City Operations 1	
	Chair(s): Seulchan Lee	

111-0912 An Empirical Investigation of the Relationship between Community Demographics and Facility Emissions

Abhinav Shubham, Student, Georgia Institute of Technology, United States
Ravi Subramanian, Professor, Georgia Tech, United States

Using data from the US Census Bureau and the EPA, we analyze the relationship between community demographics and facility-level operational decisions on mitigating environmental impacts. Our findings offer evidence for regulatory interventions and opportunities for firms to reconsider their ESG objectives with local considerations of fairness and equity.

111-1018 The Impact of Dockless Bike Sharing on Air Quality: An Empirical Investigation

Qianqian LIU, Student, Tianjin University, China
Baofeng Huo, Professor, Tianjin University, China

Using a difference-in-differences approach, we find that the entry of dockless bike sharing generates a significant improvement in local air quality. Our mechanism tests show that the effect is driven by the decrease in vehicle exhaust emissions through both direct (less car trips) and indirect (less congestion-caused pollutants) changes.

Monday, 10:15 AM - 11:15 AM

Invited Session

1052	Monday, 10:15 AM - 11:15 AM, 2- Meetings & Programs - By Invitation	Track: All Special Events & Programs: By Invitation
	Invited Session: Emerging Scholars Program-2	
	Chair(s): Craig Froehle	

111-1859 Emerging Scholars Program-2

Craig Froehle, Professor, University of Cincinnati, United States
Robert Batt, Associate Professor, University of Wisconsin-Madison, United States
Eve Rosenzweig, Professor, Emory University, United States
Rohit Verma, Professor, VinUniversity, Vietnam
Tinglong Dai, Professor, Johns Hopkins University, United States
Rachna Shah, Associate Professor, University of Minnesota, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence. This program provides new university professionals in OM with career-building advice in developing excellence in their personal programs of teaching, research, and service.

Invited Session

1055	Monday, 10:15 AM - 11:15 AM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Operations and Social Impact 2	
	Chair(s): Leon Valdes	

111-1296 The Effect of Social Impact Language on Employee Recruitment

Leon Valdes, Assistant Professor, University of Pittsburgh, United States
Trevor Young-Hyman, Assistant Professor, University of Pittsburgh, United States
Evan Gilbertson, Student, University of Pittsburgh, United States
CB Bhattacharya, Professor, University of Pittsburgh, United States

Oliver Hahl, Associate Professor, Carnegie Mellon University, United States

Corporate claims about social impact are ubiquitous, yet their effect on job applications is understudied. Using archival and experimental data, we use topic modeling to characterize the nature and impact of these claims. We find that they attract job seekers, but a firm's capacity moderates the credibility of the claims.

111-1329 Improving Recommendations with Human-Centered AI

Park Sinchaisri, Assistant Professor, University of California Berkeley, United States

People are constantly bombarded with notifications that clutter their lives. This has become increasingly concerning as they could be distracted while performing tasks (e.g., driving), causing a safety hazard. We study how humans respond to machine-generated recommendations and how AI should be designed to account for human behavior and safety.

Invited Session

1057	Monday, 10:15 AM - 11:15 AM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Invited Session: Covid-19 Pandemic Mitigation Strategies 2	
	Chair(s): Sebastian Souyris	

111-1807 Dynamic Serology Surveillance through Integer Programming

Denis Saure, Assistant Professor, Universidad De Chile, Chile
 Leonardo Basso, Professor, Universidad Presbiteriana Mackenzie, Brazil
 Miguel O'Ryan, , ,
 Juan Pablo Torres, , ,
 Marcela Zuñiga, , ,

During the Covid-19 crisis, we partnered with the Chilean Ministries of Health and the telecom ENTEL to implement a nationwide serology surveillance program that significantly influenced Chile's decision regarding vaccine booster doses. Our integer programming implementation allocates testing stations throughout the country, helping to save hundreds of lives.

111-1743 COVID-19 Vaccination Calendar Preparation under Supply Uncertainty

SIRMA KARAKAYA, Student, Ozyegin University, Turkey
 Burcu Balcik, Associate Professor, Ozyegin University, Turkey

Up to-date many countries have faced with delays in the implementation of their COVID-19 vaccination programs. Uncertainties in the supplies and infrastructural barriers have been the main causes of the delays. We propose a two-stage stochastic programming model and study the problem of COVID-19 vaccination calendar preparation under supply uncertainty.

111-1808 Informational Value of Visual Nudges During Crises: Improving Public Health Outcomes Through Social Media Engagement Amid Covid-19

Sebastian Souyris, Assistant Professor, University of Illinois Urbana-Champaign, United States
 Anton Ivanov, Assistant Professor, University of Illinois Urbana-Champaign, United States
 Sridhar Seshadri, Professor, University of Illinois Urbana-Champaign, United States
 Abdullatif Alzaidan, Student, University of Illinois Urbana-Champaign, United States
 Albert England, Physician, OSF Heart of Mary Medical Center Hospitalist Service, United States
 Zhasmina Tacheva, Assistant Professor, Syracuse University, United States

Using econometrical and epidemiological models, we find that US universities that share more Instagram mask images have significantly lower COVID-19 positivity rates than universities that do not share mask images. Our results support the notion that visual nudges have informational value, which ultimately can improve public health outcomes.

Invited Session

1058	Monday, 10:15 AM - 11:15 AM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Disaster Resilience and/or Response	
	Chair(s): Raktim Pal	

111-0162 Coastal Housing Recovery in a Post-Disaster Environment under COVID-19

Rafael Diaz, Associate Professor, ODU-VMASC, United States
 Beatriz Acero, Affiliated Researcher, Old Dominion University, United States
 Joshua Behr, Associate Professor, Old Dominion University, United States

In coastal cities, the damage stemming from hurricanes and severe tropical storms may reduce housing stock. Accelerating the reconstruction of housing stock becomes crucial in minimizing the time that residents are displaced. This presentation examines displaced populations and describes metaheuristic models to assess supply, costs, and recovery times.

111-0070 Economic resiliency analysis of natural disasters

Hulya Yazici, Professor, Florida Gulf Coast University, United States

This study analyzes economic data following disasters and aims to determine how economic recovery takes place in a State that is prone to disasters. As the study is in the works for journal publication, a summary of the research and future outlook will be presented the Conference.

111-0832 Analyzing Relief Response to Recurrent Natural Disasters

Raktim Pal, Professor, James Madison University, United States

Santosh Mahapatra, Professor, Clarkson University, United States

Responses to seasonal natural disasters are challenging and expensive because of inherent uncertainties. We use agent-based modeling/simulation and investigate effectiveness of prepositioning and dynamic replenishment of relief supplies in multitier humanitarian supply chains to handle the demand caused by multiple disasters in an affected region during a season.

Contributed Session

1059	Monday, 10:15 AM - 11:15 AM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Contributed Session: The Role of AI in the Workplace	
	Chair(s): Purushottam Meena	

111-1497 Toward a Fairness-Aware Scoring System for Algorithmic Decision-Making

Yi Yang, Student, Xi'an, China

Ying Wu, Student, Xi'an, China

Mei Li, Associate Professor, University of Oklahoma, United States

Xiangyu Chang, Associate Professor, Xi'an, China

We propose a general framework to create fairness-aware, data-driven scoring systems to address group fairness concerns. We validate the framework with empirical datasets in healthcare. Results support the effectiveness of our proposed framework in achieving the optimal welfare of stakeholders, and in balancing the needs of interpretability, fairness, and efficiency.

111-1231 How Do Cultural Drivers Impact Perceptions of Intrusiveness and Legitimacy of Artificial-Intelligence Surveillance in Workplace?

Akram Khattab, Student, University of Toledo, United States

Heba Abdel-Rahim, Assistant Professor, University of Toledo, United States

Euisung Jung, Assistant Professor, University of Toledo, United States

Paul Hong, Professor, University of Toledo, United States

This study aims at examining the general reaction of employees to the companies' use of AI surveillance Tools, and whether the reaction of employees depend on their cultural values. A conceptual framework based on literatures on technology mediated controls (TMC, hereafter) and cross-cultural research is developed to theorize the effects.

111-0177 Machine Learning Application for Predicting Dark Sides of Shared Economy

Purushottam Meena, Associate Professor, College of Charleston, United States

Gopal Kumar, Assistant Professor, iim raipur, India

M Ramkumar, Assistant Professor, IIM Raipur, India

We investigate the dark sides of two prominent sharing economy sectors—accommodation and rideshare. Negative business news articles were collected from LexisNexis database for these sectors. The topic modeling-based unsupervised machine learning approach is use to analyze the big text data and derive the dark sides of the sharing economy.

Contributed Session

1060	Monday, 10:15 AM - 11:15 AM, Economic Models in OM	Track: Economic Models in Operations Management
	Contributed Session: Supply Chain and Competition Issues	
	Chair(s): Gulver Karamemis	

111-0008 Evolutionary Game Analysis of Carbon Market Based on Potential Substitution Effect

Xiaojun Li, Student, Southeast University, China

Participants in the carbon finance market mainly include governments, enterprises, and financial institutions. This paper studies the evolutionary equilibrium strategy of the development of the carbon finance market by constructing an evolutionary game model between the government, enterprises and financial institutions based on potential substitution effects.

111-0582 Competition between an Original Equipment Manufacturer and a Contract Manufacturer: In-house Production vs. Outsourcing Decisions

Gulver Karamemis, Assistant Professor, Georgia Southern University, United States

Yuwen Chen, Associate Professor, University of Rhode Island, United States

Jiayuan Zhang, Student, Colorado State University Fort Collins, United States

Supply chain disruptions resulting from COVID-19 pandemic rightfully made manufacturers reconsider their outsourcing/reshoring decisions. We investigate an original equipment manufacturer(OEM)'s sourcing decisions when it competes with a contract manufacturer (CM) in the same market. The OEM could directly procure components from a supplier or delegate procurement to the CM.

Invited Session

1063	Monday, 10:15 AM - 11:15 AM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Reinforcement Learning for Energy Operations and Valuation -II	
	Chair(s): Selva Nadarajah	

111-1029 Self-adapting Reinforcement Learning for Financial and Real Options

Selva Nadarajah, Associate Professor, University of Illinois at Chicago, United States

Parshan Pakiman, Student, University of Illinois at Chicago, United States

Model-based reinforcement learning techniques represent the state-of-the-art for options valuation and exercise. Their successful implementation necessitates choosing parametric models to approximate a high-dimensional MDP, which is often done using trial and error. We propose a self-adapting approach that sidesteps this issue, is easy to implement, and exhibits near-optimal performance.

111-1109 Stochastic Dual Dynamic Programming for Optimal Power Flow Problems under Uncertainty

David Wozabal, Assistant Professor, Technische Universitat Munchen, Germany

Adriana Kiszka, Student, Technische Universitat Munchen, Germany

We propose the first computationally tractable framework to solve multi-stage stochastic optimal power flow (OPF) problems in alternating current power systems based on recent results on dual convex semi-definite programming relaxations of OPF problems in order to adapt the stochastic dual dynamic programming (SDDP) algorithm.

Invited Session

1065	Monday, 10:15 AM - 11:15 AM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: Supply Chain Design and Planning	
	Chair(s): Zhili Tian	

111-1609 Multi-product Procurement Decisions: Feature-based Substitutions, Data-driven and Preference Learning

Yijie ZHENG, Student, Department of Management Sciences, Hong Kong, China

Frank Chen, Professor, City University of Hong Kong, Hong Kong, China

Shaohong Lin, Post Doc/Researcher, Hong Kong University, Hong Kong, China

Yi Yang, Associate Professor, Zhejiang University, China

One of the challenging issues in developing analytical tools to assist multi-product (item) procurement decisions is how attributes(features) of products can be accommodated to address substitution effect. Transaction data-based learning method is applied to estimate related quantities, which are consistent and asymptotically optimal. Approximation strategies are also developed.

111-1765 An opaque selling scheme for perishable inventory systems

Katsunobu Sasanuma, Assistant Professor, Stony Brook University, United States

Akira Hibiki, Professor, Tohoku University, Japan

Thomas Sexton, Professor, Stony Brook University, United States

An opaque selling scheme in inventory management functions like a risk pooling technique in supply chain management: the demand for opaque products sold without product specifications plays the role of pooled risk. We present analytical and numerical results to show the benefits of the opaque scheme for perishable inventory systems.

111-1617 Relative vs. Absolute Volume-Based Export Restrictions: Choice, Design, and Effectiveness

Lucy Chen, Associate Professor, National University of Singapore, Singapore

Srinagesh Gavirneni, Professor, Cornell University, United States

Aditya Vedantam, Assistant Professor, University of Buffalo, United States

Shuguang Zhang, Post Doc/Researcher, National University of Singapore, Singapore

Manufacturers in developing economies are often subject to export restrictions by regulators. In this paper, we examine the impact of a regulator's choice of export-based restrictions (relative and absolute volume-based) on a manufacturer and on the society.

Invited Session

1066	Monday, 10:15 AM - 11:15 AM, Healthcare Analytics	Track: Healthcare Analytics
	Invited Session: Improving Hospital Service via Analytics	
	Chair(s): Miao Bai Nan Liu	

111-0374 The Cost of Task Switching: Evidence from Emergency Departments

Yige Duan, Student, University of British Columbia, Canada

Yiwen Jin, Student, Sauder School of Business, UBC, Canada

Yichuan Ding, Assistant Professor, McGill University, Canada

Mahesh Nagarajan, Professor, Sauder School of Business, UBC, Canada

Garth Hunte, Professor, University of British Columbia, Canada

Using a large administrative ED dataset, we find that task switching has negative impact on physician's productivity (switch cost). We propose a novel instrument variable to deal with the endogeneity issue. We also conduct counterfactual analyses to further explore the system level influence of switch cost.

111-1065 Testing with limited capacity and pooling

Alex Mills, Associate Professor, Baruch College, United States

Serhan Ziya, Associate Professor, University of North Carolina Chapel Hill, United States

Motivated by the persistent issues surrounding testing in the COVID-19 pandemic, we study the question “who should be tested?” when capacity is limited, tests have errors, and patients differ in their prior probability of being infected. When tests may be pooled, we show the answer is not always straightforward.

111-0886 Advance Notice of Diagnostic Service for Hospital Inpatients

Miao Bai, Assistant Professor, University of Connecticut, United States
 Nan Liu, Associate Professor, Boston College, United States
 Zheng Zhang, Assistant Professor, Zhejiang University, China

Inpatients are often viewed as "on-demand" for diagnostic service and they are notified only when service capacity is available. This way of arrangement causes chaos and inefficiencies in diagnostic service. Informed by a unique dataset collected at Mayo Clinic, we develop an MDP-based advance notice policy for inpatient diagnostic service.

Invited Session

1067	Monday, 10:15 AM - 11:15 AM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Technology and Policy in Healthcare 2	
	Chair(s): Feng (Susan) Lu	

111-0957 How Often Should Vital Signs be Monitored? The Intensive Care's Role in Enhancing Patient Outcomes

Qi Wang, Student, Xi'an Jiaotong University, China
 Sarah Zheng, Assistant Professor, University of Victoria, Canada
 Dzifa Dordunoo, Assistant Professor, University of Victoria, Canada
 Ashley Ahmelich, Student, University of Victoria, Canada
 Jie Zhang, Associate Professor, University of Victoria, Canada

To investigate the effects of process-of-care performances on patient outcomes, we study the daily patterns of vital-signs monitoring by using Logit models with 8,690,663 patient-level medical records in MIMIC database. When received higher frequency of vital-signs monitoring, vulnerable and elderly patients are associated with positive outcomes. Process-focused strategies are developed.

111-0808 Personalized Learning and Allocation of Hospital Care Unit Beds Under Adversarial Arrivals and Delayed Feedback

Arlen Dean, Student, University of Michigan, Ann Arbor, United States
 Mohammad Zhalechian, Student, University of Michigan - Ann Arbor, United States
 Mark Van Oyen, Professor, University of Michigan, United States

We develop a personalized learning algorithm with bandit feedback for the real-time allocation of limited hospital unit beds to patients. Our setting has heterogeneous adversarial arrivals, delayed feedback, and reusable resources. We provide theoretical performance bounds and conduct a case study from real data.

Contributed Session

1068	Monday, 10:15 AM - 11:15 AM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Behavioral Healthcare Operations	
	Chair(s): Alison Murphy	

111-0062 Individualized Dynamic Patient Monitoring Under Alarm Fatigue

Hossein Piri, Student, Sauder School of Business, UBC, Canada
 Woonghee Huh, Professor, Sauder School of Business, UBC, Canada
 Steven Shechter, Associate Professor, Sauder School of Business, UBC, Canada
 Darren Hudson, Professor, University of Alberta, Canada

Hospitals are rife with alarms, many of which are false. This leads to alarm fatigue, where clinicians become desensitized and may inadvertently ignore real threats. We develop a partially observable Markov decision process model for recommending dynamic, patient-specific alarms in which we incorporate the undesirable cry-wolf feedback-loop of false alarms.

111-0570 The effect of shift structure on fatigue of frontline healthcare workers

Chia-Chun Yang, Student, University of Cincinnati, United States
 Craig Froehle, Professor, University of Cincinnati, United States
 Teja Bollimunta, Student, University of Cincinnati, United States
 Elizabeth Leenellett, Associate Professor, University of Cincinnati, United States

It is well-established that worker fatigue can have deleterious consequences for work quality. However, less is known about how shift structure - an operational policy decision - affects fatigue. Using primary data from an emergency department, we examine this relationship and offer recommendations for structuring shifts to better manage fatigue.

111-1369 Joy, Burnout, and Meaning in Healthcare

Alison Murphy, Student, University of Minnesota, United States
 Rachna Shah, Associate Professor, University of Minnesota, United States
 Susan Goldstein, Associate Professor, University of Minnesota, United States
 Pri Shah, Professor, University of Minnesota, United States

Burnout in healthcare has been rising for years, and the COVID-19 pandemic has accelerated this trend. Rather than focusing only on initiatives to decrease burnout, healthcare organizations have begun to encourage joy. We develop a scale to measure joy derived from work, and investigate drivers and impacts of joy.

Invited Session

1069	Monday, 10:15 AM - 11:15 AM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Technology and Online Platform Innovation 1	
	Chair(s): Yonghua Ji	

111-1582 New Retail: Implications for Channel Choices under Competition

Ping Tang, Student, UT Dallas, United States
 Jianqing Chen, Associate Professor, University of Texas at Dallas, United States
 Srinivasan Raghunathan, Professor, UT Dallas, United States

We provide insights into firms' retail-channel choices. The online and physical channels could differ in geographical market coverage, shopping cost, and consumer valuation. We find that an equilibrium in which at least one firm operates the omnichannel emerges only when consumers have a higher valuation for the physical channel.

111-1534 IoT Technology and Channel Encroachment

Yonghua Ji, Associate Professor, University of Alberta, Canada
 Can Sun, Assistant Professor, University of Science and Technology of China, China

We study the impact of the IoT technology on channel encroachment in the context of a giant manufacturer and a retailer. The manufacturer can collect customers' usage information and decide whether to share information. We show that the manufacturer's encroachment decision could be altered by the presence of IoT.

111-1655 Know Your Boundaries: Information Security Risk Perception and Boundary Changing Behavior of Organizations

HILAL PATACI, Student, Rensselaer Polytechnic Institute, United States
 T. Ravichandran, Professor, Rensselaer Polytechnic Institute, United States

Using data of 2015-2018 S&P 500 firms and state-of-art transformer-based NLP models with causal extraction to measure organizations' information security risk perceptions, and by building on the Behavioral Theory of the Firm we explore how the information security risk perceptions of firms shape their boundary changing and risk transfer behavior

Invited Session

1072	Monday, 10:15 AM - 11:15 AM, Logistics Management	Track: Logistics Management
	Invited Session: E-fulfillment Operations II	
	Chair(s): Debjit Roy	

111-1038 A Data-driven Approach to Enhance Worker Productivity by Optimizing Facility Layout

Mahdi Ghorashi Khalilabadi, Student, Rotterdam School of Management, Netherlands
 Debjit Roy, Professor, Indian Institute of Management Ahmedabad, India
 René De Koster, Professor, Erasmus University Rotterdam, Netherlands

Traditional methods for solving facility layout problems consider from-to flows. This paper shows, however, these conventional methods can underestimate the total travel distance. This study uses workers' routes captured by an Internet of things network in a real-life case study to accurately calculate traveled distances and optimize the layout.

111-0783 An Analysis of Operating Efficiency and Policy Implications in Last-Mile Transportation Following Amazon's Integration

Lina Wang, Assistant Professor, Georgia Southern University, United States
 Elliot Rabinovich, Professor, Arizona State University Tempe, United States
 Harish Guda, Assistant Professor, Arizona State University, United States

We examine how Amazon's decision to vertically integrate its retail platform and last-mile delivery operations can lead to anti-competitive outcomes as a result of a deterioration in the operating efficiency in the routes served by a last-mile transportation firm.

111-1071 Elevating Human Factors and Performance in Interactions with Novel Warehousing Systems through Behavioral Interventions

Fabian Lorson, Student, Supply and Value Chain Management, TUM Campus Straubing, Germany
 Alexander Hübner, Professor, Supply and Value Chain Management, TUM Campus Straubing, Germany
 Andreas Fuegener, Professor, Digital Supply Chain, Supply Chain Management Area, Germany

Research on human-machine interactions in warehousing, and specifically the role of human behavior in operational activities, is an important, but nascent area. We contribute by developing an overarching theoretical classification and unifying themes, and deep-dive on a field study to increase human satisfaction, fairness and performance at advanced workstations.

Invited Session

1073

Monday, 10:15 AM - 11:15 AM, Manufacturing Operations Track: Manufacturing Operations
 Invited Session: Illicit Supply Chains 2
 Chair(s): Burcu Keskin

111-1060 Analytical Methods for Disrupting Sex Trafficking

Burcu Keskin, Professor, University of Alabama Tuscaloosa, United States
 Nickolas Freeman, Associate Professor, University of Alabama Tuscaloosa, United States
 Gregory Bott, Assistant Professor, University of Alabama Tuscaloosa, United States

Human traffickers have been using mobile technologies, online classified advertisement sites, and social media but the volume of ads and the obfuscation tactics complicate the investigations. We discuss analytical methods combining ML with network theory to detect fake posts, identify patterns, predict the sex trafficking movement, and inform interdiction efforts.

111-1105 Scalable and Interpretable Models for the Automated Detection of Illicit Massage Businesses

Margaret Tobey, Student, North Carolina State University, United States
 Ruoting Li, Student, North Carolina State University, United States
 Osman Ozaltin, Associate Professor, North Carolina State University, United States
 Maria Mayorga, Associate Professor, North Carolina State University, United States
 Sherrie Caltagirone, Executive Director, Global Emancipation Network, United States

Illicit massage businesses (IMBs) profit illegally from the labor and sexual exploitation of victim workers. To detect human trafficking in this area, we combine data from multiple internet sources and train an interpretable and scalable prediction model that can determine the risk that a massage business is an IMB.

Contributed Session

1074

Monday, 10:15 AM - 11:15 AM, Marketing & OM Track: Marketing and Operations Management
 Contributed Session: Product Design and Performance Review
 Chair(s): Vidyaranya Gargeya

111-0304 Optimal Subscription Box Services Design: Habituation Exploitation and Exploration

Dawei Jian, Student, University of California Riverside, United States

We study subscription box services design problem, where the provider can shape consumer's taste through habituation. The optimal plan resolves a dynamic tradeoff between habituation exploitation and exploration, screening new information, and optimizing profit. With subscription, the provider benefits with uncertainty leveraging, habituation internalization and consumer taste homogenization.

111-1760 Aligning marketing signal with buyers' needs: Examining the information conveyed by LSPs on their website

Julie Paquette, Associate Professor, Hec Montreal, Canada
 Bruno Lussier, Associate Professor, Hec Montreal, Canada

LSPs must use marketing tools to convey their value proposition. "Does the information provided on LSP websites offer buyers the information they need to carry out their initial selection of LSPs?" A literature review and a content analysis of LSPs website will be performed to answer this research question.

111-0328 Marketing and Operations for Gaining a Competitive Advantage: Is There a Secret Sauce?

Vidyaranya Gargeya, Professor, The University Of North Carolina At Greensboro, United States
 Zhiyong Yang, Professor, The University Of North Carolina At Greensboro, United States

This research illustrates how the integration of marketing and operations functions is undertaken through day-to-day activities with an in-depth analysis of a manufacturing company. The study includes strategically breaking down the performance metrics (e.g., safety management, capital return, meeting demand, new product development) across different functions.

Invited Session

1075

Monday, 10:15 AM - 11:15 AM, Not-for-Profit OM Track: Not-for-Profit Operations Management
 Invited Session: Estimating Demand for Welfare-Improving Operations
 Chair(s): Mark Brennan Peter Zhang

111-0120 Facility Locations in Public Policy

Jonars Spielberg, Student, Massachusetts Institute of Technology, United States
 Bishwapriya Sanyal, Professor, Massachusetts Institute of Technology, United States
 Mark Brennan, Post Doc/Researcher, Massachusetts Institute of Technology, United States

What are the features and trade-offs of networks with facilities sited to explicitly account for relevant local acute and chronic social vulnerability? This study presents evidence using a mix of innovative data sources, including geo-spatial data to estimate demand on facilities, for rural Senegal.

111-0159 Demand learning and supply optimization for last mile transportation in low-income neighborhood

Peter Zhang, Assistant Professor, Carnegie Mellon University, United States

We examine ridership trend of last-mile transportation in low-income neighborhood in the past three years by looking into a detailed dataset including stop-by-stop information, and propose potential ways to improve efficiency amid ridership uncertainty.

111-1168 Predictive and optimization models for food aid distribution planning: The case of South Sudan

Marie-Eve Rancourt Rancourt, Associate Professor, HEC Montréal, Canada

Valérie Bélanger, Student, Cirrelet, Canada

Feyza Sahinyazan, Assistant Professor, Simon Fraser University, Canada

Eeshaan Asaika, Student, HEC Montréal, Canada

We present an estimation and optimization approach to address demand and road uncertainty in food aid logistics networks, which is tested on the case of WFP's operations in South Sudan. The demand is predicted using the Almost Ideal Demand System (AIDS) model and household expenditure survey data.

Invited Session

1079 Monday, 10:15 AM - 11:15 AM, Procurement & Supplier Mgmt Track: Procurement and Supplier Management

Invited Session: **Experimental research for studying buyer-supplier relationships 2**

Chair(s): Henrik Franke Leopold Ried

111-0348 Vertical and horizontal coordination among buyer and its suppliers in NPD projects: A behavioral view

Li Cheng, Assistant Professor, University of Dayton, United States

Qiong Wang, Associate Professor, University of Oklahoma, United States

Buyers often involve multiple suppliers in a NPD project. Often the involved suppliers need to make special investment. We examine how the focal supplier's investment decision and buyer's perception of the supplier changes based on the nature of the relationship between involved suppliers (competitive, complimentary) and the need for coordination.

111-0139 Attachment Style, Perceptions, and Negotiation Behavior

Yi-Su Chen, Associate Professor, University of Michigan-Dearborn, United States

Sam Shen, Associate Professor, Eastern Michigan University, United States

The attachment theory is found to be a valuable theoretical lens. We study the associations between attachment styles and people's negotiation behaviors. We examine the level of competition, or conversely level of cooperation, and its impact on negotiation behaviors, and whether and how attachment styles moderate the associations.

Invited Session

1080 Monday, 10:15 AM - 11:15 AM, Product Innovation & Tech Mgmt Track: Product Innovation and Technology Management

Invited Session: **Cooperative Product/ Service Design 2**

Chair(s): Sara Rezaee Vessal

111-0636 A triple bottom line optimisation model for pricing, assignment and routing of on-demand home services

Debajyoti Biswas, Student, ESSEC Business School, India

Laurent Alfandari, Professor, ESSEC Business School, France

In this paper, we develop a Mixed Integer Linear Programming (MILP) model for pricing, assignment and routing of service professionals for an on-demand home services platform, using multi-modal transport. We consider different objectives based on the triple bottom line - analysing economic, environmental and social perspectives, factoring in surge pricing.

111-0378 Efficient Government Subsidies for Corporate R&D

Jaeseok Lee, Lecturer, The University of Auckland, New Zealand

Timofey Shalpegin, Lecturer, University of Auckland, New Zealand

Tava Olsen, Professor, The University of Auckland, New Zealand

Using a game-theoretic formulation, we study when and how a government subsidy complements or substitutes firms' internal R&D investments. Further, our analytical results provide managerial insights into how competing firms' R&D and commercialization capabilities impact the selection of a subsidy recipient.

Invited Session

1082 Monday, 10:15 AM - 11:15 AM, Retail Operations Track: Retail Operations

Invited Session: **Retail Analytics**

Chair(s): Arzum Akkas

111-1250 Retailer and Manufacturer Perspectives on Trade Deals Involving In-Store Promotional Displays

Oguz Cetin, Assistant Professor, Kelley School of Business, United States

Adam Mersereau, Professor, University of North Carolina Chapel Hill, United States

Ali Parlakturk, Professor, Kenan-Flagler Business School, United States

Manufacturers often provide incentives (trade deals) to induce retailers to feature their own products by displaying and discounting the retail price, but retailer's responses to such incentives differ across products. We study how different manufacturers should design their trade deal offers and how retailers should respond.

111-1572 Nudging Green but Slow Shipping Choices in Online Retail

Yeonjoo Lee, Student, University of Minnesota, United States
Karen Donohue, Professor, University of Minnesota, United States

We provide a comprehensive framework of information strategies for nudging slow but green shipping choices. Experiments test the effect of providing different types of information, with or without financial incentives, on customers' choice of no-rush and consolidated shipping. Results show varying impacts and mechanisms of information in each logistical context.

111-1654 Manager's Labor Scheduling Decisions and Retail Store Performance

Caleb Kwon, Student, Harvard Business School, United States

Briefly, this paper asks the question: "What makes a good manager good?" We argue that a good manager is one who understands and adjusts their labor supply "well" (more on this later). To make this argument, we examine 3.2 million schedule edits made by around 3,800 managers across 950 stores.

Contributed Session

1084	Monday, 10:15 AM - 11:15 AM, Service Operations	Track: Service Operations
	Contributed Session: Service Systems and Networks	
	Chair(s): Mazhar Arikan	

111-0223 Technology Selection in the Hospitality Industry

Jin Fang, Assistant Professor, Clark University, United States
Fariborz Partovi, Professor, Drexel University, United States

This paper is about technology planning in the hotel industry. We propose a prescriptive model to strategically select technologies to invest in the hotel. We demonstrate how our model can be applied to plan technology investments in a hotel with a numerical example.

111-0149 Failure modes in servitization: a process theory

Xichen Sun, Student, Texas A&M University College Station, United States
Rogelio Oliva, Professor, Texas A&M University College Station, United States

The implementation of servitization as a business strategy continues to be a difficult task for manufacturing firms interested in offering product and service bundles. In this study, we construct a system dynamics model to articulate a process theory that explains the recurring failure modes in servitization.

111-0875 The Role of Network Structure in the Efficiency and Resilience of Airline Operations

Vishal Ahuja, Assistant Professor, Southern Methodist University, United States
Yasin Alan, Assistant Professor, Vanderbilt University, United States
Mazhar Arikan, Associate Professor, University of Kansas, United States

We use a passenger-level data set and take advantage of a regulatory change to study the role of an airline's network structure in the efficiency and resilience of its operations. Our analysis reveals that both efficiency and resilience impacts of the repeal show wide variations across the airline's network.

Invited Session

1087	Monday, 10:15 AM - 11:15 AM, Supply Chain Management 1	Track: Supply Chain Management
	Invited Session: Panel discussion - Reconceptualizing Lee's AAA supply chain capabilities	
	Chair(s): Andrea Patrucco Anthony Roath	

111-1853 Panel discussion - Reconceptualizing Lee's AAA supply chain capabilities

Andrea Patrucco, Assistant Professor, Department of Marketing and Logistics, United States
Anthony Roath, Assistant Professor, Auburn University, United States

The session aims to initiate a discussion about how supply chain can increase responsiveness in the future, and how the post-Covid-19 environment is pushing for a reconceptualization of AAA capabilities in supply chains. Possible questions to be discussed during the session (from the perspective and context of post-Covid and disruptions):

- What are the drivers of changes of supply chain operations in the post-Covid business environments?
- How are companies responding to these changes from a structural, strategic and operations position? What are the implications in supply chains?
- What are some of the issues that challenge the ability to develop short-term and long-term capabilities to respond to disruptions and uncertainty? (e.g., channel relationship management; the role of human resource and talent management; global/local regulatory issues; access, use, communication of data and presentation).

Contributed Session

1088	Monday, 10:15 AM - 11:15 AM, Supply Chain Management 2 Track: Supply Chain Management 2 Contributed Session: Emerging Topics in Supply Chains and Platforms 2 Chair(s): Yiwei Huang
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111-0306 Managing Coins for Depository Institutions in Coin Supply Chains

Yiwei Huang, Assistant Professor, Penn State University-Shenango, United States

Yunxia Zhu, Assistant Professor, University of Nebraska Lincoln, United States

Chelliah Sriskandarajah, Professor, Texas A&M University College Station, United States

We investigate critical issues and challenges in Coin Supply Chains(CSC) for both normal and COVID-19 Pandemic conditions. We study a general CSC problem to guarantee enough supply of coins from Depository institutions(DIs) to customers and provide a general optimal or near-optimal operating policy for DIs to optimize their coin network.

111-0424 Research on Government Governance of Supply Chain Based on Platform Empowerment: Considering Industry Association Participation

Tingting Liu, Student, Tianjin University, China

Weihua Liu, Professor, Tianjin University, China

This article considers the strategic behaviors of the three main bodies of Government, Platform, and Industry associations, constructs a tripartite evolutionary game model, and analyzes the independent evolution and stability strategies, distinguishes between the two situations of whether the government is governed or transformed, and proposes platform empowerment linkage mechanism.

111-1444 Impact of Gray Markets on Strategic Channel Choice

Abhishek Srivastava, Assistant Professor, Indian Institute of Management Kashipur, India

In this study, we analyze a manufacturer's strategic channel choice decision and implications for social welfare in the presence of GMs and strategic consumers. We present scenarios under which the presence of GM either can have positive impact or negative impact on the manufacturer and the supply chain

Invited Session

1090	Monday, 10:15 AM - 11:15 AM, Sustainable Operations 1 Track: Sustainable Operations Invited Session: International Development and Innovative Business Models 2 Chair(s): Andre Calmon
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111-1242 The Operations Management of Emergency Medical Services Platforms in Developing Countries

Andre Calmon, Assistant Professor, Scheller College of Business, United States

Gonzalo Romero, Assistant Professor, University of Toronto, Canada

Andreas Kilian Gernert, Post Doc/Researcher, INSEAD, France

Several developing countries do not have reliable Emergency Medical Services (EMS). To fill this gap, startups in places like Kenya and India created innovative platform business models to provide EMS. We model and examine operations strategy challenges related to these business models and provide insights on EMS platform management.

111-0758 Collaborative inventory pre-positioning in Nepal

Jason Acimovic, Associate Professor, Penn State University State College, United States

We talk about the real-world implementation of a collaborative inventory pre-positioning tool for use in Nepal. We discuss the real-world hurdles we faced, and the impact. Learnings can be applied to other projects in similar contexts.

Invited Session

1091	Monday, 10:15 AM - 11:15 AM, Sustainable Operations 2 Track: Sustainable Operations 2 Invited Session: Sustainable City Operations 2 Chair(s): Seulchan Lee
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111-1058 Developing Sustainable MSWM System using Optimization

Smeetasree Pati, Student, Indian Institute of Technology Roorkee, India

Rajat Agrawal, Professor, Indian Institute of Technology Roorkee, India

Sustainability in Municipal Solid Waste Management (MSWM) system is a key of safe living and processing of waste. This study focuses on development of an optimization model that considers sustainability benefits in the system.

111-0356 Environmental Regulation and Efficiency Analysis of Municipal Wastewater Treatment Agencies

Sandra Buzon, Student, Texas A&M University College Station, United States

Andres Jola-Sanchez, Assistant Professor, Mays Business School, Texas A&M University, United States

Neil Geismar, Professor, Texas A&M University College Station, United States

Monday, 10:15 AM - 11:15 AM

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Despite increasing environmental regulation, academics and managers still lack consensus on how such policies affect a firm's efficiency. Therefore, we conduct a frontier efficiency analysis that evaluates the effect of water pollution policy on the operational and environmental performance of wastewater treatment agencies in the U.S.

Monday, 11:30 AM - 12:30 PM

Invited Session

1093	Monday, 11:30 AM - 12:30 PM, 1- Meetings & Programs - All are Welcome	Track: All Plenaries and Special Events: Open to Everyone
	Invited Session: Meet the POM Editors	
	Chair(s): Subodha Kumar Kalyan Singhal	

111-1864 Meet the POM Journal Editors

Subodha Kumar, Professor, Temple University, United States

The Production and Operations Management Journal's departmental editors and the editor-in-chief will be here to meet conference participants in order to discuss any publication issues. All are welcome.

Invited Session

1097	Monday, 11:30 AM - 12:30 PM, Behavioral OM 1	Track: Behavioral Operations Management
	Invited Session: Behavioral Operations and Beyond 1	
	Chair(s): Kay Yut Chen	

111-0861 Trust and Trustworthiness: Experiments with Artificial Intelligence (AI) Agents

Kay Yut Chen, Professor, University of Texas Arlington, United States

Xianghua Wu, Student, University of Texas Arlington, United States

Yan Wu, Associate Professor, San Jose State University, United States

Lei Hua, Assistant Professor, University of Texas At Tyler, United States

We develop deep neural network-based artificial intelligence(AI) agents to participate a series of experiments based upon the trust game. We find that artificial agents can mimic trusting and trustworthy behaviors and produce actions that are close to decisions by human subjects. Conditions that influence levels of trust by AIs are further explored.

111-0883 The Impact of a Streamer in Video Game Price Competition

Kay Yut Chen, Professor, University of Texas Arlington, United States

Jie Zhang, Professor, university of texas at arlington, United States

We develop a game theoretic model to study video game price competition and find pure strategy Nash equilibriums do not exist when a streamer is introduced. Behavioral experiments reveal individuals do not play mixed strategy equilibrium, and we develop a bounded rationality based behavioral model to explain observed decisions.

Contributed Session

1099	Monday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 1	Track: Crisis/Disaster Management and Covid-19 Pandemic
	Contributed Session: Humanitarian Operations and COVID	
	Chair(s): Harwin De Vries	

111-1002 PROCESS MODULARITY, SUPPLY CHAIN RESPONSIVENESS, AND MODERATORS: THE MSF RESPONSE TO THE COVID-19 PANDEMIC

Félicia SAÏAH, Student, Hanken School of Economics, Finland

Diego Vega, Assistant Professor, HUMLOG Institute, Finland

Harwin De Vries, Assistant Professor, Rotterdam School of Management, Netherlands

Joakim Kembro, Senior Lecturer, Lund University, Sweden

This mixed-method research investigates how Doctors without Borders (MSF) maintained supply chain responsiveness during the Covid-19 pandemic by employing process modularity based on a modular architecture, interfaces, and standards. Our analyses also put forward eight moderators, which can affect the impact of process modularity on supply chain responsiveness.

111-0719 Enhancing Humanitarian Disaster Response through Ecosystem Restructuring

Clark Pixton, Assistant Professor, Brigham Young University, United States

Barry Brewer, Associate Professor, New Mexico State University, United States

Corey Billington, Professor, University of Wyoming, United States

Ali Mchiri, Student, New Mexico State University, United States

The pandemic exposed inadequacies in disaster relief supply chains and humanitarian organizations. Demonstrated deficiencies necessitate improving capabilities and better coordinating needed responses. Based on semi-structured interviews with humanitarian organizations responding to the pandemic, we develop a managerial playbook centered on ecosystem restructuring and informed by a mathematical model.

111-0529 Enablers of a robust and resilient humanitarian supply chain during COVID-19 crisis

Sam Roscoe, Associate Professor, University of Sussex, United Kingdom
Manmohan Sodhi, Professor, City University - London, United Kingdom
Byung-Gak Son, Senior Lecturer, Cass Business School, United Kingdom

We seek to identify the enablers of a robust and resilient humanitarian supply chain, which helps organizations function in the extreme conditions created by COVID-19.

Invited Session

1100	Monday, 11:30 AM - 12:30 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Emergency response under crisis and pandemic	
	Chair(s): Pengyi Shi Xiaoquan Gao	

111-0400 Modeling Operational Flow Capacity and Flow Assignment for Fuel Distribution Under Disruptions

Shraddha Rana, Student, Massachusetts Institute of Technology, United States
Justin Boutilier, Assistant Professor, University of Wisconsin-Madison, United States
Jarrod Goentzel, Senior Lecturer, Massachusetts Institute of Technology, United States

We use a discrete event simulation to model the operational flow capacity of downstream fuel distribution networks as a function of terminal, transportation, and fleet interventions. We then model the resource allocation and flow assignment problem under disruption probability. Our results can help policy-makers make informed tactical decision during crisis.

111-0822 Joint Optimization of Real-time Dispatching and Redeployment of Drones and Ambulances for Opioid Overdose Rescue

Xiaoquan Gao, Student, Purdue University, United States
Nan Kong, Associate Professor, Purdue University, United States
Paul Griffin, Professor, Penn State University, United States

We investigate an operational decision problem for optimal integrating bystanders and drones to emergency medical service systems. We formulate an MDP model that captures random emergency vehicle travel times and bystander availability. Our approximate dynamic programming policies can effectively dispatch and redeploy this mixed fleet of emergency vehicles.

111-1349 Capacity Management in a Pandemic With Endogenous Patient Characteristics

Sanyukta Deshpande, Student, University of Illinois at Urbana Champaign, United States
Lavanya Marla, Assistant Professor, University of Illinois at Urbana Champaign, United States
Alan Scheller-Wolf, Professor, Carnegie Mellon University, United States
Siddharth Prakash Singh, Lecturer, UCL School of Management, United Kingdom

We study a medical provider that operates both ED and clinic in the COVID-19 pandemic. Patients of varying severities enter queues comparing wait time, contagion at these facilities. Results suggest the optimal allocation trades off current high-severity patients with preventative care of medium-severity patients who could evolve to higher severity.

Contributed Session

1101	Monday, 11:30 AM - 12:30 PM, Disruptive Tech & OM	Track: Disruptive Technologies and Operations Management
	Contributed Session: Disruptive Technologies and OM Performance	
	Chair(s): Naoum Tsolakis	

111-1365 Reviving Order Online: Effects of the Social Media Mobile Apps as a Marketing Channel

Bin Zhang, Assistant Professor, Texas A&M University College Station, United States
Chenhui Guo, Assistant Professor, Michigan State University, United States
Xi Chen, Professor, Zhejiang University, China
Paulo Goes, Professor, Tulane University, United States

This study aims to quantify the effect of adopting social media mobile app as a new channel on business sales revenue on multiple channels. Our results show that adopting the marketing channel in social media mobile apps will cause the consumers make significantly more reservations from the hotel chain.

111-0970 Investigating Information-based Operations Planning in Human-Robot Synergistic Systems

Naoum Tsolakis, Assistant Professor, International Hellenic University, Greece

This research develops a real-world human-robot synergistic system for high-value crops and explores the role of information towards agricultural operations planning and efficiency. Specifically, the architecture and value of data and information fusion is explored in achieving situation awareness for the robot fleet to optimize harvesting operations.

111-0497 Influencing factors of collaborative innovation performance in smart manufacturing supply chain

Jiahe Hou, Student, Tianjin university, China

Weihua Liu, Professor, Tianjin University, China

Based on the synergetics, the influencing factors and their relationship for collaborative innovation (CI) performance in smart manufacturing supply chain are explored by a multiple case study approach. Four Chinese smart manufacturing firms are investigated and data is collected through the semi-structured interviews with managers.

Contributed Session

1102

Monday, 11:30 AM - 12:30 PM, Economic Models in OM Track: Economic Models in Operations Management

Contributed Session: Retailer and supply chain policies

Chair(s): Yuqi Peng

111-0232 The Role of Supply Chain in Retailer Take-Back: An Empirical Study

Yuqi Peng, Assistant Professor, Salisbury University, United States

Yan Dong, Professor, University of South Carolina, United States

Sriram Venkataraman, Associate Professor, University of South Carolina, United States

Mark Ferguson, Professor, University of South Carolina, United States

While manufacturers are regulated to take back their end-of-life products, retailers are not. From a supply chain perspective, we empirically investigate why retailers have the incentive of offering take-back services. We find that a retailer's take-back decision is largely driven by its suppliers' coordination pursuits and its market competition.

111-0282 Marijuana Supply Chain Safety Compliance: Enforcement, Penalty & Violations

Rahul Nilakantan, Student, Georgia Southern University, United States

Alan Mackelprang, Associate Professor, Georgia Southern University, United States

Deepak Iyengar, Associate Professor, Georgia Southern University, United States

This research examines the relationship between enforcement levels, penalty levels, and violations in the nascent Washington Marijuana industry and uses negative binomial regression on empirical data from retailers in the industry to validate the model. We analyze recent policy changes in the industry that lower penalties and enforcement action.

Invited Session

1105

Monday, 11:30 AM - 12:30 PM, Finance & OM 1

Track: Finance and Operations Management

Invited Session: Fintech and OM-Finance Interface - I

Chair(s): Panos Kouvelis Aaron (Yunzhe) Qiu

111-0938 Operating the Food Security: Inventory Rotation of the Strategic Grain Reserve Facing Price-Sensitive Buyers

Rongjinzi Wang, Student, Peking University, China

Fan Zhang, Student, Peking University, China

Jie Song, Associate Professor, Peking University, China

Governments maintain food security by establishing and operating strategic grain reserves with huge volume. Grain needs to rotate on a regular basis due to the short shelf life. We study the joint rotation and pricing decisions in a dynamic inventory problem facing price-sensitive buyers.

111-1443 Revenue Management with Overbooking and No-Shows: Shoring up Trust between Shippers and Carriers in Maritime Container Shipping

Jacob Feldman, Associate Professor, Washington University St Louis, United States

Panos Kouvelis, Professor, Washington University in St. Louis, United States

Aaron (Yunzhe) Qiu, Student, Washington University St Louis, United States

Fasheng Xu, Assistant Professor, Syracuse University, United States

In this paper, we propose and study a deposit-based booking system that draws inspiration from current practices that have been shown to be successful in mitigating no-show behavior and overbooking in the container shipping industry.

Contributed Session

1107

Monday, 11:30 AM - 12:30 PM, Global Supply Chain Management

Track: Global Supply Chain Management

Contributed Session: Supply Chain Ownership and Reshoring Decisions

Chair(s): Li WAN

111-1265 The role of total cost of ownership in manufacturing reshoring decisions

Jason Woldt, Assistant Professor, University of Wisconsin Oshkosh, United States

Manufacturing location decisions in dynamic operating environments are increasingly complex, and the total cost of ownership (TCO) has been proven to be valuable in helping organizations make comparative location decisions. In this study, we use transaction cost economics to show how organizations act upon the results of the TCO.

111-1672 The impact of industrial system on reshoring decisions of Chinese manufacturing enterprises

Li WAN, Associate Professor, Chongqing University of Posts & Telecom*, China

Li Wan, , ,

The reshoring phenomenon ,i.e., previously offshored operations have been relocated to countries closer to the firm's headquarters or even to the domestic context, has gained increasing attention in recent years. The purpose of this paper is to explore how industrial system affects Chinese manufacturing enterprises' reshoring decisions.

111-0995 Impact of foreign ownership on operational risk: Evidence from emerging markets

Yuxiao Ye, Assistant Professor, Tianjin University, China

Yiting Han, Student, Tianjin University, China

Baofeng Huo, Professor, Tianjin University, China

We use the world bank data in emerging markets to examine the effect of foreign ownership on operational risk. We identify the liability of foreignness and its resulting impact on firm operations. We further examine if organizational routines moderate the relationship.

Contributed Session

1108	Monday, 11:30 AM - 12:30 PM, Healthcare Analytics	Track: Healthcare Analytics
	Contributed Session: Data-Driven Analytics in Healthcare Industry	
	Chair(s): Guang Cheng	

111-1245 COVID-19: A Multiwave SIR Based Model for Learning Waves

Georgia Perakis, Professor, Massachusetts Institute of Technology, United States

Divya Singhvi, Assistant Professor, New York University, United States

Omar Skali Lami, Student, Massachusetts Institute of Technology, United States

Leann Thayaparan, Student, Massachusetts Institute of Technology, United States

We propose a novel multiwave SIR model, which detects and models the waves of the disease. We bring together the SIR model's compartmental structure with a change-point detection martingale process to identify new waves. We find that compared to the traditional SEIRD model, the multiwave model improves MAPE by 15%-25%.

111-1782 Optimal Patient Transfers and Capacity Management for Hospital Systems Under Stress

Felix Parker, Student, Johns Hopkins University, United States

Fardin Ganjkanloo, Student, Johns Hopkins University, United States

Farzin Ahmadi, Student, Johns Hopkins University, United States

Kimia Ghobadi, Assistant Professor, Johns Hopkins University, United States

The COVID-19 pandemic has put a strain on hospitals, requiring them to adapt. We introduce a data-driven optimization framework to inform decisions on patient and resource transfers, and capacity management. We also discuss the practical implementation of this framework in the Johns Hopkins Health System.

111-0664 Extubation Decision Making with Predictive Information for Mechanically Ventilated Patients in ICU

Guang Cheng, Student, National University of Singapore, Singapore

Jingui Xie, Associate Professor, Technical University of Munich, Germany

Zhichao Zheng, Associate Professor, Singapore Management University, Singapore

Haidong Luo, Assistant Director, National University of Singapore, Singapore

Oon Ooi, Cardiothoracic surgeon, National University of Singapore, Singapore

Weaning patients from mechanical ventilators is a critical decision in intensive care units (ICUs). In this study, we aim to improve the current extubation protocols by incorporating predictive information on patient health conditions. We develop a discrete-time Markov decision process with predictions on future information to support extubation decision.

Contributed Session

1109	Monday, 11:30 AM - 12:30 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Contributed Session: Lean Healthcare Management	
	Chair(s): Fernando Naranjo	

111-0404 Preparation for Lean Healthcare Implementation: A Multiple Case Study

David Barrett, Assistant Professor, Ivey Business School, Western University, Canada

Fernando Naranjo, Assistant Professor, Niagara University, United States

Larry Menor, Associate Professor, Ivey Business School, Western University, Canada

We report our findings derived from multiple exploratory case studies of North American hospitals designed to examine the presence of distinctive capabilities contributing to the successful lean healthcare deployments. We highlight how lean preparation and lean implementation capabilities each influence lean competencies, and represent these associations in a conceptual model.

111-0810 Reconciling the simultaneous association of Lean management and innovation with team's quality: A dialectic approach

Eitan Naveh, Professor, Technion Israel Institute of Technology, Israel

Tal Katz-Navon, Professor, Reichman University, Herzliya, Israel, Israel

Noa Ebenstein-Ziv, Manager, -, Israel

Hospitals implement Lean management systems in order to increase efficiency and quality of patient care, yet at the same time are required to be flexible and innovative their services and process. This study empirically explores the simultaneous opposing goals of efficiency and quality and innovation associated with lean implementation.

111-0825 Reduction of surgical cancellations through customization processes using Lean Six Sigma Methodology

Ronaldo Dávila, Doctor, Prevent senior, Brazil
 Caroline Ricciardelli, Doctor, Prevent Senior, Brazil
 Fernando Esteves, Doctor, Prevent Senior, Brazil
 Gabriel Franco, Doctor, Prevent Senior, Brazil
 Roger Godinho, Doctor, Prevent Senior, Brazil

Elective surgeries are responsible for most of the intra-hospital movement. The unexpected cancellation of these procedures leads to waste. The customization of surgical scheduling process is essential to improve the patient's journey. This paper used Lean Six Sigma Methodology and resulted in an absolute reduction of 43% in cancellations.

Contributed Session

1110	Monday, 11:30 AM - 12:30 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Drug-supply chains issues	
	Chair(s): Jingwen Yang	

111-1407 The More Store-brand in Stock the Better? Managing Inventory for Homogeneous Drugs

LAN LUO, Assistant Professor, University of Hartford, United States
 Lizao Zhang, Assistant Professor, (CIF:ESG50985993), United States

We study the inventory strategies for store-brand drugs and other homogeneous branded drugs. The goal is to maximize the overall profit considering the product level competition as well as customer behavior. The study provides insights to store managers when making replenishment decisions.

111-0508 Does Supply Chain Diversion Fuel the Opioid Epidemic? Evidence from a Quasi-Experiment

Jingwen Yang, Student, University of Minnesota, United States

This study investigates whether supply chain diversion of prescription opioids fuels the opioid epidemic. It deploys a quasi-experimental research design to estimate the extent to which the supply chain security shock curbs the opioid abuse and overdoses, therefore contributing to the opioid literature, supply chain risk management, and ethical operations.

111-1031 Forecasting inefficiencies in centralized drug procurement: An analytical model

Prakash Awasthy, Assistant Professor, Indian Institute of Management Nagpur, India
 Tanushree Haldar, Assistant Professor, Indian Institute of Management Nagpur, India
 Rama Papi Reddy Annapureddy, Assistant Professor, Indian Institute of Management Nagpur, India

We analyse the interaction between primary healthcare-units (PHUs) and central drug allocator (CDA) where PHUs forecast demand for various drugs and CDA will aggregate demands from all PHUs to place orders to drug manufacturers. We characterize PHUs' and CDA's decision problem to address possible free-riding and inefficient effort on forecasting.

Invited Session

1111	Monday, 11:30 AM - 12:30 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Invited Session: Technology and Online Platform Innovation 2	
	Chair(s): Yonghua Ji	

111-1514 Using Group Buying to Compete with a Dominant Platform

Ming Fan, Associate Professor, University of Washington, United States

There is a large demographic group with low purchasing powers, especially in developing economies, that have been ignored by large platforms. We develop a game theoretical model to study whether a platform that attracts and serves less affluent customers can be a viable strategy to compete with a dominant platform.

111-1594 Information sharing in the presence of retailer's risk aversion and altruism

He Huang, Professor, Chongqing University, China
 Wenping Li, Student, Chongqing University, China
 Shiyong Li, Associate Professor, Sichuan University, China
 Hongyan Xu, Professor, Chongqing University, China

This study examines how a retailer's risk aversion and altruism affect her demand information sharing decision by constructing a game-theoretic model.

111-1541 Social Media Moderations, User Ban, and Content Generation: Evidence from Zhihu

Xiaohui Zhang, Student, Arizona State University, United States
 Zaiyan Wei, Assistant Professor, Purdue University, United States
 Qianzhou Du, Assistant Professor, Nanjing University, China
 Zhongju Zhang, Professor, Arizona State University, United States

We explore the impacts of user ban, as a social media moderation strategy, on people's content generation behaviors. Our findings show that after lifting a ban period, the user will generate more content. However, such ban-induced contents are of low quality. User-platform relationship plays a moderating role.

Contributed Session

1112	Monday, 11:30 AM - 12:30 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Contributed Session: Miscellaneous Topics in OM 1	
	Chair(s): George Kurian	

111-0010 M&A: Knowledge Relatedness and Financial Performance

George Kurian, Assistant Professor, Eastern New Mexico University, United States

Gajanan Laxmanrao Ganji, Student, University of Texas Arlington, United States

Sridhar Nerur, Professor, University of Texas Arlington, United States

Our paper investigates whether knowledge relatedness in terms of textual similarity between the acquirer and target in a M&A transaction leads to positive post-financial performance for the acquirer in the short and long term.

111-1623 Deep Reinforcement Learning for Capacitated Dynamic Lot-Sizing Problem

Behrang Bootaki, Student, University of Windsor, Canada

Guoqing Zhang, Professor, University of Windsor, Canada

In this research we try to demonstrate the applicability of Deep Reinforcement Learning (DRL) approach to a single-item Capacitated Dynamic Lot-Sizing Problem with constant batch sizes. We are expecting to see promising results both in terms of time and quality of solutions in utilizing DRL for our problem.

111-0024 How Many Buyers Does it Take to Build a Car?

Jan Spreitzenbarth, Student, Mannheim University, Germany

Christoph Bode, Professor, University of Mannheim, Germany

Heiner Stuckenschmidt, Professor, Mannheim University, Germany

Support functions such as procurement may be understood as workflow system. A prototype simulation was built that depending on inputs such as total spend, diversity of requisitions, and company strategy - through the internal delivery organization - is delivering output in terms of cost savings, processing speed, and decision quality.

Invited Session

1114	Monday, 11:30 AM - 12:30 PM, Logistics Management	Track: Logistics Management
	Invited Session: New Approaches in Logistics Management using Analytics	
	Chair(s): Varun Gupta	

111-1412 Point of water distribution location: Case study of water crisis in Flint, Michigan

Azadeh Sadeghi, Assistant Professor, University of Michigan-Flint, United States

Flint water crisis initiated in 2014 when switching the water source from Detroit water supply to Flint River caused lead seepage into the water. This research develops a social cost mathematical model to evaluate relief agencies' respond to the crisis and propose strategies to improve the logistics operations.

111-0467 Platform competition in a two-sided market of smart logistics: technology empowerment and technology diffusion

shangsong long, Student, Tianjin University, China

Weihua Liu, Professor, Tianjin University, China

Based on the Hotelling model, this article studies a duopoly two-sided market. Two smart logistics platforms with different smart levels compete, and make decisions on technology empowerment. We obtain some important findings in the short term and verify them by considering technology diffusion in the long term.

111-1570 Shipping consolidation with different delivery deadlines and modes: an analytical perspective

Varun Gupta, Associate Professor, Penn State Erie, United States

Shipping costs are a major cost to a company and many logistics service providers (e.g.; 3PL providers) promise significant savings on shipping costs to their customers. We explore how 3PL providers can utilize historical shipping data from their customers to implement shipping consolidation in real-time.

Invited Session

1115	Monday, 11:30 AM - 12:30 PM, Manufacturing Operations	Track: Manufacturing Operations
	Invited Session: New Trends and Strategies in Managing Uncertainty in Supply Chains	
	Chair(s): Sammi Tang	

111-0107 Managing Uncertain Supply and Price-Dependent Demand under Lost Sales

Qi Feng, Professor, Purdue University, United States

Lei Li, Student, Purdue University, United States

George Shanthikumar, Professor, Purdue University, United States

We consider a joint inventory-pricing control problem under lost sales and uncertain supply, an important but challenging problem because of non-concave value-to-go functions. We apply the notions of stochastic function to analyze a class of intuitively appealing policies that leads to rich insights into this problem.

111-0160 Data Analysis of Auto Industry Development and Consumer Preferences

Evan Lim, Lecturer, Academia Sinica; College of William & Mary; National Taiwan Normal University, Taiwan, Republic of China

Yu Xia, Associate Professor, College of William and Mary, United States

Using auto industry data from 2004 to 2021 with 1.4 million consumer ratings that we collected, we perform data analysis (clustering, time series, etc.) to investigate the development trends in the auto industry and its interaction with consumer preferences.

111-0991 Flexibility Value of Reshoring under Tariff Uncertainties and Competition

Xiao Tan, Student, Washington University in St. Louis, United States

Panos Kouvelis, Professor, Washington University in St. Louis, United States

Sammi Tang, Associate Professor, University of Miami, United States

Recent global supply chain has witnessed a tremendous shift due to uncertainty caused by trade policies. We study the impact of tariff uncertainties on a global supply chain setting with the existence of competition. The impact of finished good tariff is quite different from that of raw material tariff.

Contributed Session

1116	Monday, 11:30 AM - 12:30 PM, Marketing & OM	Track: Marketing and Operations Management
	Contributed Session: Competition in Operations and Marketing	
	Chair(s): Wenqing Zhang	

111-0489 Green Investment and Marketing

Wenqing Zhang, Associate Professor, University of Minnesota Duluth, United States

Padmanabhan Prasad, Professor, St. Mary'S University, United States

Chia-Hsing Huang, Professor, SolBridge International School of Business, South Korea

Rajesh Rajaguru, Senior Lecturer, University of Tasmania, Australia

The adoption of green technologies by firms may provide benefits that do not exceed the costs of adoption many may seek alternate non-green methods that can provide output that can achieve a satisfying level of strategic performance. We use a game theoretic model to see how social media affect it.

111-1745 Collaborative-Commerce in Operational Research: A Review and Classification of Analytical Modeling Literature

Xiaoyan Xu, Student, The Hong Kong Polytechnic University, China

Tsan-Ming Choi, Associate Professor, National Taiwan University, Taiwan, Republic of China

Sai-Ho Chung, Associate Professor, The Hong Kong Polytechnic University, Hong Kong, China

This paper conducts a comprehensive review of analytical modeling studies in collaborative-commerce (C-Commerce). We establish a novel classification framework for C-Commerce in two dimensions, i.e., application and membership, and examine the critical research issues and key modeling elements following this classification framework. A future research agenda is proposed accordingly.

111-0454 Mode of Store-Brand Introduction and Contracting Sequence under Manufacturer Encroachment

Zhaofang Mao, Professor, Tianjin University, China

Yuqing Han, Student, Tianjin University, China

Zhengbo Liang, Student, Tianjin University, China

We consider a supply chain with a national brand manufacturer, a retailer, and a store brand supplier. The manufacturer sells a national brand through the retailer and direct channel. The retailer has the option to produce or buy a store brand, given manufacturer encroachment and two information structures.

Invited Session

1121	Monday, 11:30 AM - 12:30 PM, Procurement & Supplier Mgmt	Track: Procurement and Supplier Management
	Invited Session: Getting Purchasing and Supply Management Research Published	
	Chair(s): Steven Carnovale Carmela Di Mauro	

111-1636 Publishing in Purchasing and Supply Management

Carmela Di Mauro, Associate Professor, University of Catania, Italy

Steven Carnovale, Assistant Professor, Rochester Institute of Technology, United States

The goal of this session, - chaired by the editors of the Journal of Purchasing and Supply Management, is to discuss future directions of research in the field of PSM. Editors of leading journals and authors of PSM research will participate in the panel and provide insights to prospective authors.

Invited Session

1122	Monday, 11:30 AM - 12:30 PM, Product Innovation & Tech Mgmt	Track: Product Innovation and Technology Management
	Invited Session: Development and Evaluation of New Products and Services 1	
	Chair(s): Tian Chan	

111-1647 The Effect of Perceived Relative Quality on Demand

Hallie Cho, Assistant Professor, Vanderbilt University, United States

This paper explores which products are often considered together using co-occurring product mentions in online customer reviews. Using aggregated customer reviews as a proxy for product quality, we investigate how relative quality amongst similar products influences market shares in a competitive market.

111-0492 Antecedents and Consequences of Adoption of Virtual Try-On Technologies: An Empirical Analysis of Eyewear Industry

Ruifeng Wang, Student, University of Maryland - College Park, United States

Martin Dresner, Professor, University of Maryland, United States

Xiaodan Pan, Assistant Professor, Concordia University, Canada

Our study focuses on two questions. What characteristics lead eyewear companies to adopt virtual try-on? How do different types of virtual try-on affect eyewear companies' sales performance? We find that adoption of virtual try-on is affected by internal and external characteristics and that all types of virtual try-on increase sales.

Invited Session

1124	Monday, 11:30 AM - 12:30 PM, Retail Operations	Track: Retail Operations
	Invited Session: Economics of Retail Distribution Services 1	
	Chair(s): Stanley Lim	

111-0398 Feature-based Pricing and Sales Performance in the Automobile Industry

Hojun Choi, Student, Northwestern University, United States

Ahmet Colak, Assistant Professor, Clemson University, United States

Sina Golara, Assistant Professor, Kennesaw State University, United States

Achal Bassamboo, Professor, Northwestern University, United States

Consumers consider numerous factors before making a purchase decision such as price and brand value. Another major dimension is the features. Features define the functionality aspect and enable consumers to differentiate one product from another. We examine the effects of features information on sales performance in the automobile industry.

111-1001 The Effect of Entry by Third-Party Delivery Platforms on the Sales Distribution of Grocery Chains

Jinjia HUANG, Post Doc/Researcher, Institute of Operations Research and Analytics, National University of Singapore, Singapore

Stanley Lim, Assistant Professor, Michigan State University, United States

M. Serkan Akturk, Assistant Professor, Clemson University, United States

We examine store-level changes in the sales distribution of a traditionally offline grocery chain from the entry of a third-party delivery platform. Leveraging a natural experiment design, our results suggest a concentration of sales distribution after the platform's entry. We explore potential mechanisms and implications on inventory management.

111-1578 Consumer Return Policies in the Presence of Social Learning Under Demand Uncertainty

Bingsheng Liu, Professor, Tianjin University, China

Shi-Hao Zhou, Student, Tianjin University, China

Yinghua Shen, Assistant Professor, Chongqing University, China

Yuan Chen, Associate Professor, Tianjin University, China

Consumers generate product reviews after purchase, reducing valuation uncertainty and product returns. Using the newsvendor model, we investigate how social learning affects a monopolist's optimal price, quantity, and refunds. We show that the monopolist sets higher pricing and quantity, while refunds equal salvage value when the review valence is high.

Invited Session

1126	Monday, 11:30 AM - 12:30 PM, Service Operations	Track: Service Operations
	Invited Session: Service Management in Hospitality, Sports, and Entertainment	
	Chair(s): Sameer Kumar	

111-1386 Self-Scheduling of Peak Events: Bookend Self-Scheduling Behavior and Perceptions of Control as Demand Management

Mike Dixon, Associate Professor, Utah State Univ, United States

Liana Victorino, Associate Professor, University of Victoria, Canada

We present a study that tests the impact that perception of control has on customers choice of the chronological order of their events in service experiences. We find that bookend self-scheduling of peak events can lead to a high degree of demand fluctuation resulting in challenges in capacity management.

111-1006 Innovation Evolution Mechanism of Technology Enterprises Empowering Tourism Industry: A Case Study in China

Lina Zhong, Professor, Beijing International Studies University, China

Jiating Liu, Student, Beijing International Studies University, China

China's information technology promotes the digital change of various industries. This paper chooses Tencent empowering China's tourism industry as case study. This research will use multi-case method, observing Tencent's exchange at different periods and regions. It aims to construct the innovation evolutionary mechanism of technology enterprises empowering the service industry.

111-1102 Conversational Query Implementation of Augmented Analytics Chatbot for Sales Forecasting of Frozen Dessert Pie

Charu Chandra, Professor, College of Business, United States

Sameer Kumar, Professor, (CIF:ESG50985993), United States

Conversational analytics leverages the power of machine learning to train the Chatbot, natural language processing to derive meaning from user text inputs and deep learning allows chatbots to conduct contextual dialogue. Customized to contextualize Query Application to analyze sales forecasts for frozen dessert pie product given price & advertising data.

Contributed Session

1132	Monday, 11:30 AM - 12:30 PM, Sustainable Operations 1	Track: Sustainable Operations
	Contributed Session: Electric Vehicles	
	Chair(s): Lingling shi	

111-0283 Dynamic Pricing of Electric Vehicles under Government Subsidy Phasing Out and Industry Competition

Lingling shi, Student, UT Dallas, United States

Metin Cakanyildirim, Professor, University of Texas Dallas, United States

Suresh Sethi, Professor, University of Texas Dallas, United States

Previous studies show that the consumer subsidy is critical for EV adoptions. However, the subsidy can only be transitional. We model a two-period Stackelberg game between the government and the manufacturer to study the optimal pricing under phasing out subsidy. We also investigate manufacturers' decisions under competition.

111-0936 Scaling Up Electric-Vehicle Battery Swapping Services in Cities: A Joint Location and Repairable-Inventory Model

Wei Qi, Assistant Professor, McGill University, Canada

Yuli Zhang, Associate Professor, Beijing Institute of Technology, China

Ningwei Zhang, Student, Beijing Institute of Technology, China

For the swap-locally charge-centrally electric-vehicle battery swapping system, we propose a joint location and repairable-inventory model to optimize the location, allocation and reorder quantity decisions with a non-convex non-concave objective function. We propose an exact algorithm by exploiting submodularity and combining constraint-generation and parameter-search.

111-0878 Crowdsourcing Electric Mobility for Omni-Sharing Distributed Energy Resources

Wenqing Ai, Student, Tsinghua University, China

Tianhu Deng, Associate Professor, Tsinghua University, China

Wei Qi, Assistant Professor, McGill University, Canada

We fill this gap by studying "omni-sharing," which is a novel business model (beyond "peer-to-peer" energy sharing) that involves crowdsourced shared electric vehicles (CSEVs), thus improving the operational efficiency of distributed energy resources (DERs) and reducing energy prosumers' dependence on stationary energy storage.

Contributed Session

1133	Monday, 11:30 AM - 12:30 PM, Sustainable Operations 2	Track: Sustainable Operations 2
	Contributed Session: Digital Transformation and Sustainability	
	Chair(s): Scott Warren	

111-0172 Unintended Consequences of Technology: Impacts of School Technology Adoption on Operations, Waste, and Organizational Sustainability

Scott Warren, Professor, University of North Texas, United States

Scott Moran, Student, University of North Texas, United States

Kristen McGuffin, Student, University of North Texas, United States

With technological solutions increasingly applied at scale in higher education and K-12 schools, new concerns are emerging. This presentation explores environmental costs of adopting educational technologies related to manufacture, transport, use, and disposal. We present models showing increased energy use, pollution, e-waste, and social consequences.

111-0700 Institutional pressures to adopt Social SCM practices and the supportive role of Digital Transformation

Laura Visintainer Lerman, Student, Universidade Federal Do Rio Grande Do Sul, Brazil

Alejandro Frank, Associate Professor, Universidade Federal Do Rio Grande Do Sul, Brazil

Guilherme Benitez, Student, Federal University of Rio Grande do Sul, Brazil

Paulo de Sousa, Associate Professor, Fundação Dom Cabral, Brazil

Julian Marius Müller, Student, Kufstein University of Applied Sciences, Austria & Friedrich-Alexander-Universit, Austria

Monday, 11:30 AM - 12:30 PM

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More recently, supply chains have suffered disruptions due to the covid-19 pandemic. As a result, pressures from stakeholders have been concerning companies to develop social practices in their supply chains. Therefore, we conducted a survey to understand the potential of digital transformation in endorsing social practices to support economic performance.

111-1399 Process of Delivery of Online Sales in Urban Areas

Paula Penagos-Rodriguez, Student, Universidad Nacional De Colombia, Colombia
Carlos Gonzalez-Calderon, Associate Professor, Universidad Nacional De Colombia, Colombia
John Posada-Henao, Associate Professor, Universidad Nacional De Colombia, Colombia
Marlly Hernandez-Linares, Engineer, INGETEC INGENIERÍA & DISEÑO, Colombia
Diana Moreno-Palacio, Assistant Professor, Universidad Nacional De Colombia, Colombia

This research seeks to analyze the process of delivery of online sales in Medellin, Colombia. it is intended to estimate an economic model that allows to show their effect on mobility. It involves both buyers and sellers online through surveys to identify the variables that influence the problem

Monday, 12:45 PM - 01:45 PM

Invited Session

1136

Monday, 12:45 PM - 01:45 PM, 2- Meetings & Programs - By Invitation Track: All Special Events & Programs: By Invitation

Invited Session: Meeting of POM Senior and Dept. Editors

Chair(s): Kalyan Singhal Subodha Kumar

111-1860 Meeting of POM Senior and Dept. Editors

Kalyan Singhal, Professor, (CIF:ESG50985993), United States
Subodha Kumar, Professor, Temple University, United States

This event is by invitation only. Those invited have received the link to this event in earlier correspondence .

Invited Session

1139

Monday, 12:45 PM - 01:45 PM, Behavioral OM 1 Track: Behavioral Operations Management

Invited Session: Behavioral Operations and Beyond 2

Chair(s): Kay Yut Chen

111-1103 Coping with Digital Extortion

Jingguo Wang, Professor, University of Texas at Arlington, United States
Kay Yut Chen, Professor, University of Texas Arlington, United States
Yan Lang, Student, University of Texas Arlington, United States

We conduct behavioral experiments to study how different strategies (e.g. not to pay attackers), can combat digital extortion. We develop a behavioral model that captures the strategic interactions between attackers and defenders, and find that their control of what ransom to ask for put them in a strong strategic position.

111-1362 Desperateness in Contract Bargaining under Supply Chain Networks

Lei Hua, Assistant Professor, University of Texas At Tyler, United States
Alper Nakkas, Assistant Professor, University of Texas Arlington, United States
Kay Yut Chen, Professor, University of Texas Arlington, United States
Xianghua Wu, Student, University of Texas Arlington, United States

This paper theoretically and behaviorally studies contract bargaining in two-sided supply chain networks and develops a new behavioral theory to explain and predict the contract bargaining behaviors.

Contributed Session

1141

Monday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 1 Track: Crisis/Disaster Management and Covid-19 Pandemic

Contributed Session: Humanitarian Donations and Resources

Chair(s): Jarrod Goentzel

111-1643 Humanitarian Organizations and Common-Pool Resources: An Empirical Analysis

Paulo Goncalves, Associate Professor, University of Lugano, Switzerland
Raquel Froese Buzogany, Student, University of Lugano, Switzerland

Humanitarian operations present a rich background to study common-pool resources as organizations compete for resources and beneficiaries. Based on experiments, this study sheds light on the factors that potentially increase the equality of assistance, including communication, one central coordinating agent, two types of stock-and-flow presentation, and feedback information.

111-1361 System dynamics modeling to support Red Cross (ICRC) market-based humanitarian response

Tristan Downing, Student, Massachusetts Institute of Technology, United States
Jarrod Goentzel, Senior Lecturer, Massachusetts Institute of Technology, United States
Maria Besiou, Professor, Kuehne Logistics University, Germany

Extending ICRC market analysis methodology, we dynamically model human displacement and financial and material flows for supply chain actors to assess market-sensitive interventions and humanitarian response decisions. Using data from Nigeria we show the impact of in-kind aid and cash transfer decisions and the leverage in offering trader credit.

111-1379 To remove unsolicited donations: the worst-case efficiency of contracting

Yusen Ye, Associate Professor, Sichuan University, China
Hong Yan, Professor, The Hong Kong Polytechnic University, China
Gang Hao, Associate Professor, City University of Hong Kong, Hong Kong

Unsolicited in-kind donations would cause material convergence problems and hinder the relief efforts. This paper proposes a framework to measure the worst-case efficiency of simple contracts, which are desired for one-shot transactions of reselling unsolicited donations. The impact of leadership, risk preferences and supply chain structures are discussed in details.

Invited Session

1142	Monday, 12:45 PM - 01:45 PM, Crisis/Disaster Mgmt & Pandemic 2	Track: Crisis/Disaster Management and Covid-19 Pandemic 2
	Invited Session: Structure and Coordination in Humanitarian Response	
	Chair(s): Lauren Bateman Erica Gralla	

111-0246 Resilience in Disaster Relief: The Reconfigurability Trap

Rob Glew, Student, University of Cambridge, United Kingdom
Duncan McFarlane, Professor, University of Cambridge, United Kingdom

The temporary logistics networks responding to crises and disasters must respond to uncertain changes in the environment and beneficiary needs. Therefore, extant research encourages system designs with reconfigurable, modular structures. However, based on case studies during Covid-19, we find evidence of a so-called reconfigurability trap that limits response options.

111-0535 Humanitarian Logistics Coordination during the last decade: From global response to local preparedness

Marianne Jahre, Professor, BI Norwegian Business School, Norway
Leif-Magnus Jensen, Assistant Professor, Jonkoping University, Sweden

Logistics coordination is important in humanitarian operations, but a decade ago few studies had been published. Ten years later, many papers mention the topic. So the picture has changed, but to what extent? This paper discusses how coordination research has followed humanitarian logistics practice and vice versa.

111-0360 Limits of the modular humanitarian architecture in adapting to novel and dynamic contexts

Lauren Bateman, Student, George Washington University, United States
Zoe Szajnarfarber, Professor, George Washington University, United States
Erica Gralla, Associate Professor, George Washington University, United States

Novel emergency types, such as Ebola, have resulted in changes to the current highly flexible modular humanitarian organizational structure. Using case studies from the IFRC, we use systems architecture tools to analyze the changes, identify limits to the current structure, and find that the new structure is more multi-disciplinary.

Invited Session

1144	Monday, 12:45 PM - 01:45 PM, Economic Models in OM	Track: Economic Models in Operations Management
	Invited Session: Innovative Operations Models and Sustainability	
	Chair(s): Andre Calmon Beril Toktay	

111-0639 Cooperative Security Against Interdependent Risks

Sanjith Gopalakrishnan, Assistant Professor, McGill University, Canada
Sriram Sankaranarayanan, Assistant Professor, Indian Institute of Management Ahmedabad, India

Networked firms are exposed to various interdependent risks such as contamination in food supply chains or data breaches in technology networks. We examine whether and when firms can cooperatively secure themselves against such risks via cost-sharing mechanisms that are stable, fair, and implementable via a series of bilateral cost-sharing arrangements.

111-1214 The Operations Management of Bio-Based Carbon Negative Products

Donghyun (Daniel) Choi, Student, Georgia Institute of Technology, United States
Andre Calmon, Assistant Professor, Scheller College of Business, United States
Beril Toktay, Professor, Georgia Institute of Technology, United States

Bio-based carbon-negative products can be an effective options for companies to achieve carbon-neutrality. We model and analyze the impact of such products on a firm's operations - in particular in recycling decisions and carbon offset purchases. Our model is inspired by a real-world company that recently launched a bio-based product.

Invited Session

1147	Monday, 12:45 PM - 01:45 PM, Finance & OM 1	Track: Finance and Operations Management
	Invited Session: Fintech and OM-Finance Interface - II	
	Chair(s): Panos Kouvelis	

111-0474 Deep-Tier Supply Chain Finance through Blockchain: A Small and Medium-Sized Enterprises Perspective

Jing Luo, Student, Katz Business School, United States

Motivated by the decisions facing a global retailer, we propose a blockchain technology based deep-tier supply chain finance platform and develop analytic models to better serve the 1st tier and the deep-tier SMEs' needs, by comparing with traditional supply chain finance system.

111-0735 Managing Operations of a Hog Farm Facing Volatile Markets: Inventory and Selling Strategies

Panos Kouvelis, Professor, Washington University in St. Louis, United States

Ye Liu, Student, Washington University in St. Louis, United States

Aaron (Yunzhe) Qiu, Student, Washington University St Louis, United States

Danko Turcic, Associate Professor, Washington University St Louis, United States

We study a planning problem of a pork producer who decides how many hogs to sell to a meatpacker and on the open market and how many to hold until the following week. We use a dynamic programming approach to derive an optimal policy and a one-period look-ahead heuristic.

Invited Session

1149	Monday, 12:45 PM - 01:45 PM, Global Supply Chain Management	Track: Global Supply Chain Management
	Invited Session: Supply Chain Innovation Management	
	Chair(s): Benjamin George	

111-0941 Relative Knowledge Proportions in R&D Partnerships

Abigail Richard, Assistant Professor, University of Indianapolis, United States

Fred Ahrens, Lecturer, University of Toledo, United States

Benjamin George, Assistant Professor, University of Toledo, United States

It is well-accepted that innovation has the potential to be beneficial to firms, though the innovation process can also be risky. To aid R&D supply chain partners, we examine the consequences of various relative proportions of knowledge on innovation, and the corresponding role of these knowledge proportions in partnerships.

111-1216 Professionals' Preferences for Innovative Work Arrangements: A Study of Contextual Variables in U.S. Labor Markets

Akram Khattab, Student, University of Toledo, United States

Paul Hong, Professor, University of Toledo, United States

Heba Abdel-Rahim, Assistant Professor, University of Toledo, United States

Innovative work system designs such as remote/virtual work arrangements have become a new norm. Research that examines employees' preference for remote work is rather absent in the literature. This study examines the impact of contextual and intrinsic factors on professionals' preferences for different innovative work arrangements for professionals from U.S.A.

Contributed Session

1150	Monday, 12:45 PM - 01:45 PM, Healthcare Analytics	Track: Healthcare Analytics
	Contributed Session: Sustainability Analytics	
	Chair(s): Alok Baveja	

111-1032 Unexpected supply chain impact of prescription opioid policy: Implications for the opioid crisis

Alok Baveja, Professor, Rutgers University, United States

David Dreyfus, Assistant Professor, Rutgers Business School, United States

Eunseok Kim, Student, Rutgers Business School, United States

The opioid crisis excellerated its devastating impact during the COVID-19 pandemic. This study reveals that restricting the supply of prescription opioids increases opioid-related hospitalizations and overdose deaths. This unintuitive result suggests the need for alternative interventions to mitigate the adverse outcomes. Supply chain management implications are discussed.

111-0411 On the Relationship Between Environmental Performance and Product Quality in the Automotive Industry

Donggyu Jeon, Student, Indiana University Bloomington, United States

George Ball, Associate Professor, Indiana University Bloomington, United States

Gilvan Souza, Professor, Indiana University Bloomington, United States

In this study, we empirically examine the impact of firms' initiatives to improve the environmental performance of a vehicle (measured as MPG) on product quality (measured as the number of quality complaints) in the US automotive industry. We provide operational and strategic managerial implications of improving sustainability on product quality.

111-1709 Nudge to Refill? Modeling Consumer Health Risk with Graph Convolutional Networks for Online Pharmaceutical Targeting

Wen Wang, , ,
 Xueming Luo, Professor, Temple University, United States
 Beibei Li, Assistant Professor, Carnegie Mellon University, United States
 Haizhong Wang, Professor, Sun Yat-Sen University, China

To date, little is known about how online pharmacy can scientifically model consumers' health risk using digital footprints and leverage the predicted risk to provide business value. In this study, we propose a novel Attention-based Graph Convolutional Networks (AGCN) to model consumers' health risks and leverage it in targeting strategies.

Invited Session

1151	Monday, 12:45 PM - 01:45 PM, Healthcare OM 1	Track: Healthcare Operations Management
	Invited Session: Current Topics in Healthcare Operations Management	
	Chair(s): Lesley Meng	

111-0391 Searching for the Best Yardstick: Cost of Quality Improvements in the U.S. Hospital Industry

Jong Myeong Lim, Student, Wharton School, United States
 Ken Moon, Assistant Professor, The Wharton School, United States
 Sergei Savin, Professor, University of Pennsylvania, United States

The Hospital Value-Based Purchasing Program is Medicare's implementation of yardstick incentives applied to hospitals in the U.S. Using structural estimation methods, we develop a dynamic equilibrium model and quantify the benefits of modifying the size of the yardstick incentives and of implementing a more focused program tailored to hospital type.

111-0888 Wait time information design for a congested emergency department

Danqi Luo, Assistant Professor, UC San Diego, United States
 Mohsen Bayati, Associate Professor, Stanford University, United States
 Erica Plambeck, Professor, Stanford University, United States

From a field experiment in an Emergency Department (ED), we find providing wait time information improves patients' waiting satisfaction and decreases their likelihood of leaving the ED without treatment (LWBS). A longer wait time increases the likelihood of LWBS, and the effect is magnified when the information is provided.

111-1316 Impact of Hallway Placement on Patient Flow and Quality of Care in the Emergency Department

Arshya Feizi, Student, Boston University, United States
 William Baker, Associate Professor, Boston University, United States

We perform a causal analysis to quantify the impact of hallway placement in the emergency department as a surge-capacity policy on wait times and quality of care. We find that hallway patients experience a lower door-to-doctor-time but longer length-of-stay. We perform a counterfactual analysis to find better hallway usage policies.

Contributed Session

1152	Monday, 12:45 PM - 01:45 PM, Healthcare OM 2	Track: Healthcare Operations Management 2
	Contributed Session: Continuity of Care and Performance	
	Chair(s): Yao Li	

111-1312 The Value of Information Sharing in Regional Healthcare Delivery: Evidence from A Chest Pain Center

Hong Chen, Professor, Shanghai Jiao Tong University, China
 Jian Chen, Professor, Tsinghua University, China
 Yao Li, Assistant Professor, Southern University of Sci and Tech, China
 Changqing Zhong, Associate Chief Physician, Hunan Provincial People's Hospital, China
 Weifen Zhuang, Professor, Xiamen University, China

With STEMI patient transfer records to one regional Chest Pain Center from 2016 to 2020 in China, we estimate the effects of advanced patient information sharing in coordinated healthcare delivery. The results indicate that information sharing significantly reduces the D2B time as well as ED resource utilization.

111-0756 Continuity of Care Increases Clinical Productivity in Primary Care

Harshita Kajaria-Montag, Student, University of Cambridge, United Kingdom
 Michael Freeman, Assistant Professor, INSEAD, Singapore
 Stefan Scholtes, Professor, Cambridge University, United Kingdom

Relational Continuity (RC) in primary care confers many reported benefits, yet it has been in sharp decline. Using multiple econometric techniques on a large consultation-level dataset, we find that RC has a significant productivity benefit, with operational and strategic implications for primary care practices and third-party payers.

Contributed Session

1153	Monday, 12:45 PM - 01:45 PM, Information Systems & OM 1	Track: Information Systems and Operations Management
	Contributed Session: Review Recommendation	
	Chair(s): Ritik Singh	

111-1164 Framework for Affinity-Based Personalized Review Recommendation

Duy Tan Nguyen, Student, HEC Montréal, Canada
 Warut Khern-Am-Nuai, Assistant Professor, McGill University, Canada
 Yossiri Adulyasak, Associate Professor, Hec Montreal, Canada
 Jean-François Cordeau, Professor, Hec Montreal, Canada

Users typically face innumerable online reviews. We hypothesize a conceptual model, run predictive models, and conduct prescriptive analytics to recommend reviews based on the propensity that users will vote for, comment on, or re-read those reviews, thereby increasing user login time, which correlates positively with user affinity for the platform.

111-1209 App Updates in the Presence of Consumer Reviews: A Differential Games Approach

Sumanta Singha, Assistant Professor, Indian School of Business, India
 Subodha Kumar, Professor, Temple University, United States
 Youngjin Kwon, Student, Temple University, United States

Given the proliferation of mobile applications and their importance, app developers struggle with the decision when to update the apps and how much effort to put in. In this work, we study how app developers can update and price their applications in response to consumer reviews and market characteristics.

111-0844 Cross-platform Item Recommendation for Online Social E-Commerce using Graph Neural Network.

Duhita Wani, Student, Indian Institute of Technology Kharagpur, India
 Ritik Singh, Student, Indian Institute of Technology Kharagpur, India
 Prajwal Yadav, Student, Indian Institute of Technology Kharagpur, India
 Debabrata Das, Assistant Professor, National Institute of Industrial Engineering, Mumbai, India
 Manoj Kumar Tiwari, Professor, NITIE, Mumbai, India

This study attempts to mitigate the information overload problem in cross-domain recommendation system, caused due to outburst of social-media, using attention based graph neural network. Encoding the user-item interaction data from traditional and social-media platforms, the mechanism will help e-commerce companies to increase their revenue.

Contributed Session

1154	Monday, 12:45 PM - 01:45 PM, Information Systems & OM 2	Track: Information Systems and Operations Management 2
	Contributed Session: Miscellaneous Topics in OM 2	
	Chair(s): Zhechao Yang	

111-0545 Research on FMEA model of Manufacturing Execution System based on CRITIC and TOPSIS

Chunyan Duan, Associate Professor, Tongji University, China
 Shengxiang Hu, Student, Tongji University, China
 Xiaojun Wu, Associate Professor, Tongji University, China
 Wenjuan Zhang, Associate Professor, Tongji University, China

We proposed an advanced Failure Mode and Effects Analysis (FMEA) model of Manufacturing Execution System (MES) from the perspective of innovative fuzzy analytic hierarchy process, CRITIC method and TOPSIS. The results show the effectiveness of the advanced FMEA model and the theoretical support for the implementation and improvement of MES.

111-0588 Corporate Prediction Markets in Hierarchical Organizations: The Impact of "Yes Men"

Zhechao Yang, Student, University of Florida, United States
 Liangfei Qiu, Associate Professor, University of Florida, United States

An increasing number of companies have implemented corporate prediction markets to support decision-making. Prior literature on corporate prediction markets ignores the effect of "yes men". To fill this gap, we adopt an analytical model to analyze how the "yes men" influence the corporate prediction market outcomes.

111-0620 Model-Robust optimal designs for sequential experiments in the presence of categorical and nested factors

Gautham Sunder, Student, University of Minnesota, United States
 Christopher Nachtsheim, Professor, University of Minnesota, United States

Sequential experimentation is ubiquitously adopted in manufacturing and online settings for product and process optimization. In this study, we propose a model-robust, adaptive-sequential experimentation strategy for the dual goals of response surface estimation and response surface optimization in the presence of categorical and nested experimental factors.

Contributed Session

1156

Monday, 12:45 PM - 01:45 PM, Logistics Management

Track: Logistics Management

Contributed Session: Distribution Management

Chair(s): Yuli Zhang

111-0503 Distributionally robust drone deployment model and solution

Yuli Zhang, Associate Professor, Beijing Institute of Technology, China

Xidong Liang, Student, Beijing Institute of Technology, China

Ruiyi Liu, Student, Beijing Institute of Technology, China

The locations of drone depots are essential in the drone-based delivery system. This paper presents a two-stage distributionally robust drone deployment model when only conditional marginal probability distributions of demands are known. We propose an exact column and row generation algorithm and a submodularity based approximation algorithm.

111-0122 Infectious Waste Management During a Pandemic: A Stochastic Location-Routing Problem with Chance Constrained Time Window

Saeed Tasouji Hassanpour, Student, Memorial University of Newfoundland, Canada

Ginger Ke, Associate Professor, Memorial University of Newfoundland, Canada

Jiahong Zhao, Assistant Professor, Guangdong University of Technology, China

David Tulett, Associate Professor, Memorial University of Newfoundland, Canada

This study develops a mixed-integer linear programming model for the infectious waste location-routing problem with time windows. Applying chance constraints in time windows, we employ a branch-and-price algorithm and an ϵ -constraint technique to solve the resulting complex model, which is validated with a real case study of Wuhan, China.

111-0739 Designing a Fleet Sizing and Composition Optimization Model for Humanitarian Organizations

Sarah Schaumann, Student, Swiss Federal Institute of Technology Zurich, Switzerland

Stephan Wagner, Professor, Swiss Federal Institute of Technology Zurich, Switzerland

Knowing how to set up vehicle fleets to meet the demand for mobility is crucial for organizations to deliver on their missions. Following the design science research method, I develop a user-friendly tool that defines the fleet size and composition and sets an example for impactful research in humanitarian logistics.

Invited Session

1157

Monday, 12:45 PM - 01:45 PM, Manufacturing Operations

Track: Manufacturing Operations

Invited Session: Emerging Topics in Manufacturing and Supply Chain Management

Chair(s): Harihara Natarajan Yunke Li

111-1663 Performance Comparisons of Seru Production Systems with Traditional Assembly Lines

Nallan Suresh, Professor, Suny At Buffalo, United States

This study investigates performance of seru production systems as dual-resource-constrained systems, with varying levels of cross-training, task efficiency and labor assignment rules. The performance impacts relative to traditional assembly lines are investigated utilizing insights from queuing theory followed by simulation investigations to identify the parameter ranges for optimal performance.

111-0003 Evaluating the Implication of Shared Part Dimensions Information for Design Tolerances in Fixed-bin-Selective-Assembly

Toyin Clotey, Associate Professor, Iowa State University, United States

Wc Benton, Professor, Ohio State University, United States

Fixed-bin-selective-assembly (FBSA) is a method for producing high tolerance specification assembly from lower precision components. This study investigates the design tolerance implications of an external supplier sharing dimensional information about shipped parts to be used for FBSA. We develop then evaluate a model with estimated parameters from a US assembler.

111-0649 Research on Risk Evaluation Model of Intelligent Manufacturing Systems Based on Fuzzy VIKOR

Jiajie Wang, Student, Tongji University, China

Chunyan Duan, Associate Professor, Tongji University, China

Haobo Wang, Student, Tongji University, China

Wenjuan Zhang, Associate Professor, Tongji University, China

We propose an improved FMEA model of intelligent manufacturing systems (IMS) for risk evaluation of intelligent manufacturing systems by using combination weight and Fuzzy VIKOR. Results indicate the improved FMEA is a useful and reliable model for risk evaluation of intelligent manufacturing system.

Invited Session

1164

Monday, 12:45 PM - 01:45 PM, Product Innovation & Tech Mgmt

Track: Product Innovation and Technology Management

Invited Session: Development and Evaluation of New Products and Services 2

Chair(s): Tian Chan

111-1458 R&D Portfolio Impact and Novelty

Panos Markou, Assistant Professor, Darden School of Business, United States
Yael Grushka-Cockayne, Professor, Darden School of Business, United States
Raul Chao, Associate Professor, University of Virginia, United States

Using a data set comprising metrics of patent novelty and impact, we explore firms' patenting portfolios. We group inventions into categories of Breakthroughs, Copy Cats, Incremental Inventions, and Unsuccessful Bets, and we assess the relationship of each on firm performance.

111-0280 Computer Vision to Measure Visual Similarity across Artefacts

Egbert Amoncio, Student, Goethe University Frankfurt, Germany
Tian Chan, Assistant Professor, Emory University, United States
Cornelia Storz, Professor, Goethe University Frankfurt, Germany

Similarity plays a fundamental role to which complex artefacts are compared, understood, and conceptualized. We provide a novel methodological framework using computer vision to detect similarity across visual texts. We apply the framework to the set of images of design patents, and show how the measure predicts strategic outcomes.

Invited Session

1166 Monday, 12:45 PM - 01:45 PM, Retail Operations Track: Retail Operations

Invited Session: Economics of Retail Distribution Services 2

Chair(s): Stanley Lim

111-0507 The Impacts of Algorithmic Work Assignment on Fairness Perceptions and Productivity: Evidence from Field Experiments

Bing Bai, Student, Washington University in St. Louis, United States
Hengchen Dai, Assistant Professor, University of California Los Angeles, United States
Dennis Zhang, Associate Professor, Washington University St Louis, United States
Fuqiang Zhang, Professor, Washington University St Louis, United States

We study how algorithmic (vs. human-based) task assignment processes change workers' fairness perceptions and productivity. In two field experiments with Alibaba where warehouse picking workers received tasks either from an algorithm or a human, the algorithmic assignment process was perceived as fairer and yielded productivity gains.

111-0710 The Impact of Workload on Operational Performance: Empirical Evidence from Last-Mile Delivery

Yuchen Liang, Student, National University of Singapore, Singapore
Stanley Lim, Assistant Professor, Michigan State University, United States
Guodong Lyu, Post Doc/Researcher, National University of Singapore, Singapore
Chung-Piaw Teo, Professor, National University of Singapore, Singapore

Leveraging a data set of last-mile deliveries from a parcel operator in Singapore, we examine the impact of drivers' workload on delivery performance. We find that workload exhibits a U-shape relationship with delivery failure rate. Moreover, we identify potential mechanisms through sub-sample analyses, moderating factors, and implications on workload design.

111-1837 Inferring Customers' Consideration Sets from Heat-map Data

zahra ziaei, Student, University of North Carolina at Chapel Hill, United States
Adam Mersereau, Professor, University of North Carolina Chapel Hill, United States
Seyed Emadi, Assistant Professor, University of North Carolina Chapel Hill, United States

We introduce and investigate heatmap data as a new source of information for inferring customers' consideration sets in a brick-and-mortar context. We present an analytical model and an estimation process for inferring consideration sets based on aggregate sales data and heatmap data.

Contributed Session

1174 Monday, 12:45 PM - 01:45 PM, Sustainable Operations 1 Track: Sustainable Operations

Contributed Session: Design Issues in Closed-Loop Supply Chains

Chair(s): Tao Zhou

111-0682 Product Design in Closed-loop Supply Chains with Context Effects

Tao Zhou, Assistant Professor, Hefei University of Technology, China
Yunchuan Liu, Associate Professor, University of Illinois Urbana-Champaign, United States
Kai Li, Professor, Hefei University of Technology, China

This paper studies the impact of retailer remanufacturing and context effect for product design in a closed-supply chain. We design a game-theoretical model. We show that even if the retailer's remanufactured products cannibalize sales of new products, the manufacturer may not change product design to hinder the retailer's remanufacturing operations.

111-0669 Product Launch and Upgrade Decisions in the Presence of Take-back Legislation

Asit Tripathy, Student, Indian Institute of Management Kashipur, India
Sidhartha Padhi, Professor, Indian Institute of Management Kozhikode, India

This study seeks to address the optimal timing to launch the upgraded product in the presence of take-back legislation. Further, this study analyses how the pricing strategy and time to launch the upgraded product affect consumer surplus, environmental impact, and social welfare.

Monday, 12:45 PM - 01:45 PM

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111-0667 Modern Slavery in Circular Economy: Impact of Take-back Legislation in Developing Economies

Asit Tripathy, Student, Indian Institute of Management Kashipur, India

Sidhartha Padhi, Professor, Indian Institute of Management Kozhikode, India

This research aims to study the modern slavery issue in the circular economy. Specifically, we demonstrate how the take-back legislation impacts the practice of modern slavery, considering the low product quality and low-cost labor in developing countries.

Invited Session

1175

Monday, 12:45 PM - 01:45 PM, Sustainable Operations 2

Track: Sustainable Operations 2

Invited Session: **Responsible Operations and Circular Supply Chain**

Chair(s): Wenqing Zhang

111-1003 Business Model Choice under Right-to-Repair: Economic and Environmental Consequences

Ece Gulserliler, Student, INSEAD, France

Atalay Atas, Professor, INSEAD, France

Luk Van Wassenhove, Professor, INSEAD, France

The Right-to-Repair regulations require producers to share (potentially proprietary) information and parts. While the policy aims to prolong product lifetimes, it may inadvertently facilitate cloning, and encourage producers to rethink their business model. We analytically examine the effect of the Right-to-Repair regulations on business model choice and its implications.

111-1037 Enabling the Circular Economy through product information sharing

Beverly Grafe, Student, Hamburg University of Technology, Germany

Moritz Petersen, Professor, Kuehne Logistics University, Germany

Wolfgang Kersten, Professor, Hamburg University of Technology, Germany

Exchanging product-related information among companies is a key enabler for a Circular Economy. This is widely acknowledged but only seldomly practiced. We conduct a qualitative study based on interview data to illuminate why companies refrain from sharing, how they can be incentivized and how information sharing could be organized.

111-1211 Aggregating distributed energy resources: efficiency and market power

Zuguang Gao, Student, University of Chicago, United States

Khaled Alshehri, Assistant Professor, King Fahad University of Petroleum & Minerals, Saudi Arabia

John Birge, Professor, University of Chicago, United States

We study two models to aggregate distributed energy resources (DERs) efficiently. In the first model, a profit-maximizing aggregator procures electricity from DERs, and sells them in the wholesale market. In the second model, the aggregator is fully regulated but guaranteed positive profit. Equilibria in both models achieve maximum social welfare.

Monday, 02:00 PM - 03:00 PM

Invited Session

1184

Monday, 02:00 PM - 03:00 PM, Crisis/Disaster Mgmt & Pandemic 2

Track: Crisis/Disaster Management and Covid-19 Pandemic 2

Invited Session: **POM Special Issue on Pandemics - A Panel Discussion**

Chair(s): Subodha Kumar Nitin Joglekar

111-1848 POM Special Issue on Pandemics - A Panel Discussion

Subodha Kumar, Professor, Temple University, United States

Nitin Joglekar, Associate Professor, Questrom School of Business, United States

Sushil Gupta, Professor, Florida International University, United States

Martin Starr, Emeritus Professor, Rollins College, United States

Edward Anderson, Professor, University of Texas Austin, United States

The editors of the special issue will highlight the accepted papers and comment on potential research opportunities towards planning for and reacting to pandemics from a POM perspective.

Contributed Session

1191

Monday, 02:00 PM - 03:00 PM, Global Supply Chain Management

Track: Global Supply Chain Management

Contributed Session: **Supply Chain Management and Design**

Chair(s): Kefeng Xu

111-0579 Role of Analytics in Manufacturing Supply Chain Management Sustainability: Presenting a Conceptual Framework.

Vatsal Paghadal, Student, University of Toledo, United States

Golnoush Javan, Student, University of Toledo, United States

Breakthroughs in data analytics provide new capabilities to identify unsustainable areas within the supply chain and suggest improvements. This research investigates those avenues and their impact on manufacturing SCM sustainability. We apply text-mining methodology to investigate the extant analytics literature and identify elements in support of manufacturing SCM sustainability.

111-1406 Firm's CSR Violations and Liability of Foreignness

Stewart Miller, Professor, University of Texas at San Antonio, United States

Kefeng Xu, Professor, University of Texas at San Antonio, United States

Sarfraz Khan, Assistant Professor, University of Louisiana at Lafayette, United States

Lorraine Eden, Emeritus Professor, Texas A&M University College Station, United States

This study develops a framework that examines media reactions to negative CSR violations by domestic and foreign firms. Based on expectation violation theory and the liability of foreignness literature, we examine the relationship between firms' CSR reputations and media reaction to negative expectancy violations, as moderated by firm foreignness.

111-0052 Where have all the containers gone? A global shipping containers network problem.

Ankit Sharma, Assistant Professor, Indian Institute of Management Amritsar, India

The world is witnessing a global container shortage after the pandemic stricken world reopened. An acute demand surge that was one sided from Asia towards the rest of the world resulting in shipping traffic jams and container shortages make us rethink our supply chain configuration. We study this aspect.

Contributed Session

1193

Monday, 02:00 PM - 03:00 PM, Healthcare OM 1

Track: Healthcare Operations Management

Contributed Session: Optimization in Healthcare

Chair(s): Saeed Piri

111-1618 Emergency Ridesharing- an Empirical Analysis

Saeed Piri, Assistant Professor, University of Oregon, United States

Michael Pangburn, Professor, University of Oregon, United States

Eren Cil, Associate Professor, University of Oregon, United States

Many patients miss emergency department visits due to transportation challenges. Ridesharing services can reduce healthcare access barriers. In this study, analyzing the rollout of ridesharing companies across time across distinct locations, we find there was a significant increase in the number of ED visits after ridesharing entry, indicating enhanced accessibility.

111-0209 Survival Optimization Problems for Emergency Health Care

Dmitry Anokhin, Student, George Washington University, United States

Miguel Lejeune, Professor, George Washington University, United States

We propose new survival maximization optimization models for the design of an emergency healthcare network in response to out-of-hospital cardiac arrests. The key features of our models are that they explicitly account for the survival chance and endogenize the uncertainty in ambulances' availability and waiting times.

Contributed Session

1194

Monday, 02:00 PM - 03:00 PM, Healthcare OM 2

Track: Healthcare Operations Management 2

Contributed Session: Machine Learning

Chair(s): Wei Xie

111-1755 Knowledge Graph Hybrid Model-based Bayesian Reinforcement Learning for Cell Therapy Manufacturing Process Control

Wei Xie, Assistant Professor, Northeastern University, United States

Hua Zheng, Student, Northeastern University, United States

Keqi Wang, Student, Northeastern University, United States

Zheng Li, senior manager, ?, United States

Driven by the key challenges of cell therapy manufacturing, we create a probabilistic knowledge graph (KG) characterizing the risk- and science-based understanding of biomanufacturing process mechanisms. Then, we introduce KG-based Bayesian RL to guide optimal, robust, and interpretable dynamic decision making.

111-1612 Machine learning applications in 3D bioprinting

Virendra Kumar Verma, Student, National Institute of Industrial Engineering, India

Sachin Kamble, Professor, EDHEC Business School, Roubaix, France- 59100, France

L. Ganapathy, Professor, National Institute of Industrial Engineering, Mumbai, India

Our study reviews ML techniques employed in 3D bioprinting in helping to develop human organ prototypes and will discuss how ML approaches can be employed to enhance 3D bioprinting products. We truly think that ML can radically improve and spark some ideas for 3D bioprinting applications for practitioners and researchers.

111-0214 Legislative Action Driven Interorganizational Learning

Mengyang Pan, Assistant Professor, Southwestern University of Finance and Economics, China

Luv Sharma, Assistant Professor, University of South Carolina, United States

Yingchao Lan, Assistant Professor, University of Nebraska Lincoln, United States

We examined the Centers for Medicare and Medicaid Services (CMS) program aiming at healthcare performance quality improvement. Based on a difference-in-difference design, we found evidence of interorganizational learning and highlighted several contingencies.

Contributed Session

1195 Monday, 02:00 PM - 03:00 PM, Information Systems & OM 1 Track: Information Systems and Operations Management
Contributed Session: **Green Operations Management**
Chair(s): Nastaran Naseri

111-0006 Evolutionary Game Analysis of Carbon Market Development Based on Potential Substitution Effect

Xiaojun Li, Student, Southeast University, China

This paper studies the evolutionary equilibrium strategy of the development of the carbon finance market by constructing an evolutionary game model between the government, enterprises and financial institutions based on potential substitution effects.

111-1552 Batteries in Reserve Electricity Markets

Nastaran Naseri, Student, University of Cologne, Germany

Yashar Ghiassi-Farrokhfal, Associate Professor, Rotterdam School of Management, Netherlands

Wolfgang Ketter, Professor, University of Cologne, Germany

John Collins, Retired, University of Minnesota, United States

The proliferation of variable renewable energy increases the significance of reserve markets, which provide energy flexibility to compensate for supply-demand mismatches on short notice. In this presentation, we identify effective market mechanisms to attract flexible sources such as batteries to participate in reserve markets.

Invited Session

1199 Monday, 02:00 PM - 03:00 PM, Manufacturing Operations Track: Manufacturing Operations
Invited Session: **Data-Driven Inventory Policies and Platform-Based Supply Chain Models**
Chair(s): Shi Chen

111-0781 Inventory and Supply Chain Management with Auto-Delivery Subscription

Junfei Lei, Student, University of Washington, United States

Auto-delivery is a subscription model widely employed in supply chains whereby a supplier (she) delivers products to a buyer (he) according to the buyer's choice of the shipping quantity and frequency. The buyer enjoys a discount for the auto-delivery orders and other benefits including free subscription, cancellation, and shipping.

111-0908 Expanding into On-Demand Markets with On-Demand Warehousing: A Robust Inventory Policy

Soraya Fatehi, Assistant Professor, University of Texas at Dallas, United States

Anyan Qi, Assistant Professor, University of Texas Dallas, United States

We study how firms should offer fast delivery services and expand into on-demand markets utilizing on-demand warehousing. On-demand warehousing enables firms to flexibly access warehouse capacity in different regions, although their availability is not guaranteed. Using robust optimization, we study the firm's optimal inventory policies for serving on-demand markets.

111-1310 Learning and Regret in Supply Chain Contracts

Xuejun Zhao, Student, Purdue University, United States

Ruihao Zhu, Student, MIT, United States

William Haskell, Assistant Professor, Krannert School of Management, United States

We study the supply chain contracting problem where the supplier offers a wholesale price contract to the retailer. We are concerned with the supplier's learning problem under two situations: when the retailer has full knowledge of the demand distribution and when the retailer is also uncertain of the demand distribution.

Contributed Session

1216 Monday, 02:00 PM - 03:00 PM, Sustainable Operations 1 Track: Sustainable Operations
Contributed Session: **Lean, Shop Floor Operations, and Sustainability**
Chair(s): Soh Hyun Chu

111-0885 Lean practices' contributions to sustainable construction supply chain management trends

Phuoc Luong Le, Lecturer, Ho Chi Minh City University of Technology, Vietnam

Duy Tan Nguyen, Student, HEC Montréal, Canada

This paper applies the integrated fuzzy Analytic Hierarchy Process - Delphi approach to identify key sustainable construction supply chain management trends and use them as strategic criteria for the assessment and ranking of lean construction tools. Then, this work proposes a framework for construction managers to apply in each construction phase.

Monday, 02:00 PM - 03:00 PM

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111-1323 Promoting Safety in Shop Floor Environment: Public Relative Performance Feedback and Best Practice Sharing

Soh Hyun Chu, Student, Ohio State University, United States
Elliot Bendoly, Professor, Ohio State University, United States
James Hill, Associate Professor, Ohio State University, United States

While studies suggest possibly complementary relationships between safety and operational efficiency, we know less about the role of the feedback given to both metrics. Implementing a controlled laboratory experiment, we propose that utilizing Public Relative Performance Feedback (RPF) among workers may play a significant role in jointly supporting the two.

111-1498 Synergetic effect of lean practices and sustainable manufacturing practices on environmental performance: A configurational perspective

Graça Silva, Assistant Professor, ISEG- University of Lisbon, Portugal

The purpose of this study is to understand the synergetic effect of lean and green practices on environmental performance. The study used data obtained from 426 manufacturing SMEs and analyze it using fsQCA. Our findings show equifinal configurations of lean and sustainable manufacturing practices that lead to high environmental performance.

Invited Session

1217

Monday, 02:00 PM - 03:00 PM, Sustainable Operations 2 Track: Sustainable Operations 2

Invited Session: Responsible Operations and Circular Supply Chains 3

Chair(s): Wenqing Zhang

111-1200 Becoming a circular supply chain retailer: challenges and opportunities

Eva Ponce-Cueto, Associate Professor, Massachusetts Institute of Technology, United States
Edgar Gutierrez-Franco, Post Doc/Researcher, Massachusetts Institute of Technology, United States
Kellen Betts, Lecturer, Center for Transportation and Logistics, United States
Inma Borrellà, Lecturer, Massachusetts Institute of Technology, United States

This research identifies key challenges and opportunities for circular supply chains in an omnichannel retail. These systems require: (1) reverse logistics capabilities, (2) collaboration between supply chain actors, (3) new approaches to allocating costs and benefits of circular flows, and (4) key metrics to measure economic, social, and environmental impacts.

111-1283 Circular supply chain design framework for reuse

Denis Niedenzu, Student, Cambridge University, United Kingdom
Naoum Tsolakis, Assistant Professor, International Hellenic University, Greece
Mukesh Kumar, Associate Professor, University of Cambridge, United Kingdom

This research study a novel and emerging area of reuse circular supply chain design projects in multinational FMCG Corporations in order to present an understanding on relationships between supply chain design and reuse circularity. This research develops explicit criteria of reuse circular supply chain design involving product, process and location.

Monday, 03:15 PM - 04:15 PM

Invited Session

1224

Monday, 03:15 PM - 04:15 PM, Behavioral OM 2

Track: Behavioral Operations Management 2

Invited Session: Understanding decision maker's behavior in inventory management problems 1

Chair(s): Arunachalam Narayanan

111-0555 Concurrent Sourcing Behavior under Supply Uncertainty and Demand Risk

Thomas Cassidey, Student, University of Alabama Tuscaloosa, United States
Nickolas Freeman, Associate Professor, University of Alabama Tuscaloosa, United States
Sharif Melouk, Professor, University of Alabama Tuscaloosa, United States

We study the sourcing behavior of a concurrent sourcing firm subject to supply disruptions. We use a laboratory experiment to compare behavior with theoretical predictions. We test the effect of differing qualities of decision support tools. We find strong evidence for both under-and over-diversification, depending on firm capacity.

111-0323 Decision bias in multi-echelon supply chains: Risk preference models

Mehrdokht (Medo) Pournader, Senior Lecturer, Melbourne University, Australia
Arunachalam Narayanan, Associate Professor, University of North Texas, United States
Matthew Kebulis, Associate Professor, United States Coast Guard Academy, United States

We investigate whether risk aversion, risk seeking, loss aversion or prospect theory could explain the ordering decisions in multi-echelon supply chains. Using lab experiments, we test our hypotheses in profit maximization and loss minimization settings. Our findings reveal how subjects make ordering decisions under each setting.

Invited Session

1236

Monday, 03:15 PM - 04:15 PM, Healthcare OM 2

Track: Healthcare Operations Management 2

Invited Session: Empirical Operations Management in Healthcare 1

Chair(s): Bradley Staats Umit Celik

111-0207 The Impact of Patient Online Self-Scheduling on Patient Access to Hospital Services

Lesley Meng, Assistant Professor, Yale School of Management, United States

Hummy Song, Assistant Professor, The Wharton School, United States

Christian Terwiesch, Professor, The Wharton School, United States

Recent innovation in healthcare access has led to the launch of online platforms where patients are now able to digitally schedule and manage their own medical appointments within a health system. In this study, we quantify the impact of this innovation on patient access in a large academic hospital.

111-0453 Learning in Drug Shortage Recoveries

Hyun Seok (Huck) Lee, Assistant Professor, KUBS(Korea University Business School), South Korea

Junghee Lee, Assistant Professor, University of Notre Dame, United States

In Joon Noh, Assistant Professor, Penn State University, United States

We investigate whether pharmaceutical manufacturing plants learn from their own drug shortage instances, by considering learnings from (1) completed recovery experiences and (2) on-going recovery processes. We also examine plant characteristics that might affect these learnings. Our findings will have policy implications and contribute to the academic literature on learning.

111-0600 The Impact of Operational Transparency on R&D Novelty

Hanu Tyagi, Student, University of Minnesota, United States

Rachna Shah, Associate Professor, University of Minnesota, United States

Manuel Hermosilla, Assistant Professor, Johns Hopkins University, United States

Does increased operational transparency impact the novelty-quotient of a firm's portfolio? Using carefully compiled data from the drug development process, we show that a policy requiring increased transparency results in firms taking fewer "novel" bets. Instead, firms pursue less risky projects, which reduces the novelty-quotient of a firm's portfolio.

Contributed Session

1258

Monday, 03:15 PM - 04:15 PM, Sustainable Operations 1

Track: Sustainable Operations

Contributed Session: Empirical OM in Emerging Markets

Chair(s): shailly chaurasia chaurasia

111-0479 Freedom from Malnutrition: A Myth or Reality

shailly chaurasia chaurasia, Student, IIMK, India

Rupesh Pati, Professor, IIM kozhikode, India

Sidhartha Padhi, Associate Professor, Indian Institute of Management Kozhikode, India

UNSDG-2030 goal to eliminate malnutrition is challenged due to pandemic-related job loss in economies. The present study recommends various policy interventions to stakeholders under single and multi-objective decision-making scenarios using linear programming models and Augmented ϵ -constraint respectively. We investigate product innovation vis-à-vis conventional Plumpy Nut (recommended protein source for children).

111-1666 Does Geographical Distance Impact Safety Audit in Socially Responsible Operations? An Empirical Study from Bangladesh.

Somak Paul, Assistant Professor, California State University East Bay, United States

Nivedita Sharma, Student, California State University, East Bay, United States

We focus on the effect of geographical distance between a supply-chain consortium and suppliers on the safety audit outcome. Analyzing the data from 1,805 suppliers in Bangladesh we find that distance increases the likelihood of positive safety audit outcome. Furthermore, we note that supplier-size distinctly impacts this probability.

Invited Session

1266

Monday, 04:30 PM - 05:30 PM, Behavioral OM 2

Track: Behavioral Operations Management 2

Invited Session: Understanding decision maker's behavior in inventory management problems 2

Chair(s): Arunachalam Narayanan

111-0533 An empirical examination of experience and learning in Judgemental Forecasting

Neslihan Ozlu, Student, Stockholm Business School, Sweden

We analyse a data set with individual inflation estimates of professional forecasters. Specifically, we investigate the role of historical experiences on judgmental estimates, such as the count of the number of forecasts, ages, and the length of their job experience. We observe a consistent role of previous experiences.

111-0208 Strategic Disposal or Strategic Inventory? Theory and Experiments

Yan Lang, Student, University of Texas Arlington, United States

Jingjie Su, Assistant Professor, Cameron University, United States

Kay Yut Chen, Professor, University of Texas Arlington, United States

Game theoretic analysis of a two-period supply chain setting reveals that, committing to disposal of inventory, rather than carryover to the next period, is preferred, under certain conditions, because of strategic reasons. However, human subject experiments show that individuals choose inventory carryover more often in violation of game theoretic predictions.

Invited Session

1278

Monday, 04:30 PM - 05:30 PM, Healthcare OM 2

Track: Healthcare Operations Management 2

Invited Session: Empirical Operations Management in Healthcare 2

Chair(s): Umit Celik Bradley Staats

111-1098 Impacts of Priority in Deceased-Donor Kidney Allocation: A Regression Discontinuity Analysis

Jiayi Liu, Student, Emory University, United States

Diwas KC, Professor, Emory University, United States

Despite much effort to improve the kidney allocation system by focusing on the supply-side policies, little is known about the demand-side response. This paper examines transplant candidates' behavioral responses to one of the most important supply-side leverages---allocation priority---based on a national policy that assigns priority based on an age cut-off.

111-1725 Inverse Learning to Improve Radiation Therapy Treatment Plans

Farzin Ahmadi, Student, Johns Hopkins University, United States

Kimia Ghobadi, Assistant Professor, Johns Hopkins University, United States

Todd McNutt, Associate Professor, Johns Hopkins University, United States

We develop novel Inverse Learning methods to improve and personalize radiation therapy treatment plans. We discuss two approaches to a) improve existing plans and b) provide insights on how such improvements can help clinicians enhance planning time and effectiveness for future patients.

Track Name	Abbreviation
All Plenaries and Special Events: Open to Everyone	MEET
All Special Events & Programs: By Invitation	MT-INV
All Tutorials, Invited Panels, and Workshops	PTUT
Aviation	AVI
Behavioral Operations Management	BOM
Crisis/Disaster Management and Covid-19 Pandemic	PAND
Disruptive Technologies and Operations Management	DTOM
Economic Models in Operations Management	ECOM
Elections and Political Management	EM
Emerging Topics in Operations Management	ETOM
Finance and Operations Management	FOM
Global Supply Chain Management	GSCM
Healthcare Analytics	HCA
Healthcare Operations Management	HOM
Information Systems and Operations Management	ISOM
Inventory Management	INVM
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Manufacturing Operations	MANU
Marketing and Operations Management	MOM
Not-for-Profit Operations Management	NPOM

Track Name	Abbreviation
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POM in Practice	PPR
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Public Sector Operations Management	PSOM
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561 Saturday, 03:15 PM - 04:15 PM

Lim, Stanley

1166 Monday, 12:45 PM - 01:45 PM
1124 Monday, 11:30 AM - 12:30 PM

Lima, Mateus J do Rego

272 Friday, 04:30 PM - 05:30 PM

Liu, Dehai

675 Sunday, 09:00 AM - 10:00 AM

Liu, Nan

100 Friday, 11:30 AM - 12:30 PM
1066 Monday, 10:15 AM - 11:15 AM

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438 Saturday, 11:30 AM - 12:30 PM
142 Friday, 12:45 PM - 01:45 PM

Liu, Suting

861 Sunday, 02:00 PM - 03:00 PM

Liu, Weihua

1035 Monday, 09:00 AM - 10:00 AM

Liu, Xiaojin

93 Friday, 11:30 AM - 12:30 PM

Liu, Yunchuan

938 Sunday, 04:30 PM - 05:30 PM
850 Sunday, 02:00 PM - 03:00 PM

Liu, Zizheng

429 Saturday, 11:30 AM - 12:30 PM

Löffel, Maximilian

92 Friday, 11:30 AM - 12:30 PM

Long, Xiaoyang

174 Friday, 02:00 PM - 03:00 PM
216 Friday, 03:15 PM - 04:15 PM

Loureiro, Suzana

955 Sunday, 04:30 PM - 05:30 PM

Lu, Feng (Susan)

1025 Monday, 09:00 AM - 10:00 AM
1067 Monday, 10:15 AM - 11:15 AM

Lu, Lauren

331 Friday, 05:45 PM - 06:45 PM

Lucker, Florian

853 Sunday, 02:00 PM - 03:00 PM

M

Mahajan, Arvind

843 Sunday, 02:00 PM - 03:00 PM

Mahavadi, Dhanshyam

871 Sunday, 02:00 PM - 03:00 PM

Majumdar, Mayukh

189 Friday, 02:00 PM - 03:00 PM

Mallipeddi, Rakesh

129 Friday, 12:45 PM - 01:45 PM
339 Saturday, 09:00 AM - 10:00 AM

Mao, Zhaofang

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699 Sunday, 09:00 AM - 10:00 AM
909 Sunday, 03:15 PM - 04:15 PM
3 Friday, 09:00 AM - 10:00 AM

MATSUNO, Kotomichi

459 Saturday, 11:30 AM - 12:30 PM

Mayo, Kevin

39 Friday, 09:00 AM - 10:00 AM

Meena, Purushottam

1059 Monday, 10:15 AM - 11:15 AM

Mehrotra, Mili

191 Friday, 02:00 PM - 03:00 PM
805 Sunday, 12:45 PM - 01:45 PM

Mejia-Argueta, Christopher

783 Sunday, 11:30 AM - 12:30 PM

Melnyk, Steven

563 Saturday, 03:15 PM - 04:15 PM

Meng, Lesley

1151 Monday, 12:45 PM - 01:45 PM

Meyer, Brad

1042 Monday, 09:00 AM - 10:00 AM

Mitchell-Guthrie, Polly

393 Saturday, 10:15 AM - 11:15 AM

Modaresi, Sajad

369 Saturday, 09:00 AM - 10:00 AM

Moritz, Brent

6 Friday, 09:00 AM - 10:00 AM

Mou, Shandong

830 Sunday, 12:45 PM - 01:45 PM

Murali, Karthik

209 Friday, 02:00 PM - 03:00 PM
262 Friday, 04:30 PM - 05:30 PM
251 Friday, 03:15 PM - 04:15 PM

Murphy, Alison

186 Friday, 02:00 PM - 03:00 PM
1068 Monday, 10:15 AM - 11:15 AM

Murthy, Nagesh

874 Sunday, 02:00 PM - 03:00 PM
337 Saturday, 09:00 AM - 10:00 AM

Muthulingam, Suresh

334 Friday, 05:45 PM - 06:45 PM

N

Nadar, Emre

292 Friday, 04:30 PM - 05:30 PM

Nadarajah, Selva

839 Sunday, 12:45 PM - 01:45 PM
1021 Monday, 09:00 AM - 10:00 AM
1063 Monday, 10:15 AM - 11:15 AM
881 Sunday, 02:00 PM - 03:00 PM

Naderpour, Amir

713 Sunday, 09:00 AM - 10:00 AM

Nageswaran, Leela

872 Sunday, 02:00 PM - 03:00 PM
270 Friday, 04:30 PM - 05:30 PM

Nagurney, Anna

176 Friday, 02:00 PM - 03:00 PM

Naik, Prasad

444 Saturday, 11:30 AM - 12:30 PM

Naranjo, Fernando

1109 Monday, 11:30 AM - 12:30 PM

Narayanan, Arunachalam

1224 Monday, 03:15 PM - 04:15 PM
1266 Monday, 04:30 PM - 05:30 PM

Naseri, Nastaran

1195 Monday, 02:00 PM - 03:00 PM

Nasiry, Javad

215 Friday, 03:15 PM - 04:15 PM
257 Friday, 04:30 PM - 05:30 PM
299 Friday, 05:45 PM - 06:45 PM

Natarajan, Harihara

1157 Monday, 12:45 PM - 01:45 PM

Naumov, Sergey

383 Saturday, 10:15 AM - 11:15 AM

Nguyen, Jason

89 Friday, 11:30 AM - 12:30 PM

Nguyen, Tung

132 Friday, 12:45 PM - 01:45 PM

Noh, In Joon

351 Saturday, 09:00 AM - 10:00 AM

Nwafor, Onyi

436 Saturday, 11:30 AM - 12:30 PM

O

Oh, Han

929 Sunday, 04:30 PM - 05:30 PM

Olsder, Wendy

443 Saturday, 11:30 AM - 12:30 PM

Osborn, Beverly

628 Saturday, 04:30 PM - 05:30 PM

Ozbilge, Armagan

377 Saturday, 09:00 AM - 10:00 AM

P

Padovani, Felipe

1026 Monday, 09:00 AM - 10:00 AM

Paine, James

593 Saturday, 04:30 PM - 05:30 PM

Pak, Olga

158 Friday, 12:45 PM - 01:45 PM
200 Friday, 02:00 PM - 03:00 PM

Pal, Raktim

1058 Monday, 10:15 AM - 11:15 AM

Pamukcu, Duygu

554 Saturday, 03:15 PM - 04:15 PM

Paraskevas, John-Patrick

795 Sunday, 11:30 AM - 12:30 PM

Parsa, Iman

427 Saturday, 11:30 AM - 12:30 PM

Pathak, Surya

449 Saturday, 11:30 AM - 12:30 PM
293 Friday, 04:30 PM - 05:30 PM

Patrucco, Andrea

121 Friday, 11:30 AM - 12:30 PM
1087 Monday, 10:15 AM - 11:15 AM

Paul, Anand

233 Friday, 03:15 PM - 04:15 PM
397 Saturday, 10:15 AM - 11:15 AM

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712 Sunday, 09:00 AM - 10:00 AM

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9 Friday, 09:00 AM - 10:00 AM

Peng , Yuqi

1102 Monday, 11:30 AM - 12:30 PM

533 Saturday, 02:00 PM - 03:00 PM

Perdikaki, Olga

242 Friday, 03:15 PM - 04:15 PM

284 Friday, 04:30 PM - 05:30 PM

Phan, Phillip

562 Saturday, 03:15 PM - 04:15 PM

604 Saturday, 04:30 PM - 05:30 PM

Piri, Hossein

144 Friday, 12:45 PM - 01:45 PM

Piri, Saeed

1193 Monday, 02:00 PM - 03:00 PM

Posada-Henao, John

289 Friday, 04:30 PM - 05:30 PM

Pourreza, Saba

607 Saturday, 04:30 PM - 05:30 PM

Powless, Seth

840 Sunday, 12:45 PM - 01:45 PM

Pu, Jingchuan

581 Saturday, 03:15 PM - 04:15 PM

Pullman, Madeleine

405 Saturday, 10:15 AM - 11:15 AM

Pun, Hubert

892 Sunday, 03:15 PM - 04:15 PM

Q

Qiu, Aaron (Yunzhe)

1105 Monday, 11:30 AM - 12:30 PM

Qu, Xinxue

387 Saturday, 10:15 AM - 11:15 AM

R

Rajapakshe, Tharanga

863 Sunday, 02:00 PM - 03:00 PM

Ramachandran, Karthik

870 Sunday, 02:00 PM - 03:00 PM

912 Sunday, 03:15 PM - 04:15 PM

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428 Saturday, 11:30 AM - 12:30 PM

Ratcliffe, Aaron

17 Friday, 09:00 AM - 10:00 AM

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396 Saturday, 10:15 AM - 11:15 AM

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202 Friday, 02:00 PM - 03:00 PM

101 Friday, 11:30 AM - 12:30 PM

244 Friday, 03:15 PM - 04:15 PM

143 Friday, 12:45 PM - 01:45 PM

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36 Friday, 09:00 AM - 10:00 AM

120 Friday, 11:30 AM - 12:30 PM

162 Friday, 12:45 PM - 01:45 PM

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1038 Monday, 09:00 AM - 10:00 AM

1080 Monday, 10:15 AM - 11:15 AM

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356 Saturday, 09:00 AM - 10:00 AM

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506 Saturday, 02:00 PM - 03:00 PM

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541 Saturday, 02:00 PM - 03:00 PM

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1087 Monday, 10:15 AM - 11:15 AM

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816 Sunday, 12:45 PM - 01:45 PM

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1048 Monday, 09:00 AM - 10:00 AM

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375 Saturday, 09:00 AM - 10:00 AM

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338 Saturday, 09:00 AM - 10:00 AM

380 Saturday, 10:15 AM - 11:15 AM

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566 Saturday, 03:15 PM - 04:15 PM

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1030 Monday, 09:00 AM - 10:00 AM

1072 Monday, 10:15 AM - 11:15 AM

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30 Friday, 09:00 AM - 10:00 AM

Roy, Dwaipayan

829 Sunday, 12:45 PM - 01:45 PM

1039 Monday, 09:00 AM - 10:00 AM

S

Saberi, Sara

417 Saturday, 10:15 AM - 11:15 AM

Sahare, Mamta

231 Friday, 03:15 PM - 04:15 PM

Sahin, Funda

946 Sunday, 04:30 PM - 05:30 PM

463 Saturday, 12:45 PM - 01:45 PM

631 Saturday, 05:45 PM - 06:45 PM

SARKAR, PIYAL

37 Friday, 09:00 AM - 10:00 AM

Seifert, Lysann

511 Saturday, 02:00 PM - 03:00 PM

Sengul Orgut, Irem

781 Sunday, 11:30 AM - 12:30 PM

Seshadri, Sridhar

811 Sunday, 12:45 PM - 01:45 PM

686 Sunday, 09:00 AM - 10:00 AM

769 Sunday, 11:30 AM - 12:30 PM

423 Saturday, 11:30 AM - 12:30 PM

Sethuraman, Nagarajan

136 Friday, 12:45 PM - 01:45 PM

178 Friday, 02:00 PM - 03:00 PM

Sezer, Furkan

934 Sunday, 04:30 PM - 05:30 PM

Shan, Xi

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915 Sunday, 03:15 PM - 04:15 PM

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87 Friday, 11:30 AM - 12:30 PM
423 Saturday, 11:30 AM - 12:30 PM
759 Sunday, 11:30 AM - 12:30 PM

Sharma, Neha

12 Friday, 09:00 AM - 10:00 AM

shi, Lingling

1132 Monday, 11:30 AM - 12:30 PM

Shi, Pengyi

102 Friday, 11:30 AM - 12:30 PM
1100 Monday, 11:30 AM - 12:30 PM
438 Saturday, 11:30 AM - 12:30 PM
605 Saturday, 04:30 PM - 05:30 PM

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455 Saturday, 11:30 AM - 12:30 PM

Sinchaisri, Park

96 Friday, 11:30 AM - 12:30 PM
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1153 Monday, 12:45 PM - 01:45 PM

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896 Sunday, 03:15 PM - 04:15 PM

Singhal, Kalyan

715 Sunday, 10:15 AM - 11:15 AM
1136 Monday, 12:45 PM - 01:45 PM
1093 Monday, 11:30 AM - 12:30 PM

Singhvi, Somya

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703 Sunday, 09:00 AM - 10:00 AM

Slaugh, Vincent

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Sodero, Annibal

956 Sunday, 04:30 PM - 05:30 PM

Sodhi, Manmohan

853 Sunday, 02:00 PM - 03:00 PM
885 Sunday, 03:15 PM - 04:15 PM

Sommer, Svenja

324 Friday, 05:45 PM - 06:45 PM

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772 Sunday, 11:30 AM - 12:30 PM
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Song, Sining

617 Saturday, 04:30 PM - 05:30 PM

Song, Xueze

191 Friday, 02:00 PM - 03:00 PM
805 Sunday, 12:45 PM - 01:45 PM

Souyris, Sebastian

1015 Monday, 09:00 AM - 10:00 AM
1057 Monday, 10:15 AM - 11:15 AM

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911 Sunday, 03:15 PM - 04:15 PM

Staats, Bradley

1236 Monday, 03:15 PM - 04:15 PM
1278 Monday, 04:30 PM - 05:30 PM

Stoll, Anna

432 Saturday, 11:30 AM - 12:30 PM
180 Friday, 02:00 PM - 03:00 PM

Sun, Xichen

533 Saturday, 02:00 PM - 03:00 PM

Sunar, Nur

460 Saturday, 11:30 AM - 12:30 PM

Swink, Morgan

320 Friday, 05:45 PM - 06:45 PM

T

Ta, Ha

192 Friday, 02:00 PM - 03:00 PM

TALAY, ISILAY

155 Friday, 12:45 PM - 01:45 PM

Tan Erciyes, Burcu

523 Saturday, 02:00 PM - 03:00 PM
559 Saturday, 03:15 PM - 04:15 PM

Tang, Christopher

213 Friday, 03:15 PM - 04:15 PM

Tang, Ping

943 Sunday, 04:30 PM - 05:30 PM

Tang, Sammi

1115 Monday, 11:30 AM - 12:30 PM

Tekriwal, Medha

775 Sunday, 11:30 AM - 12:30 PM

Teller, Jessica

825 Sunday, 12:45 PM - 01:45 PM

Tereyagoglu, Necati

237 Friday, 03:15 PM - 04:15 PM
195 Friday, 02:00 PM - 03:00 PM

Thraves, Charles

221 Friday, 03:15 PM - 04:15 PM
263 Friday, 04:30 PM - 05:30 PM

Thurer, Matthias

698 Sunday, 09:00 AM - 10:00 AM
362 Saturday, 09:00 AM - 10:00 AM
404 Saturday, 10:15 AM - 11:15 AM

Tian, Zhili

240 Friday, 03:15 PM - 04:15 PM
1065 Monday, 10:15 AM - 11:15 AM
282 Friday, 04:30 PM - 05:30 PM

Tiwari, Vikram

226 Friday, 03:15 PM - 04:15 PM
268 Friday, 04:30 PM - 05:30 PM

Toktay, Beril

1144 Monday, 12:45 PM - 01:45 PM

Tortorella, Guilherme Tortorella

782 Sunday, 11:30 AM - 12:30 PM

Trapp, Andrew

806 Sunday, 12:45 PM - 01:45 PM

Trindade, Maria

798 Sunday, 11:30 AM - 12:30 PM

Tripathi, Arvind

565 Saturday, 03:15 PM - 04:15 PM

Tripathi, Muktak Krishnachandra

188 Friday, 02:00 PM - 03:00 PM

Tripathy, Manish

388 Saturday, 10:15 AM - 11:15 AM

Tsolakis, Naoum

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U

Udenio, Maximiliano

923 Sunday, 03:15 PM - 04:15 PM

Urrea, Gloria

91 Friday, 11:30 AM - 12:30 PM

V

Valdes, Leon

1013 Monday, 09:00 AM - 10:00 AM

1055 Monday, 10:15 AM - 11:15 AM

551 Saturday, 03:15 PM - 04:15 PM

Valimoradi, Reza

903 Sunday, 03:15 PM - 04:15 PM

Vastag, Gyula

258 Friday, 04:30 PM - 05:30 PM

Vedantam, Aditya

23 Friday, 09:00 AM - 10:00 AM

544 Saturday, 02:00 PM - 03:00 PM

586 Saturday, 03:15 PM - 04:15 PM

Venkataraman, Ashwin

369 Saturday, 09:00 AM - 10:00 AM

411 Saturday, 10:15 AM - 11:15 AM

Venkataraman, Sriram

237 Friday, 03:15 PM - 04:15 PM

1024 Monday, 09:00 AM - 10:00 AM

195 Friday, 02:00 PM - 03:00 PM

Visser, Henry

610 Saturday, 04:30 PM - 05:30 PM

Vojdani, Nina

526 Saturday, 02:00 PM - 03:00 PM

568 Saturday, 03:15 PM - 04:15 PM

W

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711 Sunday, 09:00 AM - 10:00 AM

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854 Sunday, 02:00 PM - 03:00 PM

Wang, Lina

358 Saturday, 09:00 AM - 10:00 AM

Wang, Mengxin

243 Friday, 03:15 PM - 04:15 PM

Wang, Qili

539 Saturday, 02:00 PM - 03:00 PM

Wang, Yimin

94 Friday, 11:30 AM - 12:30 PM

Wang, Yulan

780 Sunday, 11:30 AM - 12:30 PM

699 Sunday, 09:00 AM - 10:00 AM

909 Sunday, 03:15 PM - 04:15 PM

Wang, Yunfan

950 Sunday, 04:30 PM - 05:30 PM

Wang, Zepeng

569 Saturday, 03:15 PM - 04:15 PM

Wang, Zhe

555 Saturday, 03:15 PM - 04:15 PM

Warren, Scott

1133 Monday, 11:30 AM - 12:30 PM

Wei, Lai

117 Friday, 11:30 AM - 12:30 PM

159 Friday, 12:45 PM - 01:45 PM

Wei, Shuang

447 Saturday, 11:30 AM - 12:30 PM

Wei, Wei

208 Friday, 02:00 PM - 03:00 PM

250 Friday, 03:15 PM - 04:15 PM

Weissshuhn, Sandria

765 Sunday, 11:30 AM - 12:30 PM

Woldt, Jason

275 Friday, 04:30 PM - 05:30 PM

Wu, Chou-Chun

564 Saturday, 03:15 PM - 04:15 PM

Wu, Jianghua

869 Sunday, 02:00 PM - 03:00 PM

Wu, Qi

224 Friday, 03:15 PM - 04:15 PM

X

Xia, Yu

122 Friday, 11:30 AM - 12:30 PM

164 Friday, 12:45 PM - 01:45 PM

Xiao, Guang

374 Saturday, 09:00 AM - 10:00 AM

Xie, Heng (John)

269 Friday, 04:30 PM - 05:30 PM

Xie, Si

1027 Monday, 09:00 AM - 10:00 AM

Xie, Wei

1194 Monday, 02:00 PM - 03:00 PM

521 Saturday, 02:00 PM - 03:00 PM

Xu, Eric

787 Sunday, 11:30 AM - 12:30 PM

Xu, Fasheng

517 Saturday, 02:00 PM - 03:00 PM

Xu, Kefeng

1191 Monday, 02:00 PM - 03:00 PM

Xu, Xun

98 Friday, 11:30 AM - 12:30 PM

Y

YADAV, SACHIN

38 Friday, 09:00 AM - 10:00 AM

Yagci Sokat, Kezban

848 Sunday, 02:00 PM - 03:00 PM

Yan, Julia

705 Sunday, 09:00 AM - 10:00 AM

Yang, Jingwen

1110 Monday, 11:30 AM - 12:30 PM

814 Sunday, 12:45 PM - 01:45 PM

Yang, Mingwen

33 Friday, 09:00 AM - 10:00 AM

Yang, Nan

598 Saturday, 04:30 PM - 05:30 PM

Yang, Zhechao

1046 Monday, 09:00 AM - 10:00 AM

1154 Monday, 12:45 PM - 01:45 PM

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Yayla-Kullu, Muge

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Yazdani, Alireza

116 Friday, 11:30 AM - 12:30 PM

Yazici, Hulya

882 Sunday, 02:00 PM - 03:00 PM

Yilmaz, Ovunc

789 Sunday, 11:30 AM - 12:30 PM

831 Sunday, 12:45 PM - 01:45 PM

Yoshizaki, Hugo

553 Saturday, 03:15 PM - 04:15 PM

Yu, Jiahao

869 Sunday, 02:00 PM - 03:00 PM

Yu, Jiayi

364 Saturday, 09:00 AM - 10:00 AM

406 Saturday, 10:15 AM - 11:15 AM

Z

Zepeda, E. David

227 Friday, 03:15 PM - 04:15 PM

Zhai, Chengcheng

1016 Monday, 09:00 AM - 10:00 AM

zhang, jiayuan

680 Sunday, 09:00 AM - 10:00 AM

Zhang, Aiqi

545 Saturday, 02:00 PM - 03:00 PM

Zhang, Dennis

583 Saturday, 03:15 PM - 04:15 PM

625 Saturday, 04:30 PM - 05:30 PM

Zhang, Han

682 Sunday, 09:00 AM - 10:00 AM

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328 Friday, 05:45 PM - 06:45 PM

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125 Friday, 11:30 AM - 12:30 PM

167 Friday, 12:45 PM - 01:45 PM

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1075 Monday, 10:15 AM - 11:15 AM

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442 Saturday, 11:30 AM - 12:30 PM

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1175 Monday, 12:45 PM - 01:45 PM

1217 Monday, 02:00 PM - 03:00 PM

1116 Monday, 11:30 AM - 12:30 PM

Zhang, Xiao

789 Sunday, 11:30 AM - 12:30 PM

831 Sunday, 12:45 PM - 01:45 PM

Zhang, Yinghao

215 Friday, 03:15 PM - 04:15 PM

299 Friday, 05:45 PM - 06:45 PM

Zhang, Yingxin

439 Saturday, 11:30 AM - 12:30 PM

Zhang, Yuli

1156 Monday, 12:45 PM - 01:45 PM

Zhang, Zhihao

681 Sunday, 09:00 AM - 10:00 AM

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3 Friday, 09:00 AM - 10:00 AM

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Zhao, Xuying

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759 Sunday, 11:30 AM - 12:30 PM

Zhao, Yuyang

514 Saturday, 02:00 PM - 03:00 PM

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913 Sunday, 03:15 PM - 04:15 PM

Zhou, Bo

612 Saturday, 04:30 PM - 05:30 PM

Zhou, Tao

1174 Monday, 12:45 PM - 01:45 PM

Zhu, Yunxia

400 Saturday, 10:15 AM - 11:15 AM

Zhuang, Weifen

941 Sunday, 04:30 PM - 05:30 PM

285 Friday, 04:30 PM - 05:30 PM

Zhuang, Yanling

439 Saturday, 11:30 AM - 12:30 PM

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554 Saturday, 03:15 PM - 04:15 PM

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2. Find your name.
3. Note the Session Number(s), Date and Time.
4. Go to the Date and Time in the Presentation Schedule*. The Presentation Schedule is arranged in chronological order.
5. When you find the Date and Time, go to your Session Number. The session numbers are arranged in ascending order.
6. When you find the session number, look up your name and the session information.

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abdelakher mohamed, haytham

704 Sunday, 09:00 AM - 10:00 AM

Abdel-Rahim, Heba

1059 Monday, 10:15 AM - 11:15 AM

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Abdulla, Huseyn

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275 Friday, 04:30 PM - 05:30 PM

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1091 Monday, 10:15 AM - 11:15 AM

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830 Sunday, 12:45 PM - 01:45 PM

Ahmelich, Ashley

1067 Monday, 10:15 AM - 11:15 AM

Ahn, Kyung Seon

240 Friday, 03:15 PM - 04:15 PM

Ahrens, Fred

1149 Monday, 12:45 PM - 01:45 PM

Ahuja, Vishal

772 Sunday, 11:30 AM - 12:30 PM

1084 Monday, 10:15 AM - 11:15 AM

Ai, Wenqing

1132 Monday, 11:30 AM - 12:30 PM

Ai, Xingzheng

197 Friday, 02:00 PM - 03:00 PM

Aigbedo, Henry

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386 Saturday, 10:15 AM - 11:15 AM

Aik, Joel

100 Friday, 11:30 AM - 12:30 PM

Aishvarya, Aishvarya

162 Friday, 12:45 PM - 01:45 PM

413 Saturday, 10:15 AM - 11:15 AM

Ajjuguttu, Maneesh Reddy

402 Saturday, 10:15 AM - 11:15 AM

Ajrawat, Kiren

385 Saturday, 10:15 AM - 11:15 AM

Akhavan, Ali

887 Sunday, 03:15 PM - 04:15 PM

Akhavan, Raha

903 Sunday, 03:15 PM - 04:15 PM

Akkas, Arzum

237 Friday, 03:15 PM - 04:15 PM

Aksu, Ridvan

1031 Monday, 09:00 AM - 10:00 AM

Akturk, M. Serkan

400 Saturday, 10:15 AM - 11:15 AM

788 Sunday, 11:30 AM - 12:30 PM

872 Sunday, 02:00 PM - 03:00 PM

1040 Monday, 09:00 AM - 10:00 AM

1124 Monday, 11:30 AM - 12:30 PM

Alan, Yasin

1046 Monday, 09:00 AM - 10:00 AM

1084 Monday, 10:15 AM - 11:15 AM

Alfandari, Laurent

1080 Monday, 10:15 AM - 11:15 AM

Alfonso, Tais

880 Sunday, 02:00 PM - 03:00 PM

Ali, Abdilahi

457 Saturday, 11:30 AM - 12:30 PM

Ali, Syed

457 Saturday, 11:30 AM - 12:30 PM

Alibeiki, Hedayat

941 Sunday, 04:30 PM - 05:30 PM

Allen, Robert

773 Sunday, 11:30 AM - 12:30 PM

Allon, Gad

12 Friday, 09:00 AM - 10:00 AM

173 Friday, 02:00 PM - 03:00 PM

Almeida, Maria Fernanda

269 Friday, 04:30 PM - 05:30 PM

Almirall, Esteve

604 Saturday, 04:30 PM - 05:30 PM

Alom, Safiul

566 Saturday, 03:15 PM - 04:15 PM

Aloysius, John

40 Friday, 09:00 AM - 10:00 AM

200 Friday, 02:00 PM - 03:00 PM

460 Saturday, 11:30 AM - 12:30 PM

Author Index

Alp, Osman

390 Saturday, 10:15 AM - 11:15 AM
923 Sunday, 03:15 PM - 04:15 PM

Alptekinoglu, Aydin

242 Friday, 03:15 PM - 04:15 PM
369 Saturday, 09:00 AM - 10:00 AM
460 Saturday, 11:30 AM - 12:30 PM
788 Sunday, 11:30 AM - 12:30 PM
808 Sunday, 12:45 PM - 01:45 PM

Alshehri, Khaled

1175 Monday, 12:45 PM - 01:45 PM

Altamirano, Renato

175 Friday, 02:00 PM - 03:00 PM

Altay, Nezih

848 Sunday, 02:00 PM - 03:00 PM

Althenayyan, Abdullah

509 Saturday, 02:00 PM - 03:00 PM

ALTINPULLUK, Deniz

569 Saturday, 03:15 PM - 04:15 PM

Altug, Mehmet

32 Friday, 09:00 AM - 10:00 AM

Alvarado-Vargas, Marcelo

561 Saturday, 03:15 PM - 04:15 PM

Alvarez, Carlos

772 Sunday, 11:30 AM - 12:30 PM

Alzaidan, Abdullatif

1057 Monday, 10:15 AM - 11:15 AM

Amin, M A Shariful

428 Saturday, 11:30 AM - 12:30 PM

Amini, Mohammad

124 Friday, 11:30 AM - 12:30 PM

Amoncio, Egbert

1164 Monday, 12:45 PM - 01:45 PM

Amorim, Pedro

578 Saturday, 03:15 PM - 04:15 PM

Anand, Gopesh

908 Sunday, 03:15 PM - 04:15 PM

Anaparthi, V Krishna

419 Saturday, 10:15 AM - 11:15 AM

Anderson, David

244 Friday, 03:15 PM - 04:15 PM

Anderson, Edward

603 Saturday, 04:30 PM - 05:30 PM

Anderson, Edward

104 Friday, 11:30 AM - 12:30 PM
523 Saturday, 02:00 PM - 03:00 PM
603 Saturday, 04:30 PM - 05:30 PM
1184 Monday, 02:00 PM - 03:00 PM

Andic-Mortan, Esen

607 Saturday, 04:30 PM - 05:30 PM

Andreeva, Mariya

907 Sunday, 03:15 PM - 04:15 PM

Andritsos, Dimitrios

911 Sunday, 03:15 PM - 04:15 PM

Angelus, Alexandar

685 Sunday, 09:00 AM - 10:00 AM
797 Sunday, 11:30 AM - 12:30 PM
863 Sunday, 02:00 PM - 03:00 PM

Animesh, Animesh

565 Saturday, 03:15 PM - 04:15 PM

Anjomshoe, Ali

596 Saturday, 04:30 PM - 05:30 PM

Annan, Simon

29 Friday, 09:00 AM - 10:00 AM

Annapureddy, Rama Papi Reddy

1110 Monday, 11:30 AM - 12:30 PM

Anokhin, Dmitry

1193 Monday, 02:00 PM - 03:00 PM

Ansari, Sina

437 Saturday, 11:30 AM - 12:30 PM

Antony, Jiju

908 Sunday, 03:15 PM - 04:15 PM

Anupindi, Ravi

857 Sunday, 02:00 PM - 03:00 PM

Aouad, Ali

438 Saturday, 11:30 AM - 12:30 PM
916 Sunday, 03:15 PM - 04:15 PM

Appolloni, Andrea

533 Saturday, 02:00 PM - 03:00 PM

Aragon, Rafael Escamilla

368 Saturday, 09:00 AM - 10:00 AM
1013 Monday, 09:00 AM - 10:00 AM

Aral, Karca

527 Saturday, 02:00 PM - 03:00 PM

Arbabian, Mohammad

595 Saturday, 04:30 PM - 05:30 PM

Arcila-Osejo, Liz

393 Saturday, 10:15 AM - 11:15 AM

Arhavbarien, Joseph

713 Sunday, 09:00 AM - 10:00 AM

Arif, Salman

601 Saturday, 04:30 PM - 05:30 PM

Arikan, Mazhar

394 Saturday, 10:15 AM - 11:15 AM
1084 Monday, 10:15 AM - 11:15 AM

Arnette, Andrew

679 Sunday, 09:00 AM - 10:00 AM

Arora, Priyank

208 Friday, 02:00 PM - 03:00 PM
703 Sunday, 09:00 AM - 10:00 AM
1016 Monday, 09:00 AM - 10:00 AM
1033 Monday, 09:00 AM - 10:00 AM

Arora, Stuti

POMS 2022 Program Book - 321

628 Saturday, 04:30 PM - 05:30 PM

Aros-Vera, Felipe

511 Saturday, 02:00 PM - 03:00 PM

Arreola-Risa, Antonio

459 Saturday, 11:30 AM - 12:30 PM

Artes, Rinaldo

568 Saturday, 03:15 PM - 04:15 PM

Arts, Joachim

693 Sunday, 09:00 AM - 10:00 AM

Aryaee, Sara

680 Sunday, 09:00 AM - 10:00 AM

Asaika, Eeshaan

1075 Monday, 10:15 AM - 11:15 AM

Ashraf, Muhammad Hasan

121 Friday, 11:30 AM - 12:30 PM
289 Friday, 04:30 PM - 05:30 PM
887 Sunday, 03:15 PM - 04:15 PM

Asim, Zainab

545 Saturday, 02:00 PM - 03:00 PM

Atalay, Selin

167 Friday, 12:45 PM - 01:45 PM

Atasu, Atalay

1175 Monday, 12:45 PM - 01:45 PM

Avci, Harun

292 Friday, 04:30 PM - 05:30 PM

Avittathur, Balram

531 Saturday, 02:00 PM - 03:00 PM
830 Sunday, 12:45 PM - 01:45 PM

Awasthy, Prakash

220 Friday, 03:15 PM - 04:15 PM
1110 Monday, 11:30 AM - 12:30 PM

Awaysheh, Amrou

418 Saturday, 10:15 AM - 11:15 AM
629 Saturday, 04:30 PM - 05:30 PM

Ayabakan, Sezgin

437 Saturday, 11:30 AM - 12:30 PM

Aydin, Goker

217 Friday, 03:15 PM - 04:15 PM

Aydinliyim, Tolga

244 Friday, 03:15 PM - 04:15 PM
1040 Monday, 09:00 AM - 10:00 AM

Aytug, Haldun

397 Saturday, 10:15 AM - 11:15 AM

Ayvaci, Mehmet

856 Sunday, 02:00 PM - 03:00 PM

B

Ba, Wenjia

159 Friday, 12:45 PM - 01:45 PM

Babai, Mohamed

704 Sunday, 09:00 AM - 10:00 AM

Author Index

Babar, Yash

93 Friday, 11:30 AM - 12:30 PM

Babich, Volodymyr

116 Friday, 11:30 AM - 12:30 PM

593 Saturday, 04:30 PM - 05:30 PM

769 Sunday, 11:30 AM - 12:30 PM

Babier, Aaron

16 Friday, 09:00 AM - 10:00 AM

Badir, Yuosre

408 Saturday, 10:15 AM - 11:15 AM

Baek, Hyunsuk

358 Saturday, 09:00 AM - 10:00 AM

Bagchi, Aniruddha

386 Saturday, 10:15 AM - 11:15 AM

Bagdasarian, Jennifer

562 Saturday, 03:15 PM - 04:15 PM

Bagherirad, Sonia

114 Friday, 11:30 AM - 12:30 PM

Bai, Bing

625 Saturday, 04:30 PM - 05:30 PM

1166 Monday, 12:45 PM - 01:45 PM

Bai, Jiaru

24 Friday, 09:00 AM - 10:00 AM

Bai, Miao

509 Saturday, 02:00 PM - 03:00 PM

1066 Monday, 10:15 AM - 11:15 AM

Bai, Yicheng

411 Saturday, 10:15 AM - 11:15 AM

Bai, Yu

807 Sunday, 12:45 PM - 01:45 PM

Baker, William

1024 Monday, 09:00 AM - 10:00 AM

1151 Monday, 12:45 PM - 01:45 PM

Balakrishnan, Maya

131 Friday, 12:45 PM - 01:45 PM

Balaram, Aditya

242 Friday, 03:15 PM - 04:15 PM

Balasubramanian, Ganesh

163 Friday, 12:45 PM - 01:45 PM

Balci, Gokcay

121 Friday, 11:30 AM - 12:30 PM

Balcik, Burcu

134 Friday, 12:45 PM - 01:45 PM

385 Saturday, 10:15 AM - 11:15 AM

596 Saturday, 04:30 PM - 05:30 PM

1057 Monday, 10:15 AM - 11:15 AM

Ball, George

39 Friday, 09:00 AM - 10:00 AM

224 Friday, 03:15 PM - 04:15 PM

601 Saturday, 04:30 PM - 05:30 PM

617 Saturday, 04:30 PM - 05:30 PM

1150 Monday, 12:45 PM - 01:45 PM

Bals, Lydia

419 Saturday, 10:15 AM - 11:15 AM

701 Sunday, 09:00 AM - 10:00 AM

Bamford, David

36 Friday, 09:00 AM - 10:00 AM

120 Friday, 11:30 AM - 12:30 PM

132 Friday, 12:45 PM - 01:45 PM

162 Friday, 12:45 PM - 01:45 PM

Bandyopadhyay, Subhajyoti

524 Saturday, 02:00 PM - 03:00 PM

Banerjee, Arunava

524 Saturday, 02:00 PM - 03:00 PM

Banerjee, Shantanu

266 Friday, 04:30 PM - 05:30 PM

Bangar Raju, Totakura

802 Sunday, 12:45 PM - 01:45 PM

BaniHani, Saad

248 Friday, 03:15 PM - 04:15 PM

521 Saturday, 02:00 PM - 03:00 PM

Banker, Rajiv

437 Saturday, 11:30 AM - 12:30 PM

Banomyong, Ruth

596 Saturday, 04:30 PM - 05:30 PM

Banomyong, Ruth

260 Friday, 04:30 PM - 05:30 PM

Bansal, Saurabh

27 Friday, 09:00 AM - 10:00 AM

167 Friday, 12:45 PM - 01:45 PM

383 Saturday, 10:15 AM - 11:15 AM

Barbee, Emily

209 Friday, 02:00 PM - 03:00 PM

1031 Monday, 09:00 AM - 10:00 AM

Barbosa, Paula

269 Friday, 04:30 PM - 05:30 PM

Bard, Jonathan

101 Friday, 11:30 AM - 12:30 PM

Bardhan, Indranil

437 Saturday, 11:30 AM - 12:30 PM

Barker, Kash

343 Saturday, 09:00 AM - 10:00 AM

Barrett, David

1109 Monday, 11:30 AM - 12:30 PM

Barriola, Xabier

224 Friday, 03:15 PM - 04:15 PM

873 Sunday, 02:00 PM - 03:00 PM

Barton, Russell

521 Saturday, 02:00 PM - 03:00 PM

Basak, Ecem

358 Saturday, 09:00 AM - 10:00 AM

Bassamboo, Achal

12 Friday, 09:00 AM - 10:00 AM

153 Friday, 12:45 PM - 01:45 PM

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201 Friday, 02:00 PM - 03:00 PM

285 Friday, 04:30 PM - 05:30 PM

345 Saturday, 09:00 AM - 10:00 AM

1124 Monday, 11:30 AM - 12:30 PM

Basso, Leonardo

1057 Monday, 10:15 AM - 11:15 AM

Bastani, Hamsa

216 Friday, 03:15 PM - 04:15 PM

Bastani, Osbert

216 Friday, 03:15 PM - 04:15 PM

Basu, Amit

206 Friday, 02:00 PM - 03:00 PM

828 Sunday, 12:45 PM - 01:45 PM

Basu, Preetam

531 Saturday, 02:00 PM - 03:00 PM

566 Saturday, 03:15 PM - 04:15 PM

Basu, Sumanta

830 Sunday, 12:45 PM - 01:45 PM

Bateman, Lauren

1142 Monday, 12:45 PM - 01:45 PM

batista, thiago

1026 Monday, 09:00 AM - 10:00 AM

Batt, Robert

257 Friday, 04:30 PM - 05:30 PM

1052 Monday, 10:15 AM - 11:15 AM

Battarra, Maria

596 Saturday, 04:30 PM - 05:30 PM

Baucum, Matt

16 Friday, 09:00 AM - 10:00 AM

Bavafa, Hessam

3 Friday, 09:00 AM - 10:00 AM

257 Friday, 04:30 PM - 05:30 PM

351 Saturday, 09:00 AM - 10:00 AM

816 Sunday, 12:45 PM - 01:45 PM

Baveja, Alok

837 Sunday, 12:45 PM - 01:45 PM

1150 Monday, 12:45 PM - 01:45 PM

Bayati, Mohsen

1151 Monday, 12:45 PM - 01:45 PM

Bayram, Orkun

155 Friday, 12:45 PM - 01:45 PM

Begen, Mehmet

689 Sunday, 09:00 AM - 10:00 AM

Behdad, Sara

23 Friday, 09:00 AM - 10:00 AM

Behr, Joshua

1058 Monday, 10:15 AM - 11:15 AM

Beil, Damian

149 Friday, 12:45 PM - 01:45 PM

Bélanger, Valérie

1075 Monday, 10:15 AM - 11:15 AM

Bell, John

Author Index

192 Friday, 02:00 PM - 03:00 PM

Bellos, Ioannis

430 Saturday, 11:30 AM - 12:30 PM

Ben Mohamed, Imen

461 Saturday, 11:30 AM - 12:30 PM

Bendoly, Elliot

272 Friday, 04:30 PM - 05:30 PM

380 Saturday, 10:15 AM - 11:15 AM

422 Saturday, 11:30 AM - 12:30 PM

1010 Monday, 09:00 AM - 10:00 AM

1216 Monday, 02:00 PM - 03:00 PM

Benhaddou, Rida

511 Saturday, 02:00 PM - 03:00 PM

Benítez, Guilherme

923 Sunday, 03:15 PM - 04:15 PM

1133 Monday, 11:30 AM - 12:30 PM

Ben-Jebara, Marouen

950 Sunday, 04:30 PM - 05:30 PM

Benton, Wc

1157 Monday, 12:45 PM - 01:45 PM

Berenguer, Gemma

575 Saturday, 03:15 PM - 04:15 PM

Bergdolt, Denise

432 Saturday, 11:30 AM - 12:30 PM

840 Sunday, 12:45 PM - 01:45 PM

Bergman, Alon

773 Sunday, 11:30 AM - 12:30 PM

Bergmann, Felix

442 Saturday, 11:30 AM - 12:30 PM

696 Sunday, 09:00 AM - 10:00 AM

Berman, Oded

150 Friday, 12:45 PM - 01:45 PM

Bernstein, Fernando

620 Saturday, 04:30 PM - 05:30 PM

Bertsimas, Dimitris

102 Friday, 11:30 AM - 12:30 PM

184 Friday, 02:00 PM - 03:00 PM

226 Friday, 03:15 PM - 04:15 PM

Besik, Deniz

417 Saturday, 10:15 AM - 11:15 AM

697 Sunday, 09:00 AM - 10:00 AM

Besiou, Maria

847 Sunday, 02:00 PM - 03:00 PM

848 Sunday, 02:00 PM - 03:00 PM

922 Sunday, 03:15 PM - 04:15 PM

1141 Monday, 12:45 PM - 01:45 PM

Betts, Kellen

578 Saturday, 03:15 PM - 04:15 PM

1217 Monday, 02:00 PM - 03:00 PM

Beverly, Jen

763 Sunday, 11:30 AM - 12:30 PM

Bhan, Hyung Sup (Zack)

366 Saturday, 09:00 AM - 10:00 AM

Bharadwaj, Anandhi

702 Sunday, 09:00 AM - 10:00 AM

Bhardwaj, Deepanshi

534 Saturday, 02:00 PM - 03:00 PM

Bhaskaran, Sreekumar

206 Friday, 02:00 PM - 03:00 PM

828 Sunday, 12:45 PM - 01:45 PM

870 Sunday, 02:00 PM - 03:00 PM

Bhatia, Anand

787 Sunday, 11:30 AM - 12:30 PM

Bhattacharya, CB

1055 Monday, 10:15 AM - 11:15 AM

Bhattacharya, Siddharth

416 Saturday, 10:15 AM - 11:15 AM

581 Saturday, 03:15 PM - 04:15 PM

Bhimani, Shawn

867 Sunday, 02:00 PM - 03:00 PM

Bhosale, Ratnesh

105 Friday, 11:30 AM - 12:30 PM

777 Sunday, 11:30 AM - 12:30 PM

802 Sunday, 12:45 PM - 01:45 PM

Bhowmick, Bhaskar

610 Saturday, 04:30 PM - 05:30 PM

Bhuiyan, Jahedul

561 Saturday, 03:15 PM - 04:15 PM

Bhuiyan, Saif

356 Saturday, 09:00 AM - 10:00 AM

Bi, Gongbing

265 Friday, 04:30 PM - 05:30 PM

Bianchi, Guia

461 Saturday, 11:30 AM - 12:30 PM

Bicer, Isik

853 Sunday, 02:00 PM - 03:00 PM

Bichescu, Bogdan

185 Friday, 02:00 PM - 03:00 PM

857 Sunday, 02:00 PM - 03:00 PM

1024 Monday, 09:00 AM - 10:00 AM

Bijvank, Marco

390 Saturday, 10:15 AM - 11:15 AM

Billington, Corey

1099 Monday, 11:30 AM - 12:30 PM

Birge, John

1175 Monday, 12:45 PM - 01:45 PM

Bisi, Arnab

23 Friday, 09:00 AM - 10:00 AM

Biswas, Debajyoti

1080 Monday, 10:15 AM - 11:15 AM

Biswas, Indranil

377 Saturday, 09:00 AM - 10:00 AM

Biswas, Samir

531 Saturday, 02:00 PM - 03:00 PM

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Bjarnadottir, Margret

244 Friday, 03:15 PM - 04:15 PM

Blackhurst, Jennifer

843 Sunday, 02:00 PM - 03:00 PM

Blaettchen, Philippe

363 Saturday, 09:00 AM - 10:00 AM

Blanco, Christian

251 Friday, 03:15 PM - 04:15 PM

351 Saturday, 09:00 AM - 10:00 AM

Bockstedt, Jesse

230 Friday, 03:15 PM - 04:15 PM

565 Saturday, 03:15 PM - 04:15 PM

Bode, Christoph

113 Friday, 11:30 AM - 12:30 PM

543 Saturday, 02:00 PM - 03:00 PM

1112 Monday, 11:30 AM - 12:30 PM

Bollimunta, Teja

1068 Monday, 10:15 AM - 11:15 AM

Bolton, Gary

677 Sunday, 09:00 AM - 10:00 AM

Boluki, Shahin

831 Sunday, 12:45 PM - 01:45 PM

Bonomi, Juliana

1042 Monday, 09:00 AM - 10:00 AM

Boodoo, Muhammad

584 Saturday, 03:15 PM - 04:15 PM

Bootaki, Behrang

1112 Monday, 11:30 AM - 12:30 PM

Borrella, Inma

578 Saturday, 03:15 PM - 04:15 PM

1217 Monday, 02:00 PM - 03:00 PM

Borwankar, Sameer

398 Saturday, 10:15 AM - 11:15 AM

borzdyko, olesya

520 Saturday, 02:00 PM - 03:00 PM

Bott, Gregory

1073 Monday, 10:15 AM - 11:15 AM

Bouchery, Yann

461 Saturday, 11:30 AM - 12:30 PM

796 Sunday, 11:30 AM - 12:30 PM

Boutilier, Justin

1100 Monday, 11:30 AM - 12:30 PM

Bowen, Francis

39 Friday, 09:00 AM - 10:00 AM

Bozkurt, Poyraz

100 Friday, 11:30 AM - 12:30 PM

250 Friday, 03:15 PM - 04:15 PM

Bradley, Randy

17 Friday, 09:00 AM - 10:00 AM

1024 Monday, 09:00 AM - 10:00 AM

Brau, Rebekah

1037 Monday, 09:00 AM - 10:00 AM

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Bravo, Fernanda

764 Sunday, 11:30 AM - 12:30 PM

Bredikhina, Olga

913 Sunday, 03:15 PM - 04:15 PM

Brem, Alexander

366 Saturday, 09:00 AM - 10:00 AM

Brennan, Mark

1075 Monday, 10:15 AM - 11:15 AM

Bretthauer, Kurt

39 Friday, 09:00 AM - 10:00 AM

224 Friday, 03:15 PM - 04:15 PM

763 Sunday, 11:30 AM - 12:30 PM

1016 Monday, 09:00 AM - 10:00 AM

Breugem, Thomas

774 Sunday, 11:30 AM - 12:30 PM

Brewer, Barry

1099 Monday, 11:30 AM - 12:30 PM

Brito Jr, Irineu

553 Saturday, 03:15 PM - 04:15 PM

Brooks, Llord

134 Friday, 12:45 PM - 01:45 PM

596 Saturday, 04:30 PM - 05:30 PM

Browning, Tyson

714 Sunday, 09:00 AM - 10:00 AM

Buluc, Elfe

259 Friday, 04:30 PM - 05:30 PM

Bumblauskas, Dan

29 Friday, 09:00 AM - 10:00 AM

356 Saturday, 09:00 AM - 10:00 AM

Burkhart, Davide

543 Saturday, 02:00 PM - 03:00 PM

Burnard, Kevin

782 Sunday, 11:30 AM - 12:30 PM

Busenbark, John

617 Saturday, 04:30 PM - 05:30 PM

Buzon, Sandra

763 Sunday, 11:30 AM - 12:30 PM

1091 Monday, 10:15 AM - 11:15 AM

C

Cachon, Gerard

14 Friday, 09:00 AM - 10:00 AM

221 Friday, 03:15 PM - 04:15 PM

Cai, Gangshu

98 Friday, 11:30 AM - 12:30 PM

Cai, jianping

903 Sunday, 03:15 PM - 04:15 PM

Cai, Tianyang

8 Friday, 09:00 AM - 10:00 AM

Caiado, Rodrigo

269 Friday, 04:30 PM - 05:30 PM

Cakanyildirim, Metin

90 Friday, 11:30 AM - 12:30 PM

124 Friday, 11:30 AM - 12:30 PM

579 Saturday, 03:15 PM - 04:15 PM

881 Sunday, 02:00 PM - 03:00 PM

1132 Monday, 11:30 AM - 12:30 PM

Cakici, Ozden

143 Friday, 12:45 PM - 01:45 PM

Calmon, Andre

363 Saturday, 09:00 AM - 10:00 AM

1090 Monday, 10:15 AM - 11:15 AM

1144 Monday, 12:45 PM - 01:45 PM

Caltagirone, Sherrie

1073 Monday, 10:15 AM - 11:15 AM

Canares, Therese

562 Saturday, 03:15 PM - 04:15 PM

Candogan, Sidika

30 Friday, 09:00 AM - 10:00 AM

Cankaya, Burak

760 Sunday, 11:30 AM - 12:30 PM

Cao, Erbao

21 Friday, 09:00 AM - 10:00 AM

Cao, Ping

832 Sunday, 12:45 PM - 01:45 PM

Cao, Xinyan

598 Saturday, 04:30 PM - 05:30 PM

Cao, Ying

712 Sunday, 09:00 AM - 10:00 AM

Cao, Ying

712 Sunday, 09:00 AM - 10:00 AM

Cao, Yufeng

201 Friday, 02:00 PM - 03:00 PM

Cao, Ziyi

539 Saturday, 02:00 PM - 03:00 PM

Carissimi, Maria Concetta

207 Friday, 02:00 PM - 03:00 PM

Carnovale, Steven

837 Sunday, 12:45 PM - 01:45 PM

1121 Monday, 11:30 AM - 12:30 PM

Carrera, Peter

916 Sunday, 03:15 PM - 04:15 PM

Carrillo, Janice

21 Friday, 09:00 AM - 10:00 AM

Cassel, Ricardo

275 Friday, 04:30 PM - 05:30 PM

458 Saturday, 11:30 AM - 12:30 PM

880 Sunday, 02:00 PM - 03:00 PM

Cassidey, Thomas

1224 Monday, 03:15 PM - 04:15 PM

Castellanos, Antonio

1 Friday, 09:00 AM - 10:00 AM

Castello, Fabiano

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269 Friday, 04:30 PM - 05:30 PM

Castillo, Julio

536 Saturday, 02:00 PM - 03:00 PM

Castillo, Vince

956 Sunday, 04:30 PM - 05:30 PM

Castro, Fabio

824 Sunday, 12:45 PM - 01:45 PM

Castro, Francisco

621 Saturday, 04:30 PM - 05:30 PM

Celebi, Heidi

200 Friday, 02:00 PM - 03:00 PM

Celik, Melih

596 Saturday, 04:30 PM - 05:30 PM

690 Sunday, 09:00 AM - 10:00 AM

Celik, Umit

856 Sunday, 02:00 PM - 03:00 PM

Cen, Ling

224 Friday, 03:15 PM - 04:15 PM

Centobelli, Piera

293 Friday, 04:30 PM - 05:30 PM

374 Saturday, 09:00 AM - 10:00 AM

Ceran, Yasin

9 Friday, 09:00 AM - 10:00 AM

555 Saturday, 03:15 PM - 04:15 PM

Cerchione, Roberto

293 Friday, 04:30 PM - 05:30 PM

374 Saturday, 09:00 AM - 10:00 AM

Cetin, Oguz

1082 Monday, 10:15 AM - 11:15 AM

Chai, Ruirui

675 Sunday, 09:00 AM - 10:00 AM

Chai, Shiwei

233 Friday, 03:15 PM - 04:15 PM

chakrabarti, Deepankar

802 Sunday, 12:45 PM - 01:45 PM

Chakraborty, Saurav

413 Saturday, 10:15 AM - 11:15 AM

Chakraborty, Soudipta

178 Friday, 02:00 PM - 03:00 PM

Chameeva, Tatiana

405 Saturday, 10:15 AM - 11:15 AM

Chan, Carri

772 Sunday, 11:30 AM - 12:30 PM

Chan, Hau Ling

922 Sunday, 03:15 PM - 04:15 PM

Chan, Javier

339 Saturday, 09:00 AM - 10:00 AM

Chan, Tat

625 Saturday, 04:30 PM - 05:30 PM

Chan, Tian

30 Friday, 09:00 AM - 10:00 AM

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702 Sunday, 09:00 AM - 10:00 AM
786 Sunday, 11:30 AM - 12:30 PM
1164 Monday, 12:45 PM - 01:45 PM

Chan, Timothy

16 Friday, 09:00 AM - 10:00 AM

Chandra, Charu

1126 Monday, 11:30 AM - 12:30 PM

Chandra, Saurabh

231 Friday, 03:15 PM - 04:15 PM

Chandrasekaran, Aravind

125 Friday, 11:30 AM - 12:30 PM
143 Friday, 12:45 PM - 01:45 PM
352 Saturday, 09:00 AM - 10:00 AM
843 Sunday, 02:00 PM - 03:00 PM

Chang, Jasmine

825 Sunday, 12:45 PM - 01:45 PM

Chang, Xiangyu

1059 Monday, 10:15 AM - 11:15 AM

Chao, Raul

1164 Monday, 12:45 PM - 01:45 PM

Chatterjee, Punya

788 Sunday, 11:30 AM - 12:30 PM

Chatterjee, Snigdhasu

1015 Monday, 09:00 AM - 10:00 AM

Chattopadhyay, Swagata

900 Sunday, 03:15 PM - 04:15 PM

chaurasia, shailly chaurasia

924 Sunday, 03:15 PM - 04:15 PM
1258 Monday, 03:15 PM - 04:15 PM

Chebolu-Subramanian, Vijaya

573 Saturday, 03:15 PM - 04:15 PM

Chen, Christopher

224 Friday, 03:15 PM - 04:15 PM
418 Saturday, 10:15 AM - 11:15 AM
812 Sunday, 12:45 PM - 01:45 PM

Chen, Frank

282 Friday, 04:30 PM - 05:30 PM
1065 Monday, 10:15 AM - 11:15 AM

Chen, Heng

111 Friday, 11:30 AM - 12:30 PM

Chen, Hong

1152 Monday, 12:45 PM - 01:45 PM

Chen, Hongqiao

425 Saturday, 11:30 AM - 12:30 PM

Chen, Jian

364 Saturday, 09:00 AM - 10:00 AM
601 Saturday, 04:30 PM - 05:30 PM
822 Sunday, 12:45 PM - 01:45 PM
1152 Monday, 12:45 PM - 01:45 PM

Chen, Jianqing

387 Saturday, 10:15 AM - 11:15 AM
1069 Monday, 10:15 AM - 11:15 AM

Chen, Jing

9 Friday, 09:00 AM - 10:00 AM
223 Friday, 03:15 PM - 04:15 PM

Chen, Kay Yut

584 Saturday, 03:15 PM - 04:15 PM
1097 Monday, 11:30 AM - 12:30 PM
1139 Monday, 12:45 PM - 01:45 PM
1266 Monday, 04:30 PM - 05:30 PM

Chen, Kedong

435 Saturday, 11:30 AM - 12:30 PM
597 Saturday, 04:30 PM - 05:30 PM
1023 Monday, 09:00 AM - 10:00 AM

Chen, Liang

24 Friday, 09:00 AM - 10:00 AM

Chen, Lihua

871 Sunday, 02:00 PM - 03:00 PM
896 Sunday, 03:15 PM - 04:15 PM

Chen, Lin

10 Friday, 09:00 AM - 10:00 AM

Chen, Lucy

1065 Monday, 10:15 AM - 11:15 AM

Chen, Min

688 Sunday, 09:00 AM - 10:00 AM

Chen, Ningyuan

282 Friday, 04:30 PM - 05:30 PM
1015 Monday, 09:00 AM - 10:00 AM

Chen, Pei-Yu

513 Saturday, 02:00 PM - 03:00 PM

Chen, Qian

435 Saturday, 11:30 AM - 12:30 PM

Chen, Shouchang

453 Saturday, 11:30 AM - 12:30 PM

Chen, Violet (Xinying)

202 Friday, 02:00 PM - 03:00 PM

Chen, Weiwei

837 Sunday, 12:45 PM - 01:45 PM

Chen, Xi

1101 Monday, 11:30 AM - 12:30 PM

Chen, Xiangfeng

98 Friday, 11:30 AM - 12:30 PM

Chen, Xin

150 Friday, 12:45 PM - 01:45 PM
831 Sunday, 12:45 PM - 01:45 PM

Chen, Xinyun

605 Saturday, 04:30 PM - 05:30 PM

Chen, Yao

788 Sunday, 11:30 AM - 12:30 PM

Chen, Yi

625 Saturday, 04:30 PM - 05:30 PM

Chen, Ying-Ju

262 Friday, 04:30 PM - 05:30 PM
682 Sunday, 09:00 AM - 10:00 AM

Chen, Yi-Su

1023 Monday, 09:00 AM - 10:00 AM
1079 Monday, 10:15 AM - 11:15 AM

Chen, Yuan

1124 Monday, 11:30 AM - 12:30 PM

Chen, Yuan Zhen

814 Sunday, 12:45 PM - 01:45 PM

Chen, Yuwen

1060 Monday, 10:15 AM - 11:15 AM

Chen, Zhi

107 Friday, 11:30 AM - 12:30 PM

Chen, Zhixuan

938 Sunday, 04:30 PM - 05:30 PM

Chenarides, Lauren

573 Saturday, 03:15 PM - 04:15 PM

Cheng, Feng

158 Friday, 12:45 PM - 01:45 PM
192 Friday, 02:00 PM - 03:00 PM
681 Sunday, 09:00 AM - 10:00 AM

Cheng, Guang

354 Saturday, 09:00 AM - 10:00 AM
1108 Monday, 11:30 AM - 12:30 PM

Cheng, Kenny

356 Saturday, 09:00 AM - 10:00 AM
371 Saturday, 09:00 AM - 10:00 AM

Cheng, Li

41 Friday, 09:00 AM - 10:00 AM
123 Friday, 11:30 AM - 12:30 PM
1079 Monday, 10:15 AM - 11:15 AM

Cheng, Yue

892 Sunday, 03:15 PM - 04:15 PM

Chevalier Roignant, Benoit

390 Saturday, 10:15 AM - 11:15 AM

Chhabra, Param Pal Singh

702 Sunday, 09:00 AM - 10:00 AM

Chhatre, Ashwini

534 Saturday, 02:00 PM - 03:00 PM

Chhikara, Arunima

21 Friday, 09:00 AM - 10:00 AM
136 Friday, 12:45 PM - 01:45 PM

Chiang, Wen-Chyuan

610 Saturday, 04:30 PM - 05:30 PM

Chick, Stephen

443 Saturday, 11:30 AM - 12:30 PM

Chindasombatcharoen, Nopparuj

845 Sunday, 02:00 PM - 03:00 PM

Chintapalli, Prashant

111 Friday, 11:30 AM - 12:30 PM
206 Friday, 02:00 PM - 03:00 PM
363 Saturday, 09:00 AM - 10:00 AM

Chitla, Sandeep

411 Saturday, 10:15 AM - 11:15 AM

Author Index

Chmielewski , Annette

393 Saturday, 10:15 AM - 11:15 AM

Cho, David

607 Saturday, 04:30 PM - 05:30 PM

Cho, Hallie

114 Friday, 11:30 AM - 12:30 PM

1122 Monday, 11:30 AM - 12:30 PM

Cho, Na Rea

586 Saturday, 03:15 PM - 04:15 PM

Cho, Soohyun

524 Saturday, 02:00 PM - 03:00 PM

Choi, Donghyun (Daniel)

1144 Monday, 12:45 PM - 01:45 PM

Choi, Hojun

1124 Monday, 11:30 AM - 12:30 PM

Choi, Jeong Hoon

270 Friday, 04:30 PM - 05:30 PM

854 Sunday, 02:00 PM - 03:00 PM

Choi, Ryan

239 Friday, 03:15 PM - 04:15 PM

Choi, Sangdo

270 Friday, 04:30 PM - 05:30 PM

854 Sunday, 02:00 PM - 03:00 PM

Choi, Sung

688 Sunday, 09:00 AM - 10:00 AM

Choi, Tsan-Ming

417 Saturday, 10:15 AM - 11:15 AM

432 Saturday, 11:30 AM - 12:30 PM

922 Sunday, 03:15 PM - 04:15 PM

1116 Monday, 11:30 AM - 12:30 PM

Chong, Mario

133 Friday, 12:45 PM - 01:45 PM

175 Friday, 02:00 PM - 03:00 PM

536 Saturday, 02:00 PM - 03:00 PM

946 Sunday, 04:30 PM - 05:30 PM

Choo, Adrian

698 Sunday, 09:00 AM - 10:00 AM

Chou, Mabel C.

108 Friday, 11:30 AM - 12:30 PM

Choudhary, Alok

584 Saturday, 03:15 PM - 04:15 PM

Choudhary, Manish

775 Sunday, 11:30 AM - 12:30 PM

Choudhary, Vivek

520 Saturday, 02:00 PM - 03:00 PM

Choudhury, Arushi

293 Friday, 04:30 PM - 05:30 PM

Choudhury, Nishat

207 Friday, 02:00 PM - 03:00 PM

Choudhury , Prithwiraj

355 Saturday, 09:00 AM - 10:00 AM

Chouldechova, Alexandra

138 Friday, 12:45 PM - 01:45 PM

Chowdhury, Sayan

461 Saturday, 11:30 AM - 12:30 PM

Chu, Jade

29 Friday, 09:00 AM - 10:00 AM

Chu, Soh Hyun

1216 Monday, 02:00 PM - 03:00 PM

Chun, Young

760 Sunday, 11:30 AM - 12:30 PM

Chung, Sai-Ho

432 Saturday, 11:30 AM - 12:30 PM

1116 Monday, 11:30 AM - 12:30 PM

Chung, Tingting

164 Friday, 12:45 PM - 01:45 PM

Cigdem Karakoyun, Ece

292 Friday, 04:30 PM - 05:30 PM

Cil, Eren

116 Friday, 11:30 AM - 12:30 PM

244 Friday, 03:15 PM - 04:15 PM

1193 Monday, 02:00 PM - 03:00 PM

Ciulli, Francesca

701 Sunday, 09:00 AM - 10:00 AM

Clarkson, Campbell

195 Friday, 02:00 PM - 03:00 PM

Clemons, Rebecca

512 Saturday, 02:00 PM - 03:00 PM

714 Sunday, 09:00 AM - 10:00 AM

Clottey, Toyin

1157 Monday, 12:45 PM - 01:45 PM

Cohen, Maxime

173 Friday, 02:00 PM - 03:00 PM

411 Saturday, 10:15 AM - 11:15 AM

Colak, Ahmet

402 Saturday, 10:15 AM - 11:15 AM

559 Saturday, 03:15 PM - 04:15 PM

773 Sunday, 11:30 AM - 12:30 PM

1124 Monday, 11:30 AM - 12:30 PM

Coleman, Charles

396 Saturday, 10:15 AM - 11:15 AM

Collese, Tatiana

783 Sunday, 11:30 AM - 12:30 PM

Collins, John

1195 Monday, 02:00 PM - 03:00 PM

Conti, Rena

268 Friday, 04:30 PM - 05:30 PM

351 Saturday, 09:00 AM - 10:00 AM

856 Sunday, 02:00 PM - 03:00 PM

Corbett, Charles

213 Friday, 03:15 PM - 04:15 PM

427 Saturday, 11:30 AM - 12:30 PM

461 Saturday, 11:30 AM - 12:30 PM

Cordeau, Jean-François

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1153 Monday, 12:45 PM - 01:45 PM

Correa-Martinez, Yaneth

825 Sunday, 12:45 PM - 01:45 PM

Corsi, Thomas

795 Sunday, 11:30 AM - 12:30 PM

Corsten, Daniel

284 Friday, 04:30 PM - 05:30 PM

788 Sunday, 11:30 AM - 12:30 PM

Cosgun, Cumhur

764 Sunday, 11:30 AM - 12:30 PM

COSGUN, OZLEM

764 Sunday, 11:30 AM - 12:30 PM

Costa, Deena

144 Friday, 12:45 PM - 01:45 PM

226 Friday, 03:15 PM - 04:15 PM

Cote, Fannie

847 Sunday, 02:00 PM - 03:00 PM

Craig, Nathan

132 Friday, 12:45 PM - 01:45 PM

272 Friday, 04:30 PM - 05:30 PM

Craighead, Christopher

123 Friday, 11:30 AM - 12:30 PM

Crama, Pascale

534 Saturday, 02:00 PM - 03:00 PM

Creazza, Alessandro

207 Friday, 02:00 PM - 03:00 PM

Cronin, Paul

101 Friday, 11:30 AM - 12:30 PM

Cross, Barry

874 Sunday, 02:00 PM - 03:00 PM

Cui, Hailong

248 Friday, 03:15 PM - 04:15 PM

Cui, Ruomeng

625 Saturday, 04:30 PM - 05:30 PM

Cui, Shiliang

509 Saturday, 02:00 PM - 03:00 PM

682 Sunday, 09:00 AM - 10:00 AM

Cui, Yao

140 Friday, 12:45 PM - 01:45 PM

Cui, Ying

509 Saturday, 02:00 PM - 03:00 PM

Cui, Zhijian

681 Sunday, 09:00 AM - 10:00 AM

Cunha, Luiza

806 Sunday, 12:45 PM - 01:45 PM

Cunha Filho, Roberto

900 Sunday, 03:15 PM - 04:15 PM

1026 Monday, 09:00 AM - 10:00 AM

D

da Silva, Antonio

Author Index

900 Sunday, 03:15 PM - 04:15 PM

Dabadghao, Shaunak

37 Friday, 09:00 AM - 10:00 AM

394 Saturday, 10:15 AM - 11:15 AM

Dada, Maqbool

147 Friday, 12:45 PM - 01:45 PM

Dag, Ali

712 Sunday, 09:00 AM - 10:00 AM

Dai, Hengchen

583 Saturday, 03:15 PM - 04:15 PM

766 Sunday, 11:30 AM - 12:30 PM

1166 Monday, 12:45 PM - 01:45 PM

Dai, Tinglong

213 Friday, 03:15 PM - 04:15 PM

570 Saturday, 03:15 PM - 04:15 PM

1025 Monday, 09:00 AM - 10:00 AM

1052 Monday, 10:15 AM - 11:15 AM

Dallari , Fabrizio

207 Friday, 02:00 PM - 03:00 PM

Dalziel, Murray

916 Sunday, 03:15 PM - 04:15 PM

Dan, Bin

909 Sunday, 03:15 PM - 04:15 PM

Dani, Samir

121 Friday, 11:30 AM - 12:30 PM

Daniel, Jay

180 Friday, 02:00 PM - 03:00 PM

247 Friday, 03:15 PM - 04:15 PM

Dao, Mai

840 Sunday, 12:45 PM - 01:45 PM

Dariush Hamedani, Hamideh

176 Friday, 02:00 PM - 03:00 PM

Das, Arka

946 Sunday, 04:30 PM - 05:30 PM

Das, Debabrata

1153 Monday, 12:45 PM - 01:45 PM

Das, Sanchita

783 Sunday, 11:30 AM - 12:30 PM

Das, Sidhartha

689 Sunday, 09:00 AM - 10:00 AM

Das, Tirthatanmoy

162 Friday, 12:45 PM - 01:45 PM

Dasu, Sriram

273 Friday, 04:30 PM - 05:30 PM

David, Amy

924 Sunday, 03:15 PM - 04:15 PM

David, Guy

773 Sunday, 11:30 AM - 12:30 PM

Dávila, Ronaldo

1109 Monday, 11:30 AM - 12:30 PM

Davis, Andrew

89 Friday, 11:30 AM - 12:30 PM

Daw, Andrew

1 Friday, 09:00 AM - 10:00 AM

Dawande, Milind

27 Friday, 09:00 AM - 10:00 AM

147 Friday, 12:45 PM - 01:45 PM

153 Friday, 12:45 PM - 01:45 PM

705 Sunday, 09:00 AM - 10:00 AM

789 Sunday, 11:30 AM - 12:30 PM

de Azevedo Drummond, Priscila

867 Sunday, 02:00 PM - 03:00 PM

de brito, Irineu

133 Friday, 12:45 PM - 01:45 PM

175 Friday, 02:00 PM - 03:00 PM

De Kok, Ton

541 Saturday, 02:00 PM - 03:00 PM

De Koster, René

1030 Monday, 09:00 AM - 10:00 AM

1072 Monday, 10:15 AM - 11:15 AM

de Sousa, Paulo

923 Sunday, 03:15 PM - 04:15 PM

1133 Monday, 11:30 AM - 12:30 PM

de Treville, Suzanne

714 Sunday, 09:00 AM - 10:00 AM

de Vries, Jelle

174 Friday, 02:00 PM - 03:00 PM

De Vries, Harwin

415 Saturday, 10:15 AM - 11:15 AM

900 Sunday, 03:15 PM - 04:15 PM

955 Sunday, 04:30 PM - 05:30 PM

1016 Monday, 09:00 AM - 10:00 AM

1099 Monday, 11:30 AM - 12:30 PM

Dean, Arlen

1067 Monday, 10:15 AM - 11:15 AM

De-Arteaga, Maria

138 Friday, 12:45 PM - 01:45 PM

Debo, Laurens

429 Saturday, 11:30 AM - 12:30 PM

437 Saturday, 11:30 AM - 12:30 PM

DeCampos, Hugo

1037 Monday, 09:00 AM - 10:00 AM

Decouttere, Catherine

385 Saturday, 10:15 AM - 11:15 AM

Deetjen, Thomas

559 Saturday, 03:15 PM - 04:15 PM

Dehe, Benjamin

36 Friday, 09:00 AM - 10:00 AM

120 Friday, 11:30 AM - 12:30 PM

162 Friday, 12:45 PM - 01:45 PM

Delasay, Mohammad

153 Friday, 12:45 PM - 01:45 PM

217 Friday, 03:15 PM - 04:15 PM

Dellana, Scott

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519 Saturday, 02:00 PM - 03:00 PM

Demir, Sebnem Manolya

259 Friday, 04:30 PM - 05:30 PM

Demirel, Guven

796 Sunday, 11:30 AM - 12:30 PM

Demirezen, Emre

146 Friday, 12:45 PM - 01:45 PM

371 Saturday, 09:00 AM - 10:00 AM

901 Sunday, 03:15 PM - 04:15 PM

Deng, Kailing

356 Saturday, 09:00 AM - 10:00 AM

436 Saturday, 11:30 AM - 12:30 PM

Deng, Qiyuan

135 Friday, 12:45 PM - 01:45 PM

Deng, Tianhu

1132 Monday, 11:30 AM - 12:30 PM

Deng, Xiyue

519 Saturday, 02:00 PM - 03:00 PM

Deng, Yiting

1032 Monday, 09:00 AM - 10:00 AM

Deo, Sarang

247 Friday, 03:15 PM - 04:15 PM

Deshmane, Abhishek

450 Saturday, 11:30 AM - 12:30 PM

916 Sunday, 03:15 PM - 04:15 PM

Deshpande, Sanyukta

1100 Monday, 11:30 AM - 12:30 PM

Deshpande, Vinayak

605 Saturday, 04:30 PM - 05:30 PM

766 Sunday, 11:30 AM - 12:30 PM

Devalkar, Sripad

247 Friday, 03:15 PM - 04:15 PM

Dewan, Sanjeev

539 Saturday, 02:00 PM - 03:00 PM

Dewilde, Sarah

900 Sunday, 03:15 PM - 04:15 PM

Dhanorkar, Suvrat

251 Friday, 03:15 PM - 04:15 PM

805 Sunday, 12:45 PM - 01:45 PM

Dhingra, Vibhuti

769 Sunday, 11:30 AM - 12:30 PM

829 Sunday, 12:45 PM - 01:45 PM

Di, Chenchen

514 Saturday, 02:00 PM - 03:00 PM

Di Mauro, Carmela

258 Friday, 04:30 PM - 05:30 PM

1121 Monday, 11:30 AM - 12:30 PM

Diamant, Adam

16 Friday, 09:00 AM - 10:00 AM

114 Friday, 11:30 AM - 12:30 PM

Diao, Enmao

122 Friday, 11:30 AM - 12:30 PM

Author Index

Diao, Wen

780 Sunday, 11:30 AM - 12:30 PM

Diatha, Krishna Sundar

230 Friday, 03:15 PM - 04:15 PM

Diaz, Rafael

180 Friday, 02:00 PM - 03:00 PM

807 Sunday, 12:45 PM - 01:45 PM

1058 Monday, 10:15 AM - 11:15 AM

Didal, Sakshi

817 Sunday, 12:45 PM - 01:45 PM

Dierks, Ludwig

1039 Monday, 09:00 AM - 10:00 AM

Dilkina, Bistra

1031 Monday, 09:00 AM - 10:00 AM

Dimand, Ana

827 Sunday, 12:45 PM - 01:45 PM

Dimas, Geri

806 Sunday, 12:45 PM - 01:45 PM

Ding, Jiatao

576 Saturday, 03:15 PM - 04:15 PM

689 Sunday, 09:00 AM - 10:00 AM

Ding, Jie

122 Friday, 11:30 AM - 12:30 PM

Ding, Li

93 Friday, 11:30 AM - 12:30 PM

Ding, Xin

228 Friday, 03:15 PM - 04:15 PM

563 Saturday, 03:15 PM - 04:15 PM

564 Saturday, 03:15 PM - 04:15 PM

899 Sunday, 03:15 PM - 04:15 PM

Ding, Yichuan

1066 Monday, 10:15 AM - 11:15 AM

Ding, Yuanyuan

341 Saturday, 09:00 AM - 10:00 AM

620 Saturday, 04:30 PM - 05:30 PM

DING, Tianrong

439 Saturday, 11:30 AM - 12:30 PM

Divey, Shailesh

543 Saturday, 02:00 PM - 03:00 PM

795 Sunday, 11:30 AM - 12:30 PM

Dixon, Mike

1126 Monday, 11:30 AM - 12:30 PM

Dizdarer, Tolga

14 Friday, 09:00 AM - 10:00 AM

Do, Hung

354 Saturday, 09:00 AM - 10:00 AM

Dobrzykowski, David

17 Friday, 09:00 AM - 10:00 AM

185 Friday, 02:00 PM - 03:00 PM

1024 Monday, 09:00 AM - 10:00 AM

Dobrzykowski, David

134 Friday, 12:45 PM - 01:45 PM

192 Friday, 02:00 PM - 03:00 PM

310 Friday, 05:45 PM - 06:45 PM

596 Saturday, 04:30 PM - 05:30 PM

Dogan, Kutsal

371 Saturday, 09:00 AM - 10:00 AM

Dogru, Ali

400 Saturday, 10:15 AM - 11:15 AM

Dong, Beibei

901 Sunday, 03:15 PM - 04:15 PM

Dong, Jing

625 Saturday, 04:30 PM - 05:30 PM

Dong, June

428 Saturday, 11:30 AM - 12:30 PM

Dong, Lingxiu

182 Friday, 02:00 PM - 03:00 PM

853 Sunday, 02:00 PM - 03:00 PM

Dong, Yan

41 Friday, 09:00 AM - 10:00 AM

158 Friday, 12:45 PM - 01:45 PM

418 Saturday, 10:15 AM - 11:15 AM

533 Saturday, 02:00 PM - 03:00 PM

587 Saturday, 03:15 PM - 04:15 PM

1102 Monday, 11:30 AM - 12:30 PM

Dong, Yuan

146 Friday, 12:45 PM - 01:45 PM

Dong, Ziqi

901 Sunday, 03:15 PM - 04:15 PM

Donnarumma, Juliana

1026 Monday, 09:00 AM - 10:00 AM

Donohue, Karen

89 Friday, 11:30 AM - 12:30 PM

341 Saturday, 09:00 AM - 10:00 AM

544 Saturday, 02:00 PM - 03:00 PM

620 Saturday, 04:30 PM - 05:30 PM

1082 Monday, 10:15 AM - 11:15 AM

Dooley, Kevin

376 Saturday, 09:00 AM - 10:00 AM

Dora, Manoj

796 Sunday, 11:30 AM - 12:30 PM

Dordunoo, Dzifa

1067 Monday, 10:15 AM - 11:15 AM

Doroudi, Sherwin

153 Friday, 12:45 PM - 01:45 PM

217 Friday, 03:15 PM - 04:15 PM

dos Santos, Erika

900 Sunday, 03:15 PM - 04:15 PM

Downing, Tristan

1141 Monday, 12:45 PM - 01:45 PM

Drake, David

881 Sunday, 02:00 PM - 03:00 PM

Dravenstott, Ronald

144 Friday, 12:45 PM - 01:45 PM

Dresner, Martin

1122 Monday, 11:30 AM - 12:30 PM

Dreyfus, David

774 Sunday, 11:30 AM - 12:30 PM

1150 Monday, 12:45 PM - 01:45 PM

Du, Qianzhou

1111 Monday, 11:30 AM - 12:30 PM

Duan, Chunyan

896 Sunday, 03:15 PM - 04:15 PM

1154 Monday, 12:45 PM - 01:45 PM

1157 Monday, 12:45 PM - 01:45 PM

Duan, Yanqing

713 Sunday, 09:00 AM - 10:00 AM

Duan, Yige

1066 Monday, 10:15 AM - 11:15 AM

Duarte, André

578 Saturday, 03:15 PM - 04:15 PM

Ducq, Yves

704 Sunday, 09:00 AM - 10:00 AM

Duenyas, Izak

149 Friday, 12:45 PM - 01:45 PM

Dugundji, Elenna

824 Sunday, 12:45 PM - 01:45 PM

Duran, Serasu

390 Saturday, 10:15 AM - 11:15 AM

620 Saturday, 04:30 PM - 05:30 PM

Dutta, Amitava

689 Sunday, 09:00 AM - 10:00 AM

Dutta, Pritha

417 Saturday, 10:15 AM - 11:15 AM

697 Sunday, 09:00 AM - 10:00 AM

DUTTA, RAJIB

17 Friday, 09:00 AM - 10:00 AM

E

Ebenstein-Ziv, Noa

1109 Monday, 11:30 AM - 12:30 PM

Ebolor, Alexander

366 Saturday, 09:00 AM - 10:00 AM

Ebrahimi Bajgani, Sahar

417 Saturday, 10:15 AM - 11:15 AM

Ebrahimpour, Maling

1032 Monday, 09:00 AM - 10:00 AM

Eckschmidt, Timna

847 Sunday, 02:00 PM - 03:00 PM

Eden, Lorraine

1191 Monday, 02:00 PM - 03:00 PM

Edirisinghe, Gihan

158 Friday, 12:45 PM - 01:45 PM

798 Sunday, 11:30 AM - 12:30 PM

Eftekhar, Mahyar

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427 Saturday, 11:30 AM - 12:30 PM

Eftekhari, Saeede

437 Saturday, 11:30 AM - 12:30 PM

Egilmez, Gokhan

840 Sunday, 12:45 PM - 01:45 PM

Ekezie, Uchenna

425 Saturday, 11:30 AM - 12:30 PM

Eksin, Ceyhun

934 Sunday, 04:30 PM - 05:30 PM

Elahi, Ehsan

383 Saturday, 10:15 AM - 11:15 AM

1032 Monday, 09:00 AM - 10:00 AM

Eldridge, Elizabeth

867 Sunday, 02:00 PM - 03:00 PM

Elhafsi, Mohsen

861 Sunday, 02:00 PM - 03:00 PM

Elmaghraby, Wedad

341 Saturday, 09:00 AM - 10:00 AM

Emadi, Seyyed

766 Sunday, 11:30 AM - 12:30 PM

1166 Monday, 12:45 PM - 01:45 PM

England, Albert

1057 Monday, 10:15 AM - 11:15 AM

Erazo, Carlos

231 Friday, 03:15 PM - 04:15 PM

Erdogan, Ayca

690 Sunday, 09:00 AM - 10:00 AM

848 Sunday, 02:00 PM - 03:00 PM

Erenay, Bulent

586 Saturday, 03:15 PM - 04:15 PM

760 Sunday, 11:30 AM - 12:30 PM

840 Sunday, 12:45 PM - 01:45 PM

Ergun, Ozlem

7 Friday, 09:00 AM - 10:00 AM

Erkul, Muratcan

419 Saturday, 10:15 AM - 11:15 AM

Ertekin, Necati

620 Saturday, 04:30 PM - 05:30 PM

704 Sunday, 09:00 AM - 10:00 AM

Escallon-Barrios, Mariana

865 Sunday, 02:00 PM - 03:00 PM

Escobar, Gabriel

772 Sunday, 11:30 AM - 12:30 PM

Esenduran, Gokce

250 Friday, 03:15 PM - 04:15 PM

Esposito, Emilio

374 Saturday, 09:00 AM - 10:00 AM

Esteves, Fernando

1109 Monday, 11:30 AM - 12:30 PM

Estrada Rodriguez, Arturo

551 Saturday, 03:15 PM - 04:15 PM

Evers, Philip

200 Friday, 02:00 PM - 03:00 PM

956 Sunday, 04:30 PM - 05:30 PM

F

Falagara Sigala, Ioanna

679 Sunday, 09:00 AM - 10:00 AM

Falasca, Mauro

519 Saturday, 02:00 PM - 03:00 PM

Fallahi, Farnaz

569 Saturday, 03:15 PM - 04:15 PM

Fan, James

174 Friday, 02:00 PM - 03:00 PM

Fan, Ming

859 Sunday, 02:00 PM - 03:00 PM

1111 Monday, 11:30 AM - 12:30 PM

Fan, Raymond Lei

436 Saturday, 11:30 AM - 12:30 PM

688 Sunday, 09:00 AM - 10:00 AM

Fan, Xiaoqing

822 Sunday, 12:45 PM - 01:45 PM

Fan, Xiaoshuai

107 Friday, 11:30 AM - 12:30 PM

406 Saturday, 10:15 AM - 11:15 AM

Fan, Yiyi

266 Friday, 04:30 PM - 05:30 PM

Fang, Jianxin

861 Sunday, 02:00 PM - 03:00 PM

Fang, Jin

1084 Monday, 10:15 AM - 11:15 AM

Fang, Liping

37 Friday, 09:00 AM - 10:00 AM

Fang, Xiang

598 Saturday, 04:30 PM - 05:30 PM

Fang, Xin

682 Sunday, 09:00 AM - 10:00 AM

Fang, , Eric

901 Sunday, 03:15 PM - 04:15 PM

Farahani, Mehdi

27 Friday, 09:00 AM - 10:00 AM

Farajbakhsh Mamaghani, Fariba

124 Friday, 11:30 AM - 12:30 PM

881 Sunday, 02:00 PM - 03:00 PM

Farajollahzadeh, Setareh

1042 Monday, 09:00 AM - 10:00 AM

Farajzadeh, Fatemeh

806 Sunday, 12:45 PM - 01:45 PM

Farrell, Amy

867 Sunday, 02:00 PM - 03:00 PM

Farzaneh, Mohammad Amin

369 Saturday, 09:00 AM - 10:00 AM

Fata, Elaheh

410 Saturday, 10:15 AM - 11:15 AM

Fatehi, Soraya

380 Saturday, 10:15 AM - 11:15 AM

1199 Monday, 02:00 PM - 03:00 PM

Fathi, Mahdi

1032 Monday, 09:00 AM - 10:00 AM

Fattahi, Ali

273 Friday, 04:30 PM - 05:30 PM

Fayezi, Sajad

419 Saturday, 10:15 AM - 11:15 AM

Fazel Anvaryazdi, Samira

690 Sunday, 09:00 AM - 10:00 AM

Fazel-Zarandi, Mohammad

102 Friday, 11:30 AM - 12:30 PM

Featherall, Joseph

858 Sunday, 02:00 PM - 03:00 PM

Feinberg, Fred

150 Friday, 12:45 PM - 01:45 PM

Feizi, Arshya

1024 Monday, 09:00 AM - 10:00 AM

1151 Monday, 12:45 PM - 01:45 PM

Feizollahi, Mohammad Javad

569 Saturday, 03:15 PM - 04:15 PM

Feldman, Jacob

285 Friday, 04:30 PM - 05:30 PM

411 Saturday, 10:15 AM - 11:15 AM

1105 Monday, 11:30 AM - 12:30 PM

Feldmann, Finn

611 Saturday, 04:30 PM - 05:30 PM

Feng, Haiyang

387 Saturday, 10:15 AM - 11:15 AM

Feng, Qi

189 Friday, 02:00 PM - 03:00 PM

364 Saturday, 09:00 AM - 10:00 AM

598 Saturday, 04:30 PM - 05:30 PM

1115 Monday, 11:30 AM - 12:30 PM

Feng, Yue

10 Friday, 09:00 AM - 10:00 AM

1018 Monday, 09:00 AM - 10:00 AM

Feng, Zhichao

789 Sunday, 11:30 AM - 12:30 PM

Ferber, Aaron

1031 Monday, 09:00 AM - 10:00 AM

Ferguson, Mark

158 Friday, 12:45 PM - 01:45 PM

200 Friday, 02:00 PM - 03:00 PM

242 Friday, 03:15 PM - 04:15 PM

1010 Monday, 09:00 AM - 10:00 AM

1102 Monday, 11:30 AM - 12:30 PM

Ferrand, Yann

353 Saturday, 09:00 AM - 10:00 AM

395 Saturday, 10:15 AM - 11:15 AM

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Ferreira-Lima, Mateus

251 Friday, 03:15 PM - 04:15 PM

272 Friday, 04:30 PM - 05:30 PM

Fintzy, Alyson

385 Saturday, 10:15 AM - 11:15 AM

Flaeschner, Oliver

512 Saturday, 02:00 PM - 03:00 PM

Flaherty, Stephen

227 Friday, 03:15 PM - 04:15 PM

Flores e Silva , Cristiano

578 Saturday, 03:15 PM - 04:15 PM

Fogliato, Riccardo

138 Friday, 12:45 PM - 01:45 PM

Fogliatto, Flavio

782 Sunday, 11:30 AM - 12:30 PM

Foster, Krista

165 Friday, 12:45 PM - 01:45 PM

Fox, Erin

268 Friday, 04:30 PM - 05:30 PM

856 Sunday, 02:00 PM - 03:00 PM

Franco, Carlos

1039 Monday, 09:00 AM - 10:00 AM

Franco, Gabriel

1109 Monday, 11:30 AM - 12:30 PM

Frank, Alejandro

923 Sunday, 03:15 PM - 04:15 PM

1133 Monday, 11:30 AM - 12:30 PM

Frank, Daniel

858 Sunday, 02:00 PM - 03:00 PM

Franke, Henrik

824 Sunday, 12:45 PM - 01:45 PM

Fransoo, Jan

368 Saturday, 09:00 AM - 10:00 AM

583 Saturday, 03:15 PM - 04:15 PM

796 Sunday, 11:30 AM - 12:30 PM

1013 Monday, 09:00 AM - 10:00 AM

Fray Da Silva, Roberto

553 Saturday, 03:15 PM - 04:15 PM

Fred , Roberts

837 Sunday, 12:45 PM - 01:45 PM

Fredendall, Lawrence

353 Saturday, 09:00 AM - 10:00 AM

395 Saturday, 10:15 AM - 11:15 AM

698 Sunday, 09:00 AM - 10:00 AM

773 Sunday, 11:30 AM - 12:30 PM

Freeman, Michael

268 Friday, 04:30 PM - 05:30 PM

576 Saturday, 03:15 PM - 04:15 PM

689 Sunday, 09:00 AM - 10:00 AM

1152 Monday, 12:45 PM - 01:45 PM

Freeman, Nickolas

348 Saturday, 09:00 AM - 10:00 AM

1073 Monday, 10:15 AM - 11:15 AM

1224 Monday, 03:15 PM - 04:15 PM

Froehle, Craig

1010 Monday, 09:00 AM - 10:00 AM

1052 Monday, 10:15 AM - 11:15 AM

Froehle, Craig

244 Friday, 03:15 PM - 04:15 PM

1068 Monday, 10:15 AM - 11:15 AM

Froese Buzogany, Raquel

1141 Monday, 12:45 PM - 01:45 PM

Frost, Tracie

188 Friday, 02:00 PM - 03:00 PM

Fry, Michael

105 Friday, 11:30 AM - 12:30 PM

Fu, Hong

938 Sunday, 04:30 PM - 05:30 PM

Fu, Ke

402 Saturday, 10:15 AM - 11:15 AM

Fu, Rachel

243 Friday, 03:15 PM - 04:15 PM

Fu, Wayne

41 Friday, 09:00 AM - 10:00 AM

Fu, Xingyu

682 Sunday, 09:00 AM - 10:00 AM

Fuegener, Andreas

1072 Monday, 10:15 AM - 11:15 AM

Fügener, Andreas

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900 Sunday, 03:15 PM - 04:15 PM

Gajjar, Hasmukh

12 Friday, 09:00 AM - 10:00 AM

Galeano-Gallego, Juan

205 Friday, 02:00 PM - 03:00 PM

Gallego, Guillermo

682 Sunday, 09:00 AM - 10:00 AM

Gallino, Santiago

368 Saturday, 09:00 AM - 10:00 AM

706 Sunday, 09:00 AM - 10:00 AM

914 Sunday, 03:15 PM - 04:15 PM

Gan, Rowena

14 Friday, 09:00 AM - 10:00 AM

685 Sunday, 09:00 AM - 10:00 AM

Ganapathy, L.

680 Sunday, 09:00 AM - 10:00 AM

1194 Monday, 02:00 PM - 03:00 PM

Ganji, Gajanan Laxmanrao

1112 Monday, 11:30 AM - 12:30 PM

Ganj Khanloo, Fardin

142 Friday, 12:45 PM - 01:45 PM

606 Saturday, 04:30 PM - 05:30 PM

1108 Monday, 11:30 AM - 12:30 PM

Gans, Noah

443 Saturday, 11:30 AM - 12:30 PM

Gao, Fei

91 Friday, 11:30 AM - 12:30 PM

822 Sunday, 12:45 PM - 01:45 PM

Gao, Feng

188 Friday, 02:00 PM - 03:00 PM

Gao, Gordon

520 Saturday, 02:00 PM - 03:00 PM

Gao, Jian

621 Saturday, 04:30 PM - 05:30 PM

Gao, Li-Lian

777 Sunday, 11:30 AM - 12:30 PM

946 Sunday, 04:30 PM - 05:30 PM

Gao, Pin

682 Sunday, 09:00 AM - 10:00 AM

Gao, Qiang

528 Saturday, 02:00 PM - 03:00 PM

Gao, Xiaoquan

102 Friday, 11:30 AM - 12:30 PM

1100 Monday, 11:30 AM - 12:30 PM

Gao, Yi

513 Saturday, 02:00 PM - 03:00 PM

Gao, Yini

682 Sunday, 09:00 AM - 10:00 AM

Gao, Zuguang

1175 Monday, 12:45 PM - 01:45 PM

Gao.Bakshi, Xiaohui

188 Friday, 02:00 PM - 03:00 PM

Garcia, Hector

180 Friday, 02:00 PM - 03:00 PM

Gardner, John

1037 Monday, 09:00 AM - 10:00 AM

Garg, Anurag

371 Saturday, 09:00 AM - 10:00 AM

524 Saturday, 02:00 PM - 03:00 PM

Garg, Vipul

442 Saturday, 11:30 AM - 12:30 PM

Gargeya, Vidyaranya

908 Sunday, 03:15 PM - 04:15 PM

1074 Monday, 10:15 AM - 11:15 AM

Garimella, Aravinda

859 Sunday, 02:00 PM - 03:00 PM

Garner, Laura

1035 Monday, 09:00 AM - 10:00 AM

Gaukler, Gary

573 Saturday, 03:15 PM - 04:15 PM

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Gaur, Vishal

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237 Friday, 03:15 PM - 04:15 PM

Gavirneni, Srinagesh

191 Friday, 02:00 PM - 03:00 PM
1065 Monday, 10:15 AM - 11:15 AM

Ge, Jiwen

536 Saturday, 02:00 PM - 03:00 PM

Ge, Yue

554 Saturday, 03:15 PM - 04:15 PM

Geda, Avinash

21 Friday, 09:00 AM - 10:00 AM
863 Sunday, 02:00 PM - 03:00 PM

Geethesh, Rohit

293 Friday, 04:30 PM - 05:30 PM

Geismar, Neil

400 Saturday, 10:15 AM - 11:15 AM
763 Sunday, 11:30 AM - 12:30 PM
1091 Monday, 10:15 AM - 11:15 AM

Geng, Jingxuan

360 Saturday, 09:00 AM - 10:00 AM
943 Sunday, 04:30 PM - 05:30 PM

Geng, Xianjun

843 Sunday, 02:00 PM - 03:00 PM

Geng, Xin

164 Friday, 12:45 PM - 01:45 PM
621 Saturday, 04:30 PM - 05:30 PM

George, Anna

712 Sunday, 09:00 AM - 10:00 AM

George, Benjamin

371 Saturday, 09:00 AM - 10:00 AM
712 Sunday, 09:00 AM - 10:00 AM
1149 Monday, 12:45 PM - 01:45 PM

Gernert, Andreas Kilian

1090 Monday, 10:15 AM - 11:15 AM

Geunes, Joseph

526 Saturday, 02:00 PM - 03:00 PM

Gharoie Ahangar, Reza

220 Friday, 03:15 PM - 04:15 PM

Gheibi, Shahryar

363 Saturday, 09:00 AM - 10:00 AM

Ghiassi-Farrokhfal, Yashar

1195 Monday, 02:00 PM - 03:00 PM

Ghobadi, Kimia

142 Friday, 12:45 PM - 01:45 PM
606 Saturday, 04:30 PM - 05:30 PM
1108 Monday, 11:30 AM - 12:30 PM
1278 Monday, 04:30 PM - 05:30 PM

Ghodrati, Nariman

258 Friday, 04:30 PM - 05:30 PM

Ghorashi Khalilabadi, Mahdi

1072 Monday, 10:15 AM - 11:15 AM

Ghosh, Abhishek

153 Friday, 12:45 PM - 01:45 PM

Ghosh, Soumen

702 Sunday, 09:00 AM - 10:00 AM

Ghosh, Vashkar

233 Friday, 03:15 PM - 04:15 PM
524 Saturday, 02:00 PM - 03:00 PM

Ghoshal, Abhijeet

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Giambona, Erasmo

527 Saturday, 02:00 PM - 03:00 PM

Gilbertson, Evan

1055 Monday, 10:15 AM - 11:15 AM

Gillis, Talia

96 Friday, 11:30 AM - 12:30 PM

Gil-Marin, Jhan

122 Friday, 11:30 AM - 12:30 PM
289 Friday, 04:30 PM - 05:30 PM

Glaeser, Chloe

147 Friday, 12:45 PM - 01:45 PM

Glassman, Aaron

760 Sunday, 11:30 AM - 12:30 PM

Glew, Rob

1142 Monday, 12:45 PM - 01:45 PM

Gligor, David

442 Saturday, 11:30 AM - 12:30 PM

Glover, Wiljeana

840 Sunday, 12:45 PM - 01:45 PM
858 Sunday, 02:00 PM - 03:00 PM

Godinho, Roger

1109 Monday, 11:30 AM - 12:30 PM

Goedicke, Ina

393 Saturday, 10:15 AM - 11:15 AM

Goentzel, Jarrod

847 Sunday, 02:00 PM - 03:00 PM
1033 Monday, 09:00 AM - 10:00 AM
1100 Monday, 11:30 AM - 12:30 PM
1141 Monday, 12:45 PM - 01:45 PM

Goes, Paulo

1101 Monday, 11:30 AM - 12:30 PM

Goh, Joel

100 Friday, 11:30 AM - 12:30 PM
354 Saturday, 09:00 AM - 10:00 AM
373 Saturday, 09:00 AM - 10:00 AM
899 Sunday, 03:15 PM - 04:15 PM

Gokcinar, Abdullah

90 Friday, 11:30 AM - 12:30 PM

Gokgur, Burak

903 Sunday, 03:15 PM - 04:15 PM

Gokhale, Ravindra

680 Sunday, 09:00 AM - 10:00 AM

Gokpinar, Bilal

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912 Sunday, 03:15 PM - 04:15 PM

Golara, Sina

230 Friday, 03:15 PM - 04:15 PM
565 Saturday, 03:15 PM - 04:15 PM
1124 Monday, 11:30 AM - 12:30 PM

Gold, Stefan

511 Saturday, 02:00 PM - 03:00 PM

Goldsby, Thomas

101 Friday, 11:30 AM - 12:30 PM

Goldschmidt, Kyle

123 Friday, 11:30 AM - 12:30 PM
459 Saturday, 11:30 AM - 12:30 PM

Goldstein, Susan

1068 Monday, 10:15 AM - 11:15 AM

Golob, Anneya

393 Saturday, 10:15 AM - 11:15 AM

Golrezaei, Negin

452 Saturday, 11:30 AM - 12:30 PM
815 Sunday, 12:45 PM - 01:45 PM

Gomes, Paulo

760 Sunday, 11:30 AM - 12:30 PM
858 Sunday, 02:00 PM - 03:00 PM

Gomez, Miguel

405 Saturday, 10:15 AM - 11:15 AM

Gomez, Nicolas

802 Sunday, 12:45 PM - 01:45 PM

Goncalves, Paulo

806 Sunday, 12:45 PM - 01:45 PM
887 Sunday, 03:15 PM - 04:15 PM
907 Sunday, 03:15 PM - 04:15 PM
929 Sunday, 04:30 PM - 05:30 PM
1141 Monday, 12:45 PM - 01:45 PM

Gong, Min

7 Friday, 09:00 AM - 10:00 AM

Gong, Xiting

87 Friday, 11:30 AM - 12:30 PM
861 Sunday, 02:00 PM - 03:00 PM

Gonzalez, Andres

343 Saturday, 09:00 AM - 10:00 AM

Gonzalez-Calderon, Carlos

122 Friday, 11:30 AM - 12:30 PM
205 Friday, 02:00 PM - 03:00 PM
289 Friday, 04:30 PM - 05:30 PM
1133 Monday, 11:30 AM - 12:30 PM

Goodarzi, Shadi

124 Friday, 11:30 AM - 12:30 PM
559 Saturday, 03:15 PM - 04:15 PM

Gopalakrishnan, Raga

102 Friday, 11:30 AM - 12:30 PM

Gopalakrishnan, Sanjith

32 Friday, 09:00 AM - 10:00 AM
586 Saturday, 03:15 PM - 04:15 PM

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1144 Monday, 12:45 PM - 01:45 PM

Goradia, Deepa

41 Friday, 09:00 AM - 10:00 AM

Gordon, Mike

40 Friday, 09:00 AM - 10:00 AM

Goswami, Adrijit

38 Friday, 09:00 AM - 10:00 AM

610 Saturday, 04:30 PM - 05:30 PM

Goswami, Aman

837 Sunday, 12:45 PM - 01:45 PM

Goyal, Sandeep

413 Saturday, 10:15 AM - 11:15 AM

Graciotti, Mariana

1026 Monday, 09:00 AM - 10:00 AM

Grafe, Beverly

1175 Monday, 12:45 PM - 01:45 PM

Graham, Chelsey

830 Sunday, 12:45 PM - 01:45 PM

Gralla, Erica

301 Friday, 05:45 PM - 06:45 PM

385 Saturday, 10:15 AM - 11:15 AM

781 Sunday, 11:30 AM - 12:30 PM

847 Sunday, 02:00 PM - 03:00 PM

1142 Monday, 12:45 PM - 01:45 PM

Grant, Benjamin

788 Sunday, 11:30 AM - 12:30 PM

832 Sunday, 12:45 PM - 01:45 PM

Gray, John

628 Saturday, 04:30 PM - 05:30 PM

Gray, Joshua

698 Sunday, 09:00 AM - 10:00 AM

Green, Chris

216 Friday, 03:15 PM - 04:15 PM

Greenwood , Brad

93 Friday, 11:30 AM - 12:30 PM

Griffin, Jacqueline

7 Friday, 09:00 AM - 10:00 AM

Griffin, Paul

1100 Monday, 11:30 AM - 12:30 PM

Grover, Abhay

783 Sunday, 11:30 AM - 12:30 PM

Gruendlinger, Leor

1 Friday, 09:00 AM - 10:00 AM

Grushka-Cockayne, Yael

1164 Monday, 12:45 PM - 01:45 PM

Gu, Meilin

429 Saturday, 11:30 AM - 12:30 PM

597 Saturday, 04:30 PM - 05:30 PM

Gu, Minhao

595 Saturday, 04:30 PM - 05:30 PM

Gu, Wei

396 Saturday, 10:15 AM - 11:15 AM

Guajardo, Jose

250 Friday, 03:15 PM - 04:15 PM

Gualandris, Jury

405 Saturday, 10:15 AM - 11:15 AM

701 Sunday, 09:00 AM - 10:00 AM

Guda, Harish

147 Friday, 12:45 PM - 01:45 PM

1072 Monday, 10:15 AM - 11:15 AM

Guha, Reeju

284 Friday, 04:30 PM - 05:30 PM

788 Sunday, 11:30 AM - 12:30 PM

Guha, Samayita

230 Friday, 03:15 PM - 04:15 PM

Gui, Luyi

682 Sunday, 09:00 AM - 10:00 AM

Guide, Daniel

383 Saturday, 10:15 AM - 11:15 AM

Gul, Serhat

690 Sunday, 09:00 AM - 10:00 AM

Gulserliler, Ece

1175 Monday, 12:45 PM - 01:45 PM

Gumus, Mehmet

32 Friday, 09:00 AM - 10:00 AM

527 Saturday, 02:00 PM - 03:00 PM

704 Sunday, 09:00 AM - 10:00 AM

Gunes, Evrim

816 Sunday, 12:45 PM - 01:45 PM

Gunes Corlu, Canan

693 Sunday, 09:00 AM - 10:00 AM

Guntuka, Laharish

795 Sunday, 11:30 AM - 12:30 PM

837 Sunday, 12:45 PM - 01:45 PM

guo, mengqiu

542 Saturday, 02:00 PM - 03:00 PM

Guo, Chenhui

1101 Monday, 11:30 AM - 12:30 PM

Guo, Hong

360 Saturday, 09:00 AM - 10:00 AM

Guo, Pengfei

941 Sunday, 04:30 PM - 05:30 PM

Guo, Songbo

197 Friday, 02:00 PM - 03:00 PM

Guo, Xiaomeng

164 Friday, 12:45 PM - 01:45 PM

780 Sunday, 11:30 AM - 12:30 PM

Gupta, Alok

355 Saturday, 09:00 AM - 10:00 AM

Gupta, Ayush

584 Saturday, 03:15 PM - 04:15 PM

Gupta, Diwakar

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Gupta, Shivam

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191 Friday, 02:00 PM - 03:00 PM

Gupta, Shubham

227 Friday, 03:15 PM - 04:15 PM

Gupta, Sushil

506 Saturday, 02:00 PM - 03:00 PM

631 Saturday, 05:45 PM - 06:45 PM

1184 Monday, 02:00 PM - 03:00 PM

Gupta, Varun

453 Saturday, 11:30 AM - 12:30 PM

1114 Monday, 11:30 AM - 12:30 PM

Gurgur, Cigdem

522 Saturday, 02:00 PM - 03:00 PM

714 Sunday, 09:00 AM - 10:00 AM

923 Sunday, 03:15 PM - 04:15 PM

Gurkan, Huseyin

178 Friday, 02:00 PM - 03:00 PM

Gurlek, Ragip

1040 Monday, 09:00 AM - 10:00 AM

Gurumurthy, Anand

783 Sunday, 11:30 AM - 12:30 PM

900 Sunday, 03:15 PM - 04:15 PM

1035 Monday, 09:00 AM - 10:00 AM

Guthrie, Joe

39 Friday, 09:00 AM - 10:00 AM

Gutierrez, Leopoldo

908 Sunday, 03:15 PM - 04:15 PM

Gutierrez-Franco, Edgar

578 Saturday, 03:15 PM - 04:15 PM

1217 Monday, 02:00 PM - 03:00 PM

Gutt, Dominik

1016 Monday, 09:00 AM - 10:00 AM

Guttieres, Donovan

385 Saturday, 10:15 AM - 11:15 AM

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Haase, Knut

579 Saturday, 03:15 PM - 04:15 PM

861 Sunday, 02:00 PM - 03:00 PM

Habib, Farooq

29 Friday, 09:00 AM - 10:00 AM

Hahl, Oliver

1055 Monday, 10:15 AM - 11:15 AM

Hair, Gregory

698 Sunday, 09:00 AM - 10:00 AM

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584 Saturday, 03:15 PM - 04:15 PM

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363 Saturday, 09:00 AM - 10:00 AM

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1030 Monday, 09:00 AM - 10:00 AM

Hamouda, Essia

861 Sunday, 02:00 PM - 03:00 PM

Han, Chaodong

158 Friday, 12:45 PM - 01:45 PM
1023 Monday, 09:00 AM - 10:00 AM

Han, Eojin

354 Saturday, 09:00 AM - 10:00 AM

Han, Yingru

697 Sunday, 09:00 AM - 10:00 AM

Han, Yiting

1107 Monday, 11:30 AM - 12:30 PM

Han, Yuqing

286 Friday, 04:30 PM - 05:30 PM
699 Sunday, 09:00 AM - 10:00 AM
1116 Monday, 11:30 AM - 12:30 PM

HAN, Siqi

938 Sunday, 04:30 PM - 05:30 PM

Handfield, Robert

544 Saturday, 02:00 PM - 03:00 PM
785 Sunday, 11:30 AM - 12:30 PM

Handley, Sean

93 Friday, 11:30 AM - 12:30 PM
617 Saturday, 04:30 PM - 05:30 PM

Hao, Gang

1141 Monday, 12:45 PM - 01:45 PM

Hao, Shuai

595 Saturday, 04:30 PM - 05:30 PM

Hardcopf, Rick

629 Saturday, 04:30 PM - 05:30 PM

Harrington, Tomás

522 Saturday, 02:00 PM - 03:00 PM

Harris, Benjamin

693 Sunday, 09:00 AM - 10:00 AM

Harris, Shannon

438 Saturday, 11:30 AM - 12:30 PM

Harrison, Michael

159 Friday, 12:45 PM - 01:45 PM

Harshbarger, Kyle

23 Friday, 09:00 AM - 10:00 AM

Hartmann, Evi

611 Saturday, 04:30 PM - 05:30 PM
711 Sunday, 09:00 AM - 10:00 AM

Hasan, Md Mahmudul

227 Friday, 03:15 PM - 04:15 PM

Hasija, Sameer

689 Sunday, 09:00 AM - 10:00 AM

Haskell, William

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Hassanzadeh, Ali

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377 Saturday, 09:00 AM - 10:00 AM
439 Saturday, 11:30 AM - 12:30 PM

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147 Friday, 12:45 PM - 01:45 PM

Hatton, Marc

827 Sunday, 12:45 PM - 01:45 PM

Hawkins, Timothy

248 Friday, 03:15 PM - 04:15 PM

He, Eryn Juan

373 Saturday, 09:00 AM - 10:00 AM

He, Haojia

197 Friday, 02:00 PM - 03:00 PM

He, Qiaochu

262 Friday, 04:30 PM - 05:30 PM

He, Qinglai

20 Friday, 09:00 AM - 10:00 AM

He, Xiuli

150 Friday, 12:45 PM - 01:45 PM

Heavey, Angela

563 Saturday, 03:15 PM - 04:15 PM

Heckmann, Gerardo

536 Saturday, 02:00 PM - 03:00 PM

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24 Friday, 09:00 AM - 10:00 AM
155 Friday, 12:45 PM - 01:45 PM
217 Friday, 03:15 PM - 04:15 PM
251 Friday, 03:15 PM - 04:15 PM
284 Friday, 04:30 PM - 05:30 PM
430 Saturday, 11:30 AM - 12:30 PM
544 Saturday, 02:00 PM - 03:00 PM

Heidemann, John

907 Sunday, 03:15 PM - 04:15 PM

Heim, Gregory

368 Saturday, 09:00 AM - 10:00 AM

Heimisdottir, Snjolaug

348 Saturday, 09:00 AM - 10:00 AM

Hejazian, Hossein

858 Sunday, 02:00 PM - 03:00 PM

Hekimoglu, Mert Hakan

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795 Sunday, 11:30 AM - 12:30 PM

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184 Friday, 02:00 PM - 03:00 PM

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765 Sunday, 11:30 AM - 12:30 PM

Hermosilla, Manuel

1236 Monday, 03:15 PM - 04:15 PM

Hernandez-Linares, Marilly

1133 Monday, 11:30 AM - 12:30 PM

Heroux, Dani

867 Sunday, 02:00 PM - 03:00 PM

Herron, Charles

1035 Monday, 09:00 AM - 10:00 AM

Hertzel, Michael

224 Friday, 03:15 PM - 04:15 PM
770 Sunday, 11:30 AM - 12:30 PM

Heuser, Laura

348 Saturday, 09:00 AM - 10:00 AM

Hezarkhani, Behzad

796 Sunday, 11:30 AM - 12:30 PM

Hibiki, Akira

1065 Monday, 10:15 AM - 11:15 AM

Hidaji, Hooman

272 Friday, 04:30 PM - 05:30 PM

Higuera, Carlos

858 Sunday, 02:00 PM - 03:00 PM

Hilafu, Haileab

185 Friday, 02:00 PM - 03:00 PM
857 Sunday, 02:00 PM - 03:00 PM

Hilend, Rowan

612 Saturday, 04:30 PM - 05:30 PM

Hill, James

1216 Monday, 02:00 PM - 03:00 PM

Himme, Alexander

696 Sunday, 09:00 AM - 10:00 AM

Hino, Celso

553 Saturday, 03:15 PM - 04:15 PM

Hoang, Thu Trang

192 Friday, 02:00 PM - 03:00 PM

Hoberg, Kai

207 Friday, 02:00 PM - 03:00 PM
452 Saturday, 11:30 AM - 12:30 PM
542 Saturday, 02:00 PM - 03:00 PM
765 Sunday, 11:30 AM - 12:30 PM

Hofer, Christian

40 Friday, 09:00 AM - 10:00 AM
460 Saturday, 11:30 AM - 12:30 PM
1037 Monday, 09:00 AM - 10:00 AM

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711 Sunday, 09:00 AM - 10:00 AM

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697 Sunday, 09:00 AM - 10:00 AM

Hollaender, Paulo

1042 Monday, 09:00 AM - 10:00 AM

Holweg, Matthias

714 Sunday, 09:00 AM - 10:00 AM

Hong, Jeff

509 Saturday, 02:00 PM - 03:00 PM

Hong, Paul

163 Friday, 12:45 PM - 01:45 PM

519 Saturday, 02:00 PM - 03:00 PM

561 Saturday, 03:15 PM - 04:15 PM

1059 Monday, 10:15 AM - 11:15 AM

1149 Monday, 12:45 PM - 01:45 PM

Hong, Seock

248 Friday, 03:15 PM - 04:15 PM

425 Saturday, 11:30 AM - 12:30 PM

Hong, Xianpei

531 Saturday, 02:00 PM - 03:00 PM

Hong, Yili

138 Friday, 12:45 PM - 01:45 PM

Honhon, Dorothee

873 Sunday, 02:00 PM - 03:00 PM

915 Sunday, 03:15 PM - 04:15 PM

Hooker, John

202 Friday, 02:00 PM - 03:00 PM

Hora, Manpreet

702 Sunday, 09:00 AM - 10:00 AM

Horaguchi, Haruo

908 Sunday, 03:15 PM - 04:15 PM

Hossain, Saad

275 Friday, 04:30 PM - 05:30 PM

Hosseini, Leila

440 Saturday, 11:30 AM - 12:30 PM

Hosseini, Mojtaba

36 Friday, 09:00 AM - 10:00 AM

Hosseinzadeh, Mahnaz

680 Sunday, 09:00 AM - 10:00 AM

Hou, Jiahe

1101 Monday, 11:30 AM - 12:30 PM

Hou, Jing

223 Friday, 03:15 PM - 04:15 PM

Hou, Jingbo

513 Saturday, 02:00 PM - 03:00 PM

Howell, Christopher

135 Friday, 12:45 PM - 01:45 PM

Höyng, Caspar

847 Sunday, 02:00 PM - 03:00 PM

Hsu, John

772 Sunday, 11:30 AM - 12:30 PM

Hsu, Kang

376 Saturday, 09:00 AM - 10:00 AM

Hsu, Po-Hsuan

30 Friday, 09:00 AM - 10:00 AM

Hu, Bin

388 Saturday, 10:15 AM - 11:15 AM

Hu, Chenshan

108 Friday, 11:30 AM - 12:30 PM

242 Friday, 03:15 PM - 04:15 PM

Hu, Haiju

205 Friday, 02:00 PM - 03:00 PM

Hu, Honggang

1046 Monday, 09:00 AM - 10:00 AM

Hu, Huaqing

402 Saturday, 10:15 AM - 11:15 AM

Hu, Jianqiang

706 Sunday, 09:00 AM - 10:00 AM

Hu, Jingyuan

764 Sunday, 11:30 AM - 12:30 PM

Hu, Kejia

135 Friday, 12:45 PM - 01:45 PM

706 Sunday, 09:00 AM - 10:00 AM

Hu, Miao

899 Sunday, 03:15 PM - 04:15 PM

Hu, Ming

425 Saturday, 11:30 AM - 12:30 PM

874 Sunday, 02:00 PM - 03:00 PM

1015 Monday, 09:00 AM - 10:00 AM

1042 Monday, 09:00 AM - 10:00 AM

Hu, Shengxiang

1154 Monday, 12:45 PM - 01:45 PM

Hu, Shu

402 Saturday, 10:15 AM - 11:15 AM

Hu, Xiangpei

227 Friday, 03:15 PM - 04:15 PM

439 Saturday, 11:30 AM - 12:30 PM

Hu, Yifan

831 Sunday, 12:45 PM - 01:45 PM

Hu, Yuan

163 Friday, 12:45 PM - 01:45 PM

561 Saturday, 03:15 PM - 04:15 PM

Hu, Zhenyu

149 Friday, 12:45 PM - 01:45 PM

Hua, Lei

584 Saturday, 03:15 PM - 04:15 PM

1097 Monday, 11:30 AM - 12:30 PM

1139 Monday, 12:45 PM - 01:45 PM

Huang, Chia-Hsing

1116 Monday, 11:30 AM - 12:30 PM

Huang, He

1111 Monday, 11:30 AM - 12:30 PM

Huang, Herbie

460 Saturday, 11:30 AM - 12:30 PM

Huang, Lu

581 Saturday, 03:15 PM - 04:15 PM

Huang, Natalie (Ximin)

587 Saturday, 03:15 PM - 04:15 PM

Huang, Rihuan

89 Friday, 11:30 AM - 12:30 PM

Huang, Simin

853 Sunday, 02:00 PM - 03:00 PM

Huang, Yiwei

1088 Monday, 10:15 AM - 11:15 AM

HUANG, Jinjia

1124 Monday, 11:30 AM - 12:30 PM

Hübner, Alexander

410 Saturday, 10:15 AM - 11:15 AM

1072 Monday, 10:15 AM - 11:15 AM

Huchzermeier, Arnd

116 Friday, 11:30 AM - 12:30 PM

536 Saturday, 02:00 PM - 03:00 PM

593 Saturday, 04:30 PM - 05:30 PM

Hudson, Darren

1068 Monday, 10:15 AM - 11:15 AM

Huh, Woonghee

1068 Monday, 10:15 AM - 11:15 AM

HUI, FERDINAND

562 Saturday, 03:15 PM - 04:15 PM

Hunte, Garth

1066 Monday, 10:15 AM - 11:15 AM

Huo, Baofeng

197 Friday, 02:00 PM - 03:00 PM

205 Friday, 02:00 PM - 03:00 PM

247 Friday, 03:15 PM - 04:15 PM

541 Saturday, 02:00 PM - 03:00 PM

595 Saturday, 04:30 PM - 05:30 PM

601 Saturday, 04:30 PM - 05:30 PM

1049 Monday, 09:00 AM - 10:00 AM

1107 Monday, 11:30 AM - 12:30 PM

Hupert, Nathaniel

133 Friday, 12:45 PM - 01:45 PM

Hur, Yun Young

177 Friday, 02:00 PM - 03:00 PM

Hwang, David

8 Friday, 09:00 AM - 10:00 AM

Hyndman, Kyle

89 Friday, 11:30 AM - 12:30 PM

677 Sunday, 09:00 AM - 10:00 AM

I

Ibanez, Maria

815 Sunday, 12:45 PM - 01:45 PM

Ibanez, Maria

131 Friday, 12:45 PM - 01:45 PM

Ibba, Nicola

164 Friday, 12:45 PM - 01:45 PM

Author Index

Ibrahim, Rouba

551 Saturday, 03:15 PM - 04:15 PM

Ilk, Noyan

681 Sunday, 09:00 AM - 10:00 AM

Imana, Basileal

907 Sunday, 03:15 PM - 04:15 PM

Isler, Karl

831 Sunday, 12:45 PM - 01:45 PM

Ismail, Wahab

37 Friday, 09:00 AM - 10:00 AM

Ivanov, Anton

1057 Monday, 10:15 AM - 11:15 AM

Ivanov, Dmitry

453 Saturday, 11:30 AM - 12:30 PM

Iversen, Jane

143 Friday, 12:45 PM - 01:45 PM

352 Saturday, 09:00 AM - 10:00 AM

Iyengar, Deepak

1102 Monday, 11:30 AM - 12:30 PM

Iyengar, Garud

182 Friday, 02:00 PM - 03:00 PM

J

Jablonski, David

827 Sunday, 12:45 PM - 01:45 PM

Jackson, Jonathan

90 Friday, 11:30 AM - 12:30 PM

Jacobs, Brian

629 Saturday, 04:30 PM - 05:30 PM

Jafari, Arezoo

867 Sunday, 02:00 PM - 03:00 PM

Jagabathula, Srikanth

411 Saturday, 10:15 AM - 11:15 AM

Jäger-Roschko, Moritz

922 Sunday, 03:15 PM - 04:15 PM

Jagoda, Kalinga

275 Friday, 04:30 PM - 05:30 PM

408 Saturday, 10:15 AM - 11:15 AM

Jahantab, Mahboubbeh

531 Saturday, 02:00 PM - 03:00 PM

Jahre, Marianne

512 Saturday, 02:00 PM - 03:00 PM

1142 Monday, 12:45 PM - 01:45 PM

Jain, Aditya

247 Friday, 03:15 PM - 04:15 PM

Jain, Nitish

812 Sunday, 12:45 PM - 01:45 PM

Jain, Sourabh

701 Sunday, 09:00 AM - 10:00 AM

Jain, Tarun

206 Friday, 02:00 PM - 03:00 PM

Jalili, Monire

116 Friday, 11:30 AM - 12:30 PM

1040 Monday, 09:00 AM - 10:00 AM

Jaller, Miguel

8 Friday, 09:00 AM - 10:00 AM

James, Brent

816 Sunday, 12:45 PM - 01:45 PM

Janakiraman, Ganesh

27 Friday, 09:00 AM - 10:00 AM

147 Friday, 12:45 PM - 01:45 PM

153 Friday, 12:45 PM - 01:45 PM

705 Sunday, 09:00 AM - 10:00 AM

789 Sunday, 11:30 AM - 12:30 PM

Janakiraman, Ramkumar

185 Friday, 02:00 PM - 03:00 PM

Jang, Doseok

1021 Monday, 09:00 AM - 10:00 AM

Jang, Hongseok

388 Saturday, 10:15 AM - 11:15 AM

Jasin, Stefanus

872 Sunday, 02:00 PM - 03:00 PM

Javan, Golnoush

1191 Monday, 02:00 PM - 03:00 PM

Jayaram, Jayanth

587 Saturday, 03:15 PM - 04:15 PM

Jayaram, Jayanth

293 Friday, 04:30 PM - 05:30 PM

Jayaswal, Sachin

163 Friday, 12:45 PM - 01:45 PM

584 Saturday, 03:15 PM - 04:15 PM

946 Sunday, 04:30 PM - 05:30 PM

Jensen, Leif-Magnus

1142 Monday, 12:45 PM - 01:45 PM

Jensen, Robert

40 Friday, 09:00 AM - 10:00 AM

200 Friday, 02:00 PM - 03:00 PM

460 Saturday, 11:30 AM - 12:30 PM

Jeon, Donggyu

1150 Monday, 12:45 PM - 01:45 PM

Ji, Yonghua

440 Saturday, 11:30 AM - 12:30 PM

859 Sunday, 02:00 PM - 03:00 PM

1069 Monday, 10:15 AM - 11:15 AM

Jia, Hui

857 Sunday, 02:00 PM - 03:00 PM

Jia, Xingzhi

400 Saturday, 10:15 AM - 11:15 AM

Jia, Zhenzhen

706 Sunday, 09:00 AM - 10:00 AM

Jian, Dawei

1074 Monday, 10:15 AM - 11:15 AM

Jiang, Baojun

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94 Friday, 11:30 AM - 12:30 PM

780 Sunday, 11:30 AM - 12:30 PM

Jiang, Hao Jiang

206 Friday, 02:00 PM - 03:00 PM

566 Saturday, 03:15 PM - 04:15 PM

Jiang, Houyuan

941 Sunday, 04:30 PM - 05:30 PM

Jiang, Jiashuo

537 Saturday, 02:00 PM - 03:00 PM

Jiang, Puping (Phil)

770 Sunday, 11:30 AM - 12:30 PM

Jiang, Shenyang

7 Friday, 09:00 AM - 10:00 AM

811 Sunday, 12:45 PM - 01:45 PM

899 Sunday, 03:15 PM - 04:15 PM

Jiang, Yangzi

773 Sunday, 11:30 AM - 12:30 PM

1025 Monday, 09:00 AM - 10:00 AM

Jiang, Yu

859 Sunday, 02:00 PM - 03:00 PM

Jiang, Yuqiong

286 Friday, 04:30 PM - 05:30 PM

Jiang, Zheyu

598 Saturday, 04:30 PM - 05:30 PM

Jiang, Zhibin

811 Sunday, 12:45 PM - 01:45 PM

Jiang, Zoey

144 Friday, 12:45 PM - 01:45 PM

226 Friday, 03:15 PM - 04:15 PM

Jianzhi, Leng

837 Sunday, 12:45 PM - 01:45 PM

Jiao, Xiaoting

406 Saturday, 10:15 AM - 11:15 AM

Jiao, Zihao

545 Saturday, 02:00 PM - 03:00 PM

837 Sunday, 12:45 PM - 01:45 PM

903 Sunday, 03:15 PM - 04:15 PM

Jin, Chen

373 Saturday, 09:00 AM - 10:00 AM

Jin, Hongbo

606 Saturday, 04:30 PM - 05:30 PM

Jin, Yao

612 Saturday, 04:30 PM - 05:30 PM

Jin, Yiwen

1066 Monday, 10:15 AM - 11:15 AM

Joglekar, Nitin

104 Friday, 11:30 AM - 12:30 PM

156 Friday, 12:45 PM - 01:45 PM

523 Saturday, 02:00 PM - 03:00 PM

603 Saturday, 04:30 PM - 05:30 PM

911 Sunday, 03:15 PM - 04:15 PM

1184 Monday, 02:00 PM - 03:00 PM

Author Index

Johnson, Norman

436 Saturday, 11:30 AM - 12:30 PM

Jola-Sanchez, Andres

1091 Monday, 10:15 AM - 11:15 AM

Jonnalagedda, Sreelata

825 Sunday, 12:45 PM - 01:45 PM

830 Sunday, 12:45 PM - 01:45 PM

Joo, Seong-Jong

760 Sunday, 11:30 AM - 12:30 PM

Joseph, Anjali

395 Saturday, 10:15 AM - 11:15 AM

Joshi, Raunak

830 Sunday, 12:45 PM - 01:45 PM

Julagasigorn, Puthipong

260 Friday, 04:30 PM - 05:30 PM

Julien, Denyse

29 Friday, 09:00 AM - 10:00 AM

Jung, Euisung

561 Saturday, 03:15 PM - 04:15 PM

1059 Monday, 10:15 AM - 11:15 AM

Jung, Seung Hwan

374 Saturday, 09:00 AM - 10:00 AM

K

Kaaua, Dawson

221 Friday, 03:15 PM - 04:15 PM

Kabir, Qazi

526 Saturday, 02:00 PM - 03:00 PM

Kagan, Evgeny

147 Friday, 12:45 PM - 01:45 PM

Kajaria-Montag, Harshita

268 Friday, 04:30 PM - 05:30 PM

1152 Monday, 12:45 PM - 01:45 PM

Kalkanci, Basak

93 Friday, 11:30 AM - 12:30 PM

215 Friday, 03:15 PM - 04:15 PM

823 Sunday, 12:45 PM - 01:45 PM

845 Sunday, 02:00 PM - 03:00 PM

Kamalahmadi, Masoud

39 Friday, 09:00 AM - 10:00 AM

174 Friday, 02:00 PM - 03:00 PM

Kamble, Sachin

1194 Monday, 02:00 PM - 03:00 PM

Kan, Yu

781 Sunday, 11:30 AM - 12:30 PM

Kang, Kang

153 Friday, 12:45 PM - 01:45 PM

217 Friday, 03:15 PM - 04:15 PM

Kang, Mingu

197 Friday, 02:00 PM - 03:00 PM

Kang, Yicheng

556 Saturday, 03:15 PM - 04:15 PM

Kang , Liuwang

180 Friday, 02:00 PM - 03:00 PM

Kannan, Karthik

398 Saturday, 10:15 AM - 11:15 AM

Kannan, Karthik

206 Friday, 02:00 PM - 03:00 PM

907 Sunday, 03:15 PM - 04:15 PM

Kannan, Vijay

338 Saturday, 09:00 AM - 10:00 AM

Kanungo, Shivraj

870 Sunday, 02:00 PM - 03:00 PM

Kao, Ta-Wei (Daniel)

1023 Monday, 09:00 AM - 10:00 AM

Kaps, Christian

685 Sunday, 09:00 AM - 10:00 AM

Karabuk, Suleyman

90 Friday, 11:30 AM - 12:30 PM

Karacaoglu, Nil

620 Saturday, 04:30 PM - 05:30 PM

706 Sunday, 09:00 AM - 10:00 AM

914 Sunday, 03:15 PM - 04:15 PM

Karahanna, Elena

901 Sunday, 03:15 PM - 04:15 PM

Karakaya, Sirma

690 Sunday, 09:00 AM - 10:00 AM

KARAKAYA, SIRMA

1057 Monday, 10:15 AM - 11:15 AM

Karamemis, Gulver

1060 Monday, 10:15 AM - 11:15 AM

Karamshetty, Varun

900 Sunday, 03:15 PM - 04:15 PM

Karimi, Amir

343 Saturday, 09:00 AM - 10:00 AM

Karimi, Sahar

1017 Monday, 09:00 AM - 10:00 AM

Karkili, Gulten Busra

1033 Monday, 09:00 AM - 10:00 AM

Karna, Amit

155 Friday, 12:45 PM - 01:45 PM

Kasap, Lamia Gulnur

134 Friday, 12:45 PM - 01:45 PM

Katewa, Sunanda

457 Saturday, 11:30 AM - 12:30 PM

Katz-Navon, Tal

1109 Monday, 11:30 AM - 12:30 PM

Kaushik, Nilam

450 Saturday, 11:30 AM - 12:30 PM

Kaynak, Hale

419 Saturday, 10:15 AM - 11:15 AM

Kazaz, Burak

111 Friday, 11:30 AM - 12:30 PM

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363 Saturday, 09:00 AM - 10:00 AM

682 Sunday, 09:00 AM - 10:00 AM

Kazemi, Sadegh

158 Friday, 12:45 PM - 01:45 PM

Kazemi, Sadegh AlMahdi

158 Friday, 12:45 PM - 01:45 PM

Kazemian, Pooyan

226 Friday, 03:15 PM - 04:15 PM

814 Sunday, 12:45 PM - 01:45 PM

KC, Diwas

1024 Monday, 09:00 AM - 10:00 AM

1040 Monday, 09:00 AM - 10:00 AM

1278 Monday, 04:30 PM - 05:30 PM

Ke, Ginger

1156 Monday, 12:45 PM - 01:45 PM

Ke, Jian-yu

1023 Monday, 09:00 AM - 10:00 AM

Kebliis, Matthew

1224 Monday, 03:15 PM - 04:15 PM

Kemahlioglu-Ziya, Eda

284 Friday, 04:30 PM - 05:30 PM

Kembro, Joakim

415 Saturday, 10:15 AM - 11:15 AM

1099 Monday, 11:30 AM - 12:30 PM

Kennedy, Alexander

840 Sunday, 12:45 PM - 01:45 PM

Keppler, Samantha

1 Friday, 09:00 AM - 10:00 AM

929 Sunday, 04:30 PM - 05:30 PM

Keppo, Jussi

107 Friday, 11:30 AM - 12:30 PM

Kersten, Wolfgang

1175 Monday, 12:45 PM - 01:45 PM

Kesavan, Saravanan

142 Friday, 12:45 PM - 01:45 PM

173 Friday, 02:00 PM - 03:00 PM

341 Saturday, 09:00 AM - 10:00 AM

856 Sunday, 02:00 PM - 03:00 PM

914 Sunday, 03:15 PM - 04:15 PM

Keskin, Burcu

122 Friday, 11:30 AM - 12:30 PM

209 Friday, 02:00 PM - 03:00 PM

1031 Monday, 09:00 AM - 10:00 AM

1073 Monday, 10:15 AM - 11:15 AM

Keskin , N. Bora

812 Sunday, 12:45 PM - 01:45 PM

Keskinocak, Pinar

544 Saturday, 02:00 PM - 03:00 PM

764 Sunday, 11:30 AM - 12:30 PM

Kesrit, Pelin

819 Sunday, 12:45 PM - 01:45 PM

Ketchen, Jr., Dave

123 Friday, 11:30 AM - 12:30 PM

Author Index

Ketter, Wolfgang

1195 Monday, 02:00 PM - 03:00 PM

Kettunen, Janne

114 Friday, 11:30 AM - 12:30 PM

870 Sunday, 02:00 PM - 03:00 PM

Ketzenberg, Michael

368 Saturday, 09:00 AM - 10:00 AM

872 Sunday, 02:00 PM - 03:00 PM

1040 Monday, 09:00 AM - 10:00 AM

Keyvanshokooh, Esmaeil

226 Friday, 03:15 PM - 04:15 PM

604 Saturday, 04:30 PM - 05:30 PM

814 Sunday, 12:45 PM - 01:45 PM

Khademi, Amin

282 Friday, 04:30 PM - 05:30 PM

khakifirooz, Marzieh

1032 Monday, 09:00 AM - 10:00 AM

Khan, Sarfraz

1191 Monday, 02:00 PM - 03:00 PM

Khanzode, Vivek

777 Sunday, 11:30 AM - 12:30 PM

Khattab, Akram

1059 Monday, 10:15 AM - 11:15 AM

1149 Monday, 12:45 PM - 01:45 PM

Khazaei, Hossein

934 Sunday, 04:30 PM - 05:30 PM

Khern-Am-Nuai, Warut

1153 Monday, 12:45 PM - 01:45 PM

Khobzi, Hamid

565 Saturday, 03:15 PM - 04:15 PM

Khojandi, Anahita

16 Friday, 09:00 AM - 10:00 AM

Khouja, Moutaz

346 Saturday, 09:00 AM - 10:00 AM

Khoury, Bashar

596 Saturday, 04:30 PM - 05:30 PM

Khurana, Bharti

817 Sunday, 12:45 PM - 01:45 PM

Khurana, Ritu

817 Sunday, 12:45 PM - 01:45 PM

Khurana, Sandeep

775 Sunday, 11:30 AM - 12:30 PM

Khurana, Shikhar

691 Sunday, 09:00 AM - 10:00 AM

Khurana, Vikas

691 Sunday, 09:00 AM - 10:00 AM

Khurana, Vriti

691 Sunday, 09:00 AM - 10:00 AM

Kim, Byung Cho

520 Saturday, 02:00 PM - 03:00 PM

Kim, Daniel

544 Saturday, 02:00 PM - 03:00 PM

764 Sunday, 11:30 AM - 12:30 PM

Kim, Eunseok

1150 Monday, 12:45 PM - 01:45 PM

Kim, Hyojeong

874 Sunday, 02:00 PM - 03:00 PM

Kim, Jaeyoung

353 Saturday, 09:00 AM - 10:00 AM

395 Saturday, 10:15 AM - 11:15 AM

773 Sunday, 11:30 AM - 12:30 PM

Kim, Moon-Soo

408 Saturday, 10:15 AM - 11:15 AM

Kim, Song-Hee

90 Friday, 11:30 AM - 12:30 PM

Kim, Sung Joo

398 Saturday, 10:15 AM - 11:15 AM

Kim, Tae Hun

9 Friday, 09:00 AM - 10:00 AM

555 Saturday, 03:15 PM - 04:15 PM

Kim, Tongil TI

1024 Monday, 09:00 AM - 10:00 AM

Kim, Yeongin

9 Friday, 09:00 AM - 10:00 AM

177 Friday, 02:00 PM - 03:00 PM

520 Saturday, 02:00 PM - 03:00 PM

555 Saturday, 03:15 PM - 04:15 PM

Kim, Youngsoo

586 Saturday, 03:15 PM - 04:15 PM

Kim, Yusoon

449 Saturday, 11:30 AM - 12:30 PM

KIM, Minyoung

858 Sunday, 02:00 PM - 03:00 PM

Kirche, Elias

690 Sunday, 09:00 AM - 10:00 AM

Kirci, Ismail

915 Sunday, 03:15 PM - 04:15 PM

Kireyev, Pavel

140 Friday, 12:45 PM - 01:45 PM

520 Saturday, 02:00 PM - 03:00 PM

Kishore, Rajiv

7 Friday, 09:00 AM - 10:00 AM

Kistler, Justin

101 Friday, 11:30 AM - 12:30 PM

185 Friday, 02:00 PM - 03:00 PM

Kiszka, Adriana

1063 Monday, 10:15 AM - 11:15 AM

Kittipanya-ngam, Pichawadee

845 Sunday, 02:00 PM - 03:00 PM

Klassen, Robert

584 Saturday, 03:15 PM - 04:15 PM

Kleber, Rainer

8 Friday, 09:00 AM - 10:00 AM

Klein, Michael

133 Friday, 12:45 PM - 01:45 PM

690 Sunday, 09:00 AM - 10:00 AM

941 Sunday, 04:30 PM - 05:30 PM

Klibi, Walid

461 Saturday, 11:30 AM - 12:30 PM

704 Sunday, 09:00 AM - 10:00 AM

Klöckner, Maximilian

176 Friday, 02:00 PM - 03:00 PM

Knowles, Martyn

605 Saturday, 04:30 PM - 05:30 PM

Koca, Esma

450 Saturday, 11:30 AM - 12:30 PM

Kocaman, Ayse Selin

292 Friday, 04:30 PM - 05:30 PM

Kochan, Cigdem

607 Saturday, 04:30 PM - 05:30 PM

Kochan, Mucahit

607 Saturday, 04:30 PM - 05:30 PM

Koçyiğit, Çağıl

781 Sunday, 11:30 AM - 12:30 PM

Kokkodis, Marios

355 Saturday, 09:00 AM - 10:00 AM

Kokozinski, Steffen

113 Friday, 11:30 AM - 12:30 PM

Kolisch, Rainer

257 Friday, 04:30 PM - 05:30 PM

Kong, Guangwen

21 Friday, 09:00 AM - 10:00 AM

248 Friday, 03:15 PM - 04:15 PM

360 Saturday, 09:00 AM - 10:00 AM

509 Saturday, 02:00 PM - 03:00 PM

566 Saturday, 03:15 PM - 04:15 PM

Kong, Nan

102 Friday, 11:30 AM - 12:30 PM

1100 Monday, 11:30 AM - 12:30 PM

Kong, Qingxia

941 Sunday, 04:30 PM - 05:30 PM

Konrad, Renata

806 Sunday, 12:45 PM - 01:45 PM

Konur, Dincer

452 Saturday, 11:30 AM - 12:30 PM

Kopalle, Praveen

570 Saturday, 03:15 PM - 04:15 PM

Korolova, Aleksandra

907 Sunday, 03:15 PM - 04:15 PM

Korpeoglu, C. Gizem

699 Sunday, 09:00 AM - 10:00 AM

Korpeoglu, Ersin

107 Friday, 11:30 AM - 12:30 PM

699 Sunday, 09:00 AM - 10:00 AM

Kosilova, Natalia

Author Index

369 Saturday, 09:00 AM - 10:00 AM
808 Sunday, 12:45 PM - 01:45 PM

Koufteros, Xenophon

165 Friday, 12:45 PM - 01:45 PM

Kouvelis, Panos

770 Sunday, 11:30 AM - 12:30 PM
1105 Monday, 11:30 AM - 12:30 PM
1115 Monday, 11:30 AM - 12:30 PM
1147 Monday, 12:45 PM - 01:45 PM

Kovach, Jamison

698 Sunday, 09:00 AM - 10:00 AM

Koyuncu, Isil

913 Sunday, 03:15 PM - 04:15 PM

Kraft, Tim

165 Friday, 12:45 PM - 01:45 PM
251 Friday, 03:15 PM - 04:15 PM
341 Saturday, 09:00 AM - 10:00 AM
430 Saturday, 11:30 AM - 12:30 PM
544 Saturday, 02:00 PM - 03:00 PM

Krass, Dmitry

150 Friday, 12:45 PM - 01:45 PM

Kremer, Mirko

5 Friday, 09:00 AM - 10:00 AM

Krishnakumar, Sreejith Kumar

7 Friday, 09:00 AM - 10:00 AM

Krishnamoorti, Ramanan

463 Saturday, 12:45 PM - 01:45 PM

Krishnan, Harish

556 Saturday, 03:15 PM - 04:15 PM
586 Saturday, 03:15 PM - 04:15 PM
769 Sunday, 11:30 AM - 12:30 PM
829 Sunday, 12:45 PM - 01:45 PM

Kuboki, Yeda

900 Sunday, 03:15 PM - 04:15 PM

Kucukgul, Can

612 Saturday, 04:30 PM - 05:30 PM

Kucukyazici, Beste

816 Sunday, 12:45 PM - 01:45 PM
858 Sunday, 02:00 PM - 03:00 PM

Kulkarni, Swanand

215 Friday, 03:15 PM - 04:15 PM
845 Sunday, 02:00 PM - 03:00 PM

Kull, Thomas

827 Sunday, 12:45 PM - 01:45 PM

Kumar, Abhijeet

428 Saturday, 11:30 AM - 12:30 PM

Kumar, Amresh

924 Sunday, 03:15 PM - 04:15 PM

Kumar, Gopal

1059 Monday, 10:15 AM - 11:15 AM

Kumar, Maneesh

362 Saturday, 09:00 AM - 10:00 AM
404 Saturday, 10:15 AM - 11:15 AM

405 Saturday, 10:15 AM - 11:15 AM

Kumar, Mukesh

711 Sunday, 09:00 AM - 10:00 AM
845 Sunday, 02:00 PM - 03:00 PM
1217 Monday, 02:00 PM - 03:00 PM

Kumar, Naveen

293 Friday, 04:30 PM - 05:30 PM
356 Saturday, 09:00 AM - 10:00 AM

Kumar, Pankaj

30 Friday, 09:00 AM - 10:00 AM
345 Saturday, 09:00 AM - 10:00 AM

Kumar, Ravi

831 Sunday, 12:45 PM - 01:45 PM

Kumar, Sameer

105 Friday, 11:30 AM - 12:30 PM
1126 Monday, 11:30 AM - 12:30 PM

Kumar, Subodha

146 Friday, 12:45 PM - 01:45 PM
188 Friday, 02:00 PM - 03:00 PM
206 Friday, 02:00 PM - 03:00 PM
227 Friday, 03:15 PM - 04:15 PM
230 Friday, 03:15 PM - 04:15 PM
416 Saturday, 10:15 AM - 11:15 AM
440 Saturday, 11:30 AM - 12:30 PM
555 Saturday, 03:15 PM - 04:15 PM
581 Saturday, 03:15 PM - 04:15 PM
691 Sunday, 09:00 AM - 10:00 AM
775 Sunday, 11:30 AM - 12:30 PM
901 Sunday, 03:15 PM - 04:15 PM
943 Sunday, 04:30 PM - 05:30 PM
1093 Monday, 11:30 AM - 12:30 PM
1136 Monday, 12:45 PM - 01:45 PM
1153 Monday, 12:45 PM - 01:45 PM
1184 Monday, 02:00 PM - 03:00 PM

KUMAR, RAMESH

680 Sunday, 09:00 AM - 10:00 AM

Kumawat, Govind

1030 Monday, 09:00 AM - 10:00 AM

Kunnumkal, Sumit

915 Sunday, 03:15 PM - 04:15 PM

Kunz, Nathan

511 Saturday, 02:00 PM - 03:00 PM
596 Saturday, 04:30 PM - 05:30 PM
680 Sunday, 09:00 AM - 10:00 AM

Kurata, Hisashi

286 Friday, 04:30 PM - 05:30 PM

Kurian, George

1112 Monday, 11:30 AM - 12:30 PM

Kurtulus, Mumin

1046 Monday, 09:00 AM - 10:00 AM

Kushwaha, Tarun

173 Friday, 02:00 PM - 03:00 PM

Kwak, Jin Kyung

191 Friday, 02:00 PM - 03:00 PM

Kwasnitschka, Daniel

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824 Sunday, 12:45 PM - 01:45 PM

Kwon, Caleb

1082 Monday, 10:15 AM - 11:15 AM

Kwon, Youngjin

1153 Monday, 12:45 PM - 01:45 PM

L

Lacerda, Daniel

275 Friday, 04:30 PM - 05:30 PM
458 Saturday, 11:30 AM - 12:30 PM

Lafferty, Lucas

1031 Monday, 09:00 AM - 10:00 AM

Lahrichi, Nadia

847 Sunday, 02:00 PM - 03:00 PM

Lai, Guoming

517 Saturday, 02:00 PM - 03:00 PM

Laik, Joyaditya

40 Friday, 09:00 AM - 10:00 AM

Laker, Lauren

1032 Monday, 09:00 AM - 10:00 AM

Lakshmanan, Ravi

802 Sunday, 12:45 PM - 01:45 PM

Lam, Hugo

156 Friday, 12:45 PM - 01:45 PM
458 Saturday, 11:30 AM - 12:30 PM
1017 Monday, 09:00 AM - 10:00 AM

Lameijer, Bart

908 Sunday, 03:15 PM - 04:15 PM

Lampert, Curba

858 Sunday, 02:00 PM - 03:00 PM

Lan, Yanfei

564 Saturday, 03:15 PM - 04:15 PM

Lan, Yingchao

143 Friday, 12:45 PM - 01:45 PM
394 Saturday, 10:15 AM - 11:15 AM
449 Saturday, 11:30 AM - 12:30 PM
1194 Monday, 02:00 PM - 03:00 PM

Landrum, Mary Beth

772 Sunday, 11:30 AM - 12:30 PM

Lang, Yan

1139 Monday, 12:45 PM - 01:45 PM
1266 Monday, 04:30 PM - 05:30 PM

Langella, Ian

8 Friday, 09:00 AM - 10:00 AM

Langley, Ann

867 Sunday, 02:00 PM - 03:00 PM

Lanthorn, Heather

1048 Monday, 09:00 AM - 10:00 AM

Lariviere, Martin

153 Friday, 12:45 PM - 01:45 PM
345 Saturday, 09:00 AM - 10:00 AM
934 Sunday, 04:30 PM - 05:30 PM

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Lash, Michael

371 Saturday, 09:00 AM - 10:00 AM

Lauga, Dominique

703 Sunday, 09:00 AM - 10:00 AM

Le, Phuoc Luong

1216 Monday, 02:00 PM - 03:00 PM

LeBodic, Pierre

531 Saturday, 02:00 PM - 03:00 PM

Lee, Brandon

353 Saturday, 09:00 AM - 10:00 AM

Lee, Brian

786 Sunday, 11:30 AM - 12:30 PM

Lee, C. Christopher

563 Saturday, 03:15 PM - 04:15 PM

Lee, Chul Ho

9 Friday, 09:00 AM - 10:00 AM

555 Saturday, 03:15 PM - 04:15 PM

Lee, Chung-seung

579 Saturday, 03:15 PM - 04:15 PM

Lee, Deishin

405 Saturday, 10:15 AM - 11:15 AM

Lee, Eunji

542 Saturday, 02:00 PM - 03:00 PM

Lee, Hau

213 Friday, 03:15 PM - 04:15 PM

406 Saturday, 10:15 AM - 11:15 AM

Lee, Hyun Seok (Huck)

578 Saturday, 03:15 PM - 04:15 PM

1236 Monday, 03:15 PM - 04:15 PM

Lee, Jaeseok

1080 Monday, 10:15 AM - 11:15 AM

Lee, Joonghee

17 Friday, 09:00 AM - 10:00 AM

Lee, Junghee

805 Sunday, 12:45 PM - 01:45 PM

1236 Monday, 03:15 PM - 04:15 PM

Lee, Kyungmin

104 Friday, 11:30 AM - 12:30 PM

Lee, Seoungwoo

366 Saturday, 09:00 AM - 10:00 AM

Lee, Seulchan

685 Sunday, 09:00 AM - 10:00 AM

797 Sunday, 11:30 AM - 12:30 PM

863 Sunday, 02:00 PM - 03:00 PM

Lee, Soo-Hoon

604 Saturday, 04:30 PM - 05:30 PM

Lee, Tracie

129 Friday, 12:45 PM - 01:45 PM

Lee, Yeonjoo

1082 Monday, 10:15 AM - 11:15 AM

Lee, Youhyun

356 Saturday, 09:00 AM - 10:00 AM

LEE, ILBIN

763 Sunday, 11:30 AM - 12:30 PM

Leenellett, Elizabeth

1068 Monday, 10:15 AM - 11:15 AM

Lei, Junfei

1027 Monday, 09:00 AM - 10:00 AM

1199 Monday, 02:00 PM - 03:00 PM

Lei, Murray

209 Friday, 02:00 PM - 03:00 PM

Lei, Yongqin

892 Sunday, 03:15 PM - 04:15 PM

Leibundgut, Marc

512 Saturday, 02:00 PM - 03:00 PM

Leider, Stephen

149 Friday, 12:45 PM - 01:45 PM

929 Sunday, 04:30 PM - 05:30 PM

Leiras, Adriana

806 Sunday, 12:45 PM - 01:45 PM

Lejeune, Miguel

1193 Monday, 02:00 PM - 03:00 PM

Lemmens, Stef

955 Sunday, 04:30 PM - 05:30 PM

Letizia, Paolo

1040 Monday, 09:00 AM - 10:00 AM

leutewiler, clara

1026 Monday, 09:00 AM - 10:00 AM

Levesque, Moren

114 Friday, 11:30 AM - 12:30 PM

198 Friday, 02:00 PM - 03:00 PM

Leykum, Luci

101 Friday, 11:30 AM - 12:30 PM

Li, Andrew

688 Sunday, 09:00 AM - 10:00 AM

Li, Beibei

1150 Monday, 12:45 PM - 01:45 PM

Li, Bo

459 Saturday, 11:30 AM - 12:30 PM

Li, Buyun

286 Friday, 04:30 PM - 05:30 PM

Li, Chenghuai

812 Sunday, 12:45 PM - 01:45 PM

Li, ChunSheng

192 Friday, 02:00 PM - 03:00 PM

681 Sunday, 09:00 AM - 10:00 AM

Li, Cuihong

107 Friday, 11:30 AM - 12:30 PM

Li, Dan

595 Saturday, 04:30 PM - 05:30 PM

Li, Danyuan

524 Saturday, 02:00 PM - 03:00 PM

Li, Delong

675 Sunday, 09:00 AM - 10:00 AM

Li, Dongni

606 Saturday, 04:30 PM - 05:30 PM

Li, Fang

266 Friday, 04:30 PM - 05:30 PM

Li, Gang

1046 Monday, 09:00 AM - 10:00 AM

Li, Guang

272 Friday, 04:30 PM - 05:30 PM

410 Saturday, 10:15 AM - 11:15 AM

Li, Jian

360 Saturday, 09:00 AM - 10:00 AM

Li, Jiawei

149 Friday, 12:45 PM - 01:45 PM

Li, Jun

1 Friday, 09:00 AM - 10:00 AM

857 Sunday, 02:00 PM - 03:00 PM

914 Sunday, 03:15 PM - 04:15 PM

Li, Kai

938 Sunday, 04:30 PM - 05:30 PM

1174 Monday, 12:45 PM - 01:45 PM

Li, Krista

444 Saturday, 11:30 AM - 12:30 PM

Li, Lefei

521 Saturday, 02:00 PM - 03:00 PM

Li, Lei

598 Saturday, 04:30 PM - 05:30 PM

1115 Monday, 11:30 AM - 12:30 PM

Li, Lianjun

899 Sunday, 03:15 PM - 04:15 PM

Li, Mei

1059 Monday, 10:15 AM - 11:15 AM

Li, Meng

396 Saturday, 10:15 AM - 11:15 AM

Li, Michelle

289 Friday, 04:30 PM - 05:30 PM

Li, Musen

364 Saturday, 09:00 AM - 10:00 AM

Li, Qing

531 Saturday, 02:00 PM - 03:00 PM

Li, Rong

685 Sunday, 09:00 AM - 10:00 AM

Li, Ruoting

1073 Monday, 10:15 AM - 11:15 AM

Li, Shaobo

371 Saturday, 09:00 AM - 10:00 AM

Li, Shiyang

1111 Monday, 11:30 AM - 12:30 PM

Li, Simin

345 Saturday, 09:00 AM - 10:00 AM

Author Index

Li, Siyu

247 Friday, 03:15 PM - 04:15 PM

Li, Wenhao

509 Saturday, 02:00 PM - 03:00 PM

Li, Wenping

1111 Monday, 11:30 AM - 12:30 PM

Li, Wenwen

513 Saturday, 02:00 PM - 03:00 PM

Li, Xi

444 Saturday, 11:30 AM - 12:30 PM

Li, Xiaocheng

537 Saturday, 02:00 PM - 03:00 PM

Li, Xiaojun

854 Sunday, 02:00 PM - 03:00 PM

1060 Monday, 10:15 AM - 11:15 AM

1195 Monday, 02:00 PM - 03:00 PM

Li, Xiaoling

901 Sunday, 03:15 PM - 04:15 PM

Li, Xinxin

429 Saturday, 11:30 AM - 12:30 PM

Li, Xiyuan

601 Saturday, 04:30 PM - 05:30 PM

Li, Yakun

205 Friday, 02:00 PM - 03:00 PM

Li, Yanting

790 Sunday, 11:30 AM - 12:30 PM

Li, Yao

513 Saturday, 02:00 PM - 03:00 PM

775 Sunday, 11:30 AM - 12:30 PM

1152 Monday, 12:45 PM - 01:45 PM

Li, Yuefeng

346 Saturday, 09:00 AM - 10:00 AM

Li, Yuhong

597 Saturday, 04:30 PM - 05:30 PM

1023 Monday, 09:00 AM - 10:00 AM

Li, Yulong

519 Saturday, 02:00 PM - 03:00 PM

Li, Yumeng

780 Sunday, 11:30 AM - 12:30 PM

Li, Yunke

621 Saturday, 04:30 PM - 05:30 PM

Li, Zheng

524 Saturday, 02:00 PM - 03:00 PM

Li, Zheng

1194 Monday, 02:00 PM - 03:00 PM

Li, Zhi

858 Sunday, 02:00 PM - 03:00 PM

Li, Zhibao

850 Sunday, 02:00 PM - 03:00 PM

Lian, Jie

418 Saturday, 10:15 AM - 11:15 AM

587 Saturday, 03:15 PM - 04:15 PM

Lian, Wenqi

534 Saturday, 02:00 PM - 03:00 PM

Liang, Jiaxin

872 Sunday, 02:00 PM - 03:00 PM

Liang, Xidong

1156 Monday, 12:45 PM - 01:45 PM

Liang, Xinyu Shirley

857 Sunday, 02:00 PM - 03:00 PM

914 Sunday, 03:15 PM - 04:15 PM

Liang, Yanjie

859 Sunday, 02:00 PM - 03:00 PM

Liang, Yong

364 Saturday, 09:00 AM - 10:00 AM

Liang, Yuchen

1166 Monday, 12:45 PM - 01:45 PM

Liang, Zhengbo

699 Sunday, 09:00 AM - 10:00 AM

1116 Monday, 11:30 AM - 12:30 PM

Liao, Ying

519 Saturday, 02:00 PM - 03:00 PM

Lidbe, Abhay

913 Sunday, 03:15 PM - 04:15 PM

Lieberum, Tobias

257 Friday, 04:30 PM - 05:30 PM

Lim, Evan

1115 Monday, 11:30 AM - 12:30 PM

Lim, Jong Myeong

100 Friday, 11:30 AM - 12:30 PM

268 Friday, 04:30 PM - 05:30 PM

1151 Monday, 12:45 PM - 01:45 PM

Lim, Michael

262 Friday, 04:30 PM - 05:30 PM

Lim, Noah

899 Sunday, 03:15 PM - 04:15 PM

Lim, Shi Ying

786 Sunday, 11:30 AM - 12:30 PM

Lim, Stanley

135 Friday, 12:45 PM - 01:45 PM

358 Saturday, 09:00 AM - 10:00 AM

1124 Monday, 11:30 AM - 12:30 PM

1166 Monday, 12:45 PM - 01:45 PM

Lim, Yun Fong

135 Friday, 12:45 PM - 01:45 PM

839 Sunday, 12:45 PM - 01:45 PM

Lim , Jue Tao

100 Friday, 11:30 AM - 12:30 PM

lima, nathalia

1026 Monday, 09:00 AM - 10:00 AM

Lima, Gilson

269 Friday, 04:30 PM - 05:30 PM

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Limeira, Guilherme

568 Saturday, 03:15 PM - 04:15 PM

Lin, Jinan

539 Saturday, 02:00 PM - 03:00 PM

Lin, Mingfeng

528 Saturday, 02:00 PM - 03:00 PM

Lin, Qi

775 Sunday, 11:30 AM - 12:30 PM

Lin, Shaochong

1065 Monday, 10:15 AM - 11:15 AM

Lin, Wilson

90 Friday, 11:30 AM - 12:30 PM

Linardi, Sera

551 Saturday, 03:15 PM - 04:15 PM

Linderman, Kevin

375 Saturday, 09:00 AM - 10:00 AM

597 Saturday, 04:30 PM - 05:30 PM

787 Sunday, 11:30 AM - 12:30 PM

Liu, Bingsheng

1124 Monday, 11:30 AM - 12:30 PM

Liu, De

24 Friday, 09:00 AM - 10:00 AM

Liu, Dehai

675 Sunday, 09:00 AM - 10:00 AM

Liu, Dengpan

360 Saturday, 09:00 AM - 10:00 AM

387 Saturday, 10:15 AM - 11:15 AM

429 Saturday, 11:30 AM - 12:30 PM

513 Saturday, 02:00 PM - 03:00 PM

555 Saturday, 03:15 PM - 04:15 PM

597 Saturday, 04:30 PM - 05:30 PM

Liu, Jiating

1126 Monday, 11:30 AM - 12:30 PM

Liu, Jiayi

1024 Monday, 09:00 AM - 10:00 AM

1278 Monday, 04:30 PM - 05:30 PM

Liu, Jingchen

140 Friday, 12:45 PM - 01:45 PM

425 Saturday, 11:30 AM - 12:30 PM

Liu, Kanglin

92 Friday, 11:30 AM - 12:30 PM

134 Friday, 12:45 PM - 01:45 PM

Liu, Lindong

406 Saturday, 10:15 AM - 11:15 AM

Liu, Nan

142 Friday, 12:45 PM - 01:45 PM

259 Friday, 04:30 PM - 05:30 PM

438 Saturday, 11:30 AM - 12:30 PM

689 Sunday, 09:00 AM - 10:00 AM

1066 Monday, 10:15 AM - 11:15 AM

Liu, Ruiyi

1156 Monday, 12:45 PM - 01:45 PM

Liu, Sheng

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545 Saturday, 02:00 PM - 03:00 PM

Liu, Si

348 Saturday, 09:00 AM - 10:00 AM

Liu, Siyuan

581 Saturday, 03:15 PM - 04:15 PM

Liu, Suting

861 Sunday, 02:00 PM - 03:00 PM

Liu, Tingting

1088 Monday, 10:15 AM - 11:15 AM

Liu, Weihua

447 Saturday, 11:30 AM - 12:30 PM

859 Sunday, 02:00 PM - 03:00 PM

938 Sunday, 04:30 PM - 05:30 PM

1088 Monday, 10:15 AM - 11:15 AM

1101 Monday, 11:30 AM - 12:30 PM

1114 Monday, 11:30 AM - 12:30 PM

Liu, Wenyi

938 Sunday, 04:30 PM - 05:30 PM

Liu, Xiang

521 Saturday, 02:00 PM - 03:00 PM

Liu, Xiaojin

30 Friday, 09:00 AM - 10:00 AM

345 Saturday, 09:00 AM - 10:00 AM

352 Saturday, 09:00 AM - 10:00 AM

544 Saturday, 02:00 PM - 03:00 PM

587 Saturday, 03:15 PM - 04:15 PM

597 Saturday, 04:30 PM - 05:30 PM

Liu, Xiaoping

164 Friday, 12:45 PM - 01:45 PM

Liu, Yang

223 Friday, 03:15 PM - 04:15 PM

Liu, Yang

807 Sunday, 12:45 PM - 01:45 PM

Liu, Ye

1147 Monday, 12:45 PM - 01:45 PM

Liu, Yi

429 Saturday, 11:30 AM - 12:30 PM

Liu, Yizhi

539 Saturday, 02:00 PM - 03:00 PM

Liu, Yong

528 Saturday, 02:00 PM - 03:00 PM

Liu, Yongdong

1032 Monday, 09:00 AM - 10:00 AM

Liu, Yunchuan

10 Friday, 09:00 AM - 10:00 AM

514 Saturday, 02:00 PM - 03:00 PM

528 Saturday, 02:00 PM - 03:00 PM

850 Sunday, 02:00 PM - 03:00 PM

892 Sunday, 03:15 PM - 04:15 PM

938 Sunday, 04:30 PM - 05:30 PM

1174 Monday, 12:45 PM - 01:45 PM

Liu, Zhaoyan

520 Saturday, 02:00 PM - 03:00 PM

Liu, Zizheng

597 Saturday, 04:30 PM - 05:30 PM

LIU, Qianqian

1049 Monday, 09:00 AM - 10:00 AM

Llorens-Montes, Francisco Javier

258 Friday, 04:30 PM - 05:30 PM

Lodree, Emmett

202 Friday, 02:00 PM - 03:00 PM

Löffel, Maximilian

92 Friday, 11:30 AM - 12:30 PM

1033 Monday, 09:00 AM - 10:00 AM

Löhndorf, Nils

1021 Monday, 09:00 AM - 10:00 AM

long, shangsong

1114 Monday, 11:30 AM - 12:30 PM

Long, Elisa

764 Sunday, 11:30 AM - 12:30 PM

Long, Xiaoyang

108 Friday, 11:30 AM - 12:30 PM

242 Friday, 03:15 PM - 04:15 PM

766 Sunday, 11:30 AM - 12:30 PM

Lopez, Jose

603 Saturday, 04:30 PM - 05:30 PM

Lopez, Paolo

133 Friday, 12:45 PM - 01:45 PM

López, Eduyn

8 Friday, 09:00 AM - 10:00 AM

569 Saturday, 03:15 PM - 04:15 PM

1039 Monday, 09:00 AM - 10:00 AM

López-Manuel, Lucas

611 Saturday, 04:30 PM - 05:30 PM

Lopez-Ospina, Hector

289 Friday, 04:30 PM - 05:30 PM

Lorentz, Harri

156 Friday, 12:45 PM - 01:45 PM

603 Saturday, 04:30 PM - 05:30 PM

Lorson, Fabian

1072 Monday, 10:15 AM - 11:15 AM

Lotfi, Aslan

32 Friday, 09:00 AM - 10:00 AM

Lou, Bowen

429 Saturday, 11:30 AM - 12:30 PM

Loureiro, Suzana

955 Sunday, 04:30 PM - 05:30 PM

Lowrey, John

832 Sunday, 12:45 PM - 01:45 PM

Lozano, Loenardo

244 Friday, 03:15 PM - 04:15 PM

Lu, Feng (Susan)

3 Friday, 09:00 AM - 10:00 AM

100 Friday, 11:30 AM - 12:30 PM

165 Friday, 12:45 PM - 01:45 PM

Lu, Haibing

438 Saturday, 11:30 AM - 12:30 PM

Lu, Jizhou

191 Friday, 02:00 PM - 03:00 PM

Lu, Kehan

1048 Monday, 09:00 AM - 10:00 AM

Lu, Lauren

100 Friday, 11:30 AM - 12:30 PM

331 Friday, 05:45 PM - 06:45 PM

773 Sunday, 11:30 AM - 12:30 PM

Lu, Liling

682 Sunday, 09:00 AM - 10:00 AM

Lu, Mengqian

682 Sunday, 09:00 AM - 10:00 AM

Lu, Weiqian

406 Saturday, 10:15 AM - 11:15 AM

Lu, Zhikun

625 Saturday, 04:30 PM - 05:30 PM

Lucker, Florian

390 Saturday, 10:15 AM - 11:15 AM

Ludwig, Andreas

92 Friday, 11:30 AM - 12:30 PM

Lugovoi, Ivan

351 Saturday, 09:00 AM - 10:00 AM

911 Sunday, 03:15 PM - 04:15 PM

Luna, Ana

133 Friday, 12:45 PM - 01:45 PM

175 Friday, 02:00 PM - 03:00 PM

946 Sunday, 04:30 PM - 05:30 PM

Luo, Changyue

266 Friday, 04:30 PM - 05:30 PM

Luo, Danqi

1151 Monday, 12:45 PM - 01:45 PM

Luo, Haidong

1108 Monday, 11:30 AM - 12:30 PM

Luo, Jing

551 Saturday, 03:15 PM - 04:15 PM

1147 Monday, 12:45 PM - 01:45 PM

Luo, Junjie

520 Saturday, 02:00 PM - 03:00 PM

Luo, Xueming

1150 Monday, 12:45 PM - 01:45 PM

LUO, LAN

882 Sunday, 02:00 PM - 03:00 PM

1110 Monday, 11:30 AM - 12:30 PM

Lussier, Bruno

1074 Monday, 10:15 AM - 11:15 AM

Lyons, Andrew

156 Friday, 12:45 PM - 01:45 PM

Lyu, Gaoyan

402 Saturday, 10:15 AM - 11:15 AM

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601 Saturday, 04:30 PM - 05:30 PM

Lyu, Guodong

1166 Monday, 12:45 PM - 01:45 PM

M

M, Vijaya

908 Sunday, 03:15 PM - 04:15 PM

Ma, Chenglin

266 Friday, 04:30 PM - 05:30 PM

Ma, Songxuan

909 Sunday, 03:15 PM - 04:15 PM

Ma, Xiao

436 Saturday, 11:30 AM - 12:30 PM

Ma, Yafei

780 Sunday, 11:30 AM - 12:30 PM

Maass, Kayse

867 Sunday, 02:00 PM - 03:00 PM

Macdonald, John

680 Sunday, 09:00 AM - 10:00 AM

Machado, Fabricio

269 Friday, 04:30 PM - 05:30 PM

Mackelprang, Alan

1102 Monday, 11:30 AM - 12:30 PM

Madadi, Mahboubeh

690 Sunday, 09:00 AM - 10:00 AM

Madiedo, Juan

408 Saturday, 10:15 AM - 11:15 AM

Maeng, Hyun Chul

239 Friday, 03:15 PM - 04:15 PM

Magliocca, Nicholas

1031 Monday, 09:00 AM - 10:00 AM

Mahajan, Arvind

843 Sunday, 02:00 PM - 03:00 PM

Mahapatra, Santosh

1058 Monday, 10:15 AM - 11:15 AM

Mahavadi, Dhanshyam

871 Sunday, 02:00 PM - 03:00 PM

Mahboob Ghodsi, Mahsa

704 Sunday, 09:00 AM - 10:00 AM

Mahmood, Rafid

16 Friday, 09:00 AM - 10:00 AM

Mahyari, Ehsan

348 Saturday, 09:00 AM - 10:00 AM

Mai, Yunke

388 Saturday, 10:15 AM - 11:15 AM

Majumdar, Mayukh

189 Friday, 02:00 PM - 03:00 PM

Mak, Ho-Yin

1025 Monday, 09:00 AM - 10:00 AM

Malik, Sanjana

691 Sunday, 09:00 AM - 10:00 AM

Malladi, Vishwakant

273 Friday, 04:30 PM - 05:30 PM

Mallick, Debasish

366 Saturday, 09:00 AM - 10:00 AM

Mallik, Suman

394 Saturday, 10:15 AM - 11:15 AM

Mallipeddi, Rakesh

400 Saturday, 10:15 AM - 11:15 AM

Maltz, Arnold

1033 Monday, 09:00 AM - 10:00 AM

Manchiraju, Chandrasekhar

705 Sunday, 09:00 AM - 10:00 AM

Mandal, Jasashwi

610 Saturday, 04:30 PM - 05:30 PM

Mandal, Prasenjit

566 Saturday, 03:15 PM - 04:15 PM

943 Sunday, 04:30 PM - 05:30 PM

Manfredo, Mark

573 Saturday, 03:15 PM - 04:15 PM

Manshadi, Vahideh

452 Saturday, 11:30 AM - 12:30 PM

865 Sunday, 02:00 PM - 03:00 PM

Mantin, Benny

163 Friday, 12:45 PM - 01:45 PM

584 Saturday, 03:15 PM - 04:15 PM

Manuzzi, Greca

393 Saturday, 10:15 AM - 11:15 AM

Mao, Zhaofang

286 Friday, 04:30 PM - 05:30 PM

444 Saturday, 11:30 AM - 12:30 PM

528 Saturday, 02:00 PM - 03:00 PM

699 Sunday, 09:00 AM - 10:00 AM

1116 Monday, 11:30 AM - 12:30 PM

Marandi, Ahmadreza

394 Saturday, 10:15 AM - 11:15 AM

Marinesi, Simone

685 Sunday, 09:00 AM - 10:00 AM

Markakis, Mihalís

873 Sunday, 02:00 PM - 03:00 PM

Markou, Panos

1164 Monday, 12:45 PM - 01:45 PM

Marla, Lavanya

1100 Monday, 11:30 AM - 12:30 PM

Marlenova, Begimai

769 Sunday, 11:30 AM - 12:30 PM

Maroun, Elias

180 Friday, 02:00 PM - 03:00 PM

Martagan, Tugce

443 Saturday, 11:30 AM - 12:30 PM

Martin, Paola

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517 Saturday, 02:00 PM - 03:00 PM

Martin, Sébastien

621 Saturday, 04:30 PM - 05:30 PM

Martin, Sébastien

705 Sunday, 09:00 AM - 10:00 AM

Martinez, Camil

231 Friday, 03:15 PM - 04:15 PM

795 Sunday, 11:30 AM - 12:30 PM

Martínez-De-Albéniz, Víctor

450 Saturday, 11:30 AM - 12:30 PM

873 Sunday, 02:00 PM - 03:00 PM

916 Sunday, 03:15 PM - 04:15 PM

martins, valeria

1026 Monday, 09:00 AM - 10:00 AM

Martins, Guilherme

568 Saturday, 03:15 PM - 04:15 PM

Maslov, Alexander

1046 Monday, 09:00 AM - 10:00 AM

Masorgo, Nicolo

192 Friday, 02:00 PM - 03:00 PM

Masoumi, Amir

289 Friday, 04:30 PM - 05:30 PM

Massimino, Brett

93 Friday, 11:30 AM - 12:30 PM

449 Saturday, 11:30 AM - 12:30 PM

Matas, Jose

258 Friday, 04:30 PM - 05:30 PM

MATSUI, Yoshiki

457 Saturday, 11:30 AM - 12:30 PM

MATSUNO, Kotomichi

459 Saturday, 11:30 AM - 12:30 PM

Matte, Jean-Sebastien

527 Saturday, 02:00 PM - 03:00 PM

Mayer, Nina

796 Sunday, 11:30 AM - 12:30 PM

Mayo, Kevin

39 Friday, 09:00 AM - 10:00 AM

224 Friday, 03:15 PM - 04:15 PM

Mayorga, Maria

1073 Monday, 10:15 AM - 11:15 AM

McCarthy, Lucy

405 Saturday, 10:15 AM - 11:15 AM

McDaniel, Thompson

628 Saturday, 04:30 PM - 05:30 PM

McDermott, Christopher

240 Friday, 03:15 PM - 04:15 PM

McFarlance, Duncan

1142 Monday, 12:45 PM - 01:45 PM

McGuffin, Kristen

1133 Monday, 11:30 AM - 12:30 PM

McGuigan, Molly

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Mirzaee, Milad

410 Saturday, 10:15 AM - 11:15 AM

Mishra, Anant

343 Saturday, 09:00 AM - 10:00 AM

786 Sunday, 11:30 AM - 12:30 PM

787 Sunday, 11:30 AM - 12:30 PM

814 Sunday, 12:45 PM - 01:45 PM

Mitchell, Matt

156 Friday, 12:45 PM - 01:45 PM

MITRA, RONY

38 Friday, 09:00 AM - 10:00 AM

777 Sunday, 11:30 AM - 12:30 PM

Mitrofanov, Dmitry

411 Saturday, 10:15 AM - 11:15 AM

Mobini , Zahra

856 Sunday, 02:00 PM - 03:00 PM

Modaresi, Sajad

369 Saturday, 09:00 AM - 10:00 AM

620 Saturday, 04:30 PM - 05:30 PM

766 Sunday, 11:30 AM - 12:30 PM

Moder, Patrick

542 Saturday, 02:00 PM - 03:00 PM

Modi, Sachin

386 Saturday, 10:15 AM - 11:15 AM

519 Saturday, 02:00 PM - 03:00 PM

950 Sunday, 04:30 PM - 05:30 PM

Moen, Adam

375 Saturday, 09:00 AM - 10:00 AM

Mohammad Hassani, Kiarash

209 Friday, 02:00 PM - 03:00 PM

Mohammadi, Mina

251 Friday, 03:15 PM - 04:15 PM

Mohit, Hossein

845 Sunday, 02:00 PM - 03:00 PM

Mohseni Taheri, Danial

686 Sunday, 09:00 AM - 10:00 AM

Momcheva, Antoaneta

408 Saturday, 10:15 AM - 11:15 AM

Montaño-Smith, Rebecca

785 Sunday, 11:30 AM - 12:30 PM

Mookerjee, Vijay

33 Friday, 09:00 AM - 10:00 AM

440 Saturday, 11:30 AM - 12:30 PM

455 Saturday, 11:30 AM - 12:30 PM

Moon, Ken

173 Friday, 02:00 PM - 03:00 PM

1151 Monday, 12:45 PM - 01:45 PM

Morales, Sebastián

221 Friday, 03:15 PM - 04:15 PM

Moran, Scott

1133 Monday, 11:30 AM - 12:30 PM

Moreno, Antonio

Meng, Kai

712 Sunday, 09:00 AM - 10:00 AM

Meng, Lesley

184 Friday, 02:00 PM - 03:00 PM

1236 Monday, 03:15 PM - 04:15 PM

Meng, Xianfeng

272 Friday, 04:30 PM - 05:30 PM

Menon, Nirup

689 Sunday, 09:00 AM - 10:00 AM

Menon, Syam

33 Friday, 09:00 AM - 10:00 AM

Menor, Larry

1109 Monday, 11:30 AM - 12:30 PM

Mercado Fernandez, Rodrigo

697 Sunday, 09:00 AM - 10:00 AM

Merrick, Jason

352 Saturday, 09:00 AM - 10:00 AM

Mersereau, Adam

1082 Monday, 10:15 AM - 11:15 AM

1166 Monday, 12:45 PM - 01:45 PM

Meyer, Brad

1042 Monday, 09:00 AM - 10:00 AM

Miao, Linfei

265 Friday, 04:30 PM - 05:30 PM

Miao, Wei

1032 Monday, 09:00 AM - 10:00 AM

Miao, Yuanbing

564 Saturday, 03:15 PM - 04:15 PM

Michaelides, Roula

180 Friday, 02:00 PM - 03:00 PM

432 Saturday, 11:30 AM - 12:30 PM

Michaelides, Zenon

180 Friday, 02:00 PM - 03:00 PM

432 Saturday, 11:30 AM - 12:30 PM

Miles, Jillian

385 Saturday, 10:15 AM - 11:15 AM

Miller, Stewart

1191 Monday, 02:00 PM - 03:00 PM

Mills, Alex

143 Friday, 12:45 PM - 01:45 PM

1066 Monday, 10:15 AM - 11:15 AM

Min, Yong-Taek

270 Friday, 04:30 PM - 05:30 PM

563 Saturday, 03:15 PM - 04:15 PM

690 Sunday, 09:00 AM - 10:00 AM

Ming, Liu

892 Sunday, 03:15 PM - 04:15 PM

Minner, Stefan

542 Saturday, 02:00 PM - 03:00 PM

Mir, Saif

200 Friday, 02:00 PM - 03:00 PM

1037 Monday, 09:00 AM - 10:00 AM

847 Sunday, 02:00 PM - 03:00 PM

Mchiri, Ali

1099 Monday, 11:30 AM - 12:30 PM

Mckie, Erin

125 Friday, 11:30 AM - 12:30 PM

1013 Monday, 09:00 AM - 10:00 AM

McKinley, Finnegan

1037 Monday, 09:00 AM - 10:00 AM

McLaughlin, Bryce

96 Friday, 11:30 AM - 12:30 PM

McNutt, Todd

1278 Monday, 04:30 PM - 05:30 PM

McSweeney, Kendra

1031 Monday, 09:00 AM - 10:00 AM

Meador, Andrew

1031 Monday, 09:00 AM - 10:00 AM

Meena, Purushottam

1059 Monday, 10:15 AM - 11:15 AM

Mehra, Amit

943 Sunday, 04:30 PM - 05:30 PM

Mehrotra, Mili

544 Saturday, 02:00 PM - 03:00 PM

Meijer, Mirjam

541 Saturday, 02:00 PM - 03:00 PM

796 Sunday, 11:30 AM - 12:30 PM

Meisami, Amirhossein

435 Saturday, 11:30 AM - 12:30 PM

Mejia, Jorge

763 Sunday, 11:30 AM - 12:30 PM

1016 Monday, 09:00 AM - 10:00 AM

Mejia-Argueta, Christopher

536 Saturday, 02:00 PM - 03:00 PM

583 Saturday, 03:15 PM - 04:15 PM

783 Sunday, 11:30 AM - 12:30 PM

830 Sunday, 12:45 PM - 01:45 PM

Melamed, Benjamin

837 Sunday, 12:45 PM - 01:45 PM

Mele, Angelo

21 Friday, 09:00 AM - 10:00 AM

Melnyk, Steven

541 Saturday, 02:00 PM - 03:00 PM

Melnyk, Steven

563 Saturday, 03:15 PM - 04:15 PM

Melouk, Sharif

1224 Monday, 03:15 PM - 04:15 PM

Meloy, Meg

167 Friday, 12:45 PM - 01:45 PM

Méndez-Giraldo, German

1039 Monday, 09:00 AM - 10:00 AM

Meng, Chao

400 Saturday, 10:15 AM - 11:15 AM

Author Index

706 Sunday, 09:00 AM - 10:00 AM
914 Sunday, 03:15 PM - 04:15 PM

Moreno, Francisco

258 Friday, 04:30 PM - 05:30 PM

Moreno-Palacio, Diana

122 Friday, 11:30 AM - 12:30 PM
289 Friday, 04:30 PM - 05:30 PM
1133 Monday, 11:30 AM - 12:30 PM

Morey, Amit

1035 Monday, 09:00 AM - 10:00 AM

Moriarty, Brian

563 Saturday, 03:15 PM - 04:15 PM
564 Saturday, 03:15 PM - 04:15 PM
899 Sunday, 03:15 PM - 04:15 PM

Moritz, Brent

6 Friday, 09:00 AM - 10:00 AM

Mornah, Dekuwmini

586 Saturday, 03:15 PM - 04:15 PM

Morrice, Douglas

101 Friday, 11:30 AM - 12:30 PM

Morton, Ella

559 Saturday, 03:15 PM - 04:15 PM

Mostagir, Mohamed

263 Friday, 04:30 PM - 05:30 PM

Mou, Shandong

830 Sunday, 12:45 PM - 01:45 PM

Mousavi, Nasim

230 Friday, 03:15 PM - 04:15 PM
565 Saturday, 03:15 PM - 04:15 PM

Moyano, Mariana

536 Saturday, 02:00 PM - 03:00 PM

Muckstadt, John

133 Friday, 12:45 PM - 01:45 PM

Mueller, Cassie

698 Sunday, 09:00 AM - 10:00 AM

Mukherjee, Rajiv

828 Sunday, 12:45 PM - 01:45 PM

Mukherjee, Ujjal

629 Saturday, 04:30 PM - 05:30 PM
1015 Monday, 09:00 AM - 10:00 AM

Mullaoglu, Gizem

922 Sunday, 03:15 PM - 04:15 PM

Müller, Julian Marius

923 Sunday, 03:15 PM - 04:15 PM
1133 Monday, 11:30 AM - 12:30 PM

Müller, Sven

579 Saturday, 03:15 PM - 04:15 PM
861 Sunday, 02:00 PM - 03:00 PM

Mundru, Nishanth

605 Saturday, 04:30 PM - 05:30 PM

Muneeb, Syed

545 Saturday, 02:00 PM - 03:00 PM

Munmun, Mousumi

266 Friday, 04:30 PM - 05:30 PM

Munson, Charles

882 Sunday, 02:00 PM - 03:00 PM

Murali, Karthik

262 Friday, 04:30 PM - 05:30 PM
586 Saturday, 03:15 PM - 04:15 PM

Muricken, Navya

573 Saturday, 03:15 PM - 04:15 PM

Murphy, Alison

186 Friday, 02:00 PM - 03:00 PM
1068 Monday, 10:15 AM - 11:15 AM

Murthy, Nagesh

337 Saturday, 09:00 AM - 10:00 AM
422 Saturday, 11:30 AM - 12:30 PM
874 Sunday, 02:00 PM - 03:00 PM

Mutha, Akshay

167 Friday, 12:45 PM - 01:45 PM

Muthulingam, Suresh

334 Friday, 05:45 PM - 06:45 PM
881 Sunday, 02:00 PM - 03:00 PM

MUTLU, Aysun

32 Friday, 09:00 AM - 10:00 AM

Myers, Carole

16 Friday, 09:00 AM - 10:00 AM

N

Nachtsheim, Christopher

1154 Monday, 12:45 PM - 01:45 PM

Nadar, Emre

292 Friday, 04:30 PM - 05:30 PM

Nadarajah, Selva

124 Friday, 11:30 AM - 12:30 PM
686 Sunday, 09:00 AM - 10:00 AM
839 Sunday, 12:45 PM - 01:45 PM
1021 Monday, 09:00 AM - 10:00 AM
1063 Monday, 10:15 AM - 11:15 AM

Naderpour, Amir

713 Sunday, 09:00 AM - 10:00 AM

Nagarajan, Mahesh

144 Friday, 12:45 PM - 01:45 PM
1066 Monday, 10:15 AM - 11:15 AM

Nageswaran, Leela

191 Friday, 02:00 PM - 03:00 PM
270 Friday, 04:30 PM - 05:30 PM

Nagurney, Anna

176 Friday, 02:00 PM - 03:00 PM
417 Saturday, 10:15 AM - 11:15 AM
428 Saturday, 11:30 AM - 12:30 PM

Nair, Devadrita

536 Saturday, 02:00 PM - 03:00 PM

Nair, Harikesh

159 Friday, 12:45 PM - 01:45 PM

Nair, Sabari

775 Sunday, 11:30 AM - 12:30 PM

Najafi-Asadolahi, Sami

789 Sunday, 11:30 AM - 12:30 PM

Nakkas, Alper

584 Saturday, 03:15 PM - 04:15 PM
1139 Monday, 12:45 PM - 01:45 PM

Nam, Hyoryung

366 Saturday, 09:00 AM - 10:00 AM

Naranjo, Fernando

1109 Monday, 11:30 AM - 12:30 PM

Narayan, Viswanath

837 Sunday, 12:45 PM - 01:45 PM

Narayana, Sushmita

105 Friday, 11:30 AM - 12:30 PM

Narayanan, Arunachalam

765 Sunday, 11:30 AM - 12:30 PM
1224 Monday, 03:15 PM - 04:15 PM

Narayanan, Sriram

123 Friday, 11:30 AM - 12:30 PM
617 Saturday, 04:30 PM - 05:30 PM
629 Saturday, 04:30 PM - 05:30 PM

Naseri, Nastaran

1195 Monday, 02:00 PM - 03:00 PM

Nasiry, Javad

299 Friday, 05:45 PM - 06:45 PM
527 Saturday, 02:00 PM - 03:00 PM
858 Sunday, 02:00 PM - 03:00 PM

Natarajan, Harihara

598 Saturday, 04:30 PM - 05:30 PM
621 Saturday, 04:30 PM - 05:30 PM

Naumov, Sergey

383 Saturday, 10:15 AM - 11:15 AM
460 Saturday, 11:30 AM - 12:30 PM
911 Sunday, 03:15 PM - 04:15 PM

Naveh, Eitan

1109 Monday, 11:30 AM - 12:30 PM

Nejad, Narges

561 Saturday, 03:15 PM - 04:15 PM

Nelson, Barry

521 Saturday, 02:00 PM - 03:00 PM

Nerur, Sridhar

1112 Monday, 11:30 AM - 12:30 PM

Neshkova, Milena

827 Sunday, 12:45 PM - 01:45 PM

Netessine, Serguei

14 Friday, 09:00 AM - 10:00 AM
140 Friday, 12:45 PM - 01:45 PM
685 Sunday, 09:00 AM - 10:00 AM

Netland, Torbjørn

512 Saturday, 02:00 PM - 03:00 PM
824 Sunday, 12:45 PM - 01:45 PM

Author Index

Newhouse, Joseph

772 Sunday, 11:30 AM - 12:30 PM

Ng, Bernard

899 Sunday, 03:15 PM - 04:15 PM

Nguyen, Dung

704 Sunday, 09:00 AM - 10:00 AM

Nguyen, Duy Tan

1153 Monday, 12:45 PM - 01:45 PM

1216 Monday, 02:00 PM - 03:00 PM

Nguyen, Jason

89 Friday, 11:30 AM - 12:30 PM

544 Saturday, 02:00 PM - 03:00 PM

Nguyen, Minh

457 Saturday, 11:30 AM - 12:30 PM

Nguyen, Tung

132 Friday, 12:45 PM - 01:45 PM

798 Sunday, 11:30 AM - 12:30 PM

Ni, John

459 Saturday, 11:30 AM - 12:30 PM

Nicholson, Charles

405 Saturday, 10:15 AM - 11:15 AM

Nicolas, Frédéric

398 Saturday, 10:15 AM - 11:15 AM

Nie, Cheng

440 Saturday, 11:30 AM - 12:30 PM

Nie, Xiaofeng

526 Saturday, 02:00 PM - 03:00 PM

Niedenzu, Denis

1217 Monday, 02:00 PM - 03:00 PM

Nilakantan, Rahul

1102 Monday, 11:30 AM - 12:30 PM

Ning, Jie

769 Sunday, 11:30 AM - 12:30 PM

Niranjan, Suman

248 Friday, 03:15 PM - 04:15 PM

442 Saturday, 11:30 AM - 12:30 PM

521 Saturday, 02:00 PM - 03:00 PM

765 Sunday, 11:30 AM - 12:30 PM

Niu, Rui

248 Friday, 03:15 PM - 04:15 PM

Niu, Ruiyang

390 Saturday, 10:15 AM - 11:15 AM

Niu, Yimeng

811 Sunday, 12:45 PM - 01:45 PM

Noh, In Joon

351 Saturday, 09:00 AM - 10:00 AM

805 Sunday, 12:45 PM - 01:45 PM

911 Sunday, 03:15 PM - 04:15 PM

1236 Monday, 03:15 PM - 04:15 PM

Nohadani, Omid

354 Saturday, 09:00 AM - 10:00 AM

Norgren, Axel

198 Friday, 02:00 PM - 03:00 PM

Nosoohi, Iman

556 Saturday, 03:15 PM - 04:15 PM

Nowak , Radoslaw

950 Sunday, 04:30 PM - 05:30 PM

Nwafor, Onyi

436 Saturday, 11:30 AM - 12:30 PM

O

O’Ryan, Miguel

1057 Monday, 10:15 AM - 11:15 AM

Oakley, Mike

39 Friday, 09:00 AM - 10:00 AM

Odegaard, Fredrik

892 Sunday, 03:15 PM - 04:15 PM

Offenloch, Andreas

155 Friday, 12:45 PM - 01:45 PM

Ogcu Kaya, Gamze

764 Sunday, 11:30 AM - 12:30 PM

Oh, Han

368 Saturday, 09:00 AM - 10:00 AM

929 Sunday, 04:30 PM - 05:30 PM

Oh, Hyunjin

188 Friday, 02:00 PM - 03:00 PM

Oh, Jaelynn

147 Friday, 12:45 PM - 01:45 PM

Oh, Jae-Young

239 Friday, 03:15 PM - 04:15 PM

Oke, Adegoke

1033 Monday, 09:00 AM - 10:00 AM

Olaniyan, Olatunbosun

162 Friday, 12:45 PM - 01:45 PM

Olberg, Nils

1039 Monday, 09:00 AM - 10:00 AM

Oliva, Rogelio

368 Saturday, 09:00 AM - 10:00 AM

929 Sunday, 04:30 PM - 05:30 PM

1084 Monday, 10:15 AM - 11:15 AM

Oliveira Filho, Edivaldo

269 Friday, 04:30 PM - 05:30 PM

Olsder, Wendy

443 Saturday, 11:30 AM - 12:30 PM

Olsen, Tava

1080 Monday, 10:15 AM - 11:15 AM

Omar, Basil

135 Friday, 12:45 PM - 01:45 PM

Ooi, Oon

1108 Monday, 11:30 AM - 12:30 PM

Ormeci, Lerzan

816 Sunday, 12:45 PM - 01:45 PM

Oropallo, Eugenio

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374 Saturday, 09:00 AM - 10:00 AM

Orra, Samir

1026 Monday, 09:00 AM - 10:00 AM

Orsdemir, Adem

242 Friday, 03:15 PM - 04:15 PM

Ortega, Claudio

175 Friday, 02:00 PM - 03:00 PM

Osborn, Beverly

628 Saturday, 04:30 PM - 05:30 PM

Ostermeier, Manuel

410 Saturday, 10:15 AM - 11:15 AM

O’Sullivan, Eoin

845 Sunday, 02:00 PM - 03:00 PM

Otto, James

1023 Monday, 09:00 AM - 10:00 AM

Ovchinnikov, Anton

209 Friday, 02:00 PM - 03:00 PM

272 Friday, 04:30 PM - 05:30 PM

341 Saturday, 09:00 AM - 10:00 AM

Oyakawa, Aline

1026 Monday, 09:00 AM - 10:00 AM

Ozaltin, Osman

1073 Monday, 10:15 AM - 11:15 AM

Ozbek, Mete

816 Sunday, 12:45 PM - 01:45 PM

Ozbilge, Armagan

377 Saturday, 09:00 AM - 10:00 AM

Ozdaglar, Asuman

10 Friday, 09:00 AM - 10:00 AM

Ozdemir, Bengu

383 Saturday, 10:15 AM - 11:15 AM

Ozer, Ozalp

215 Friday, 03:15 PM - 04:15 PM

612 Saturday, 04:30 PM - 05:30 PM

621 Saturday, 04:30 PM - 05:30 PM

679 Sunday, 09:00 AM - 10:00 AM

808 Sunday, 12:45 PM - 01:45 PM

856 Sunday, 02:00 PM - 03:00 PM

Ozkan-Seely, Gulru

198 Friday, 02:00 PM - 03:00 PM

Ozlu, Neslihan

1266 Monday, 04:30 PM - 05:30 PM

Ozmemis, Cagri

385 Saturday, 10:15 AM - 11:15 AM

Ozpolat, Koray

680 Sunday, 09:00 AM - 10:00 AM

P

Pachamanova, Dessi

858 Sunday, 02:00 PM - 03:00 PM

Padhi, Sidhartha

1174 Monday, 12:45 PM - 01:45 PM

Author Index

1258 Monday, 03:15 PM - 04:15 PM

Padhy, Ramakrushna

396 Saturday, 10:15 AM - 11:15 AM

Padmanabhan, Balaji

355 Saturday, 09:00 AM - 10:00 AM

Padmanabhan, Kanchana

393 Saturday, 10:15 AM - 11:15 AM

Padovani, Felipe

1026 Monday, 09:00 AM - 10:00 AM

Paghadal, Vatsal

1191 Monday, 02:00 PM - 03:00 PM

Paine, James

593 Saturday, 04:30 PM - 05:30 PM

Pak, Olga

200 Friday, 02:00 PM - 03:00 PM

Pakiman, Parshan

839 Sunday, 12:45 PM - 01:45 PM

1063 Monday, 10:15 AM - 11:15 AM

Pal, Raktim

375 Saturday, 09:00 AM - 10:00 AM

1058 Monday, 10:15 AM - 11:15 AM

Palit, Shubhobrata

702 Sunday, 09:00 AM - 10:00 AM

Pamukcu, Duygu

554 Saturday, 03:15 PM - 04:15 PM

Pan, Jingming

360 Saturday, 09:00 AM - 10:00 AM

Pan, Mengyang

1194 Monday, 02:00 PM - 03:00 PM

Pan, Tianyu

243 Friday, 03:15 PM - 04:15 PM

Pan, Xiajun

388 Saturday, 10:15 AM - 11:15 AM

864 Sunday, 02:00 PM - 03:00 PM

1046 Monday, 09:00 AM - 10:00 AM

Pan, Xiaodan

1122 Monday, 11:30 AM - 12:30 PM

Pandey, Rahul

92 Friday, 11:30 AM - 12:30 PM

Pangburn, Michael

116 Friday, 11:30 AM - 12:30 PM

1193 Monday, 02:00 PM - 03:00 PM

Papadopoulos, Thanos

795 Sunday, 11:30 AM - 12:30 PM

Paquette, Julie

1074 Monday, 10:15 AM - 11:15 AM

Paraskevas, John-Patrick

795 Sunday, 11:30 AM - 12:30 PM

Park, Eunho

185 Friday, 02:00 PM - 03:00 PM

Park, Hyunwoo

92 Friday, 11:30 AM - 12:30 PM

Park, Jimin

262 Friday, 04:30 PM - 05:30 PM

Park, Kwangtae

874 Sunday, 02:00 PM - 03:00 PM

Park, Minje

268 Friday, 04:30 PM - 05:30 PM

351 Saturday, 09:00 AM - 10:00 AM

856 Sunday, 02:00 PM - 03:00 PM

Park, Samantha

239 Friday, 03:15 PM - 04:15 PM

Parker, Felix

606 Saturday, 04:30 PM - 05:30 PM

1108 Monday, 11:30 AM - 12:30 PM

Parker, Geoffrey

104 Friday, 11:30 AM - 12:30 PM

177 Friday, 02:00 PM - 03:00 PM

523 Saturday, 02:00 PM - 03:00 PM

603 Saturday, 04:30 PM - 05:30 PM

Parker, Rodney

39 Friday, 09:00 AM - 10:00 AM

1016 Monday, 09:00 AM - 10:00 AM

Parkes, Jonathan

408 Saturday, 10:15 AM - 11:15 AM

Parlakturk, Ali

178 Friday, 02:00 PM - 03:00 PM

1082 Monday, 10:15 AM - 11:15 AM

Parlar, Mahmut

377 Saturday, 09:00 AM - 10:00 AM

Parsa, Iman

427 Saturday, 11:30 AM - 12:30 PM

Partovi, Fariborz

1084 Monday, 10:15 AM - 11:15 AM

Passaro, Renato

374 Saturday, 09:00 AM - 10:00 AM

PATACI, HILAL

1069 Monday, 10:15 AM - 11:15 AM

Pathak, Shreyaan

37 Friday, 09:00 AM - 10:00 AM

Pathak, Surya

37 Friday, 09:00 AM - 10:00 AM

198 Friday, 02:00 PM - 03:00 PM

293 Friday, 04:30 PM - 05:30 PM

449 Saturday, 11:30 AM - 12:30 PM

Pati, Rupesh

419 Saturday, 10:15 AM - 11:15 AM

1258 Monday, 03:15 PM - 04:15 PM

Pati, Smeetasree

1091 Monday, 10:15 AM - 11:15 AM

Patil, Himali

765 Sunday, 11:30 AM - 12:30 PM

Patil, Kiran

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121 Friday, 11:30 AM - 12:30 PM

593 Saturday, 04:30 PM - 05:30 PM

Patrucco , Andrea

583 Saturday, 03:15 PM - 04:15 PM

785 Sunday, 11:30 AM - 12:30 PM

827 Sunday, 12:45 PM - 01:45 PM

1087 Monday, 10:15 AM - 11:15 AM

Patterson, Brian

257 Friday, 04:30 PM - 05:30 PM

Paul, Anand

233 Friday, 03:15 PM - 04:15 PM

397 Saturday, 10:15 AM - 11:15 AM

790 Sunday, 11:30 AM - 12:30 PM

863 Sunday, 02:00 PM - 03:00 PM

Paul, Jomon

386 Saturday, 10:15 AM - 11:15 AM

Paul, Somak

1258 Monday, 03:15 PM - 04:15 PM

Pauphilet, Jean

184 Friday, 02:00 PM - 03:00 PM

226 Friday, 03:15 PM - 04:15 PM

Pay, Kenneth

27 Friday, 09:00 AM - 10:00 AM

Paz, Helmer

133 Friday, 12:45 PM - 01:45 PM

Paz, Nelson

133 Friday, 12:45 PM - 01:45 PM

Peach, Robert

450 Saturday, 11:30 AM - 12:30 PM

Pedraza, Alfonso

91 Friday, 11:30 AM - 12:30 PM

165 Friday, 12:45 PM - 01:45 PM

259 Friday, 04:30 PM - 05:30 PM

524 Saturday, 02:00 PM - 03:00 PM

763 Sunday, 11:30 AM - 12:30 PM

781 Sunday, 11:30 AM - 12:30 PM

1016 Monday, 09:00 AM - 10:00 AM

Peinkofer, Simone

612 Saturday, 04:30 PM - 05:30 PM

Pekgun, Pelin

237 Friday, 03:15 PM - 04:15 PM

697 Sunday, 09:00 AM - 10:00 AM

764 Sunday, 11:30 AM - 12:30 PM

Penagos-Rodriguez, Paula

205 Friday, 02:00 PM - 03:00 PM

1133 Monday, 11:30 AM - 12:30 PM

Pender, Jamol

1 Friday, 09:00 AM - 10:00 AM

Peng, Jie

770 Sunday, 11:30 AM - 12:30 PM

Peng, Xianghui (Richard)

712 Sunday, 09:00 AM - 10:00 AM

Peng, Xiaosong (David)

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Puram, Praveen

783 Sunday, 11:30 AM - 12:30 PM
1035 Monday, 09:00 AM - 10:00 AM

Q

Qazi, Asad

533 Saturday, 02:00 PM - 03:00 PM

Qi, Anyan

789 Sunday, 11:30 AM - 12:30 PM
1199 Monday, 02:00 PM - 03:00 PM

Qi, Wei

545 Saturday, 02:00 PM - 03:00 PM
1132 Monday, 11:30 AM - 12:30 PM

Qian, Kun

1017 Monday, 09:00 AM - 10:00 AM

Qian, Xiaoyan

675 Sunday, 09:00 AM - 10:00 AM
909 Sunday, 03:15 PM - 04:15 PM

Qin, Marco

360 Saturday, 09:00 AM - 10:00 AM

Qiu, Aaron (Yunzhe)

182 Friday, 02:00 PM - 03:00 PM
374 Saturday, 09:00 AM - 10:00 AM
1105 Monday, 11:30 AM - 12:30 PM
1147 Monday, 12:45 PM - 01:45 PM

Qiu, Liangfei

136 Friday, 12:45 PM - 01:45 PM
243 Friday, 03:15 PM - 04:15 PM
356 Saturday, 09:00 AM - 10:00 AM
539 Saturday, 02:00 PM - 03:00 PM
581 Saturday, 03:15 PM - 04:15 PM
1154 Monday, 12:45 PM - 01:45 PM

Qorbanian, Roozbeh

1021 Monday, 09:00 AM - 10:00 AM

Qu, Xinxue

177 Friday, 02:00 PM - 03:00 PM
387 Saturday, 10:15 AM - 11:15 AM

Quintane, Eric

91 Friday, 11:30 AM - 12:30 PM

Quintero-Giraldo, Ricardo

122 Friday, 11:30 AM - 12:30 PM
205 Friday, 02:00 PM - 03:00 PM

R

Rabinovich, Elliot

358 Saturday, 09:00 AM - 10:00 AM
1072 Monday, 10:15 AM - 11:15 AM

Radke, Andreas M.

393 Saturday, 10:15 AM - 11:15 AM

Raghavan, S.

442 Saturday, 11:30 AM - 12:30 PM

Raghunathan, Arvind

705 Sunday, 09:00 AM - 10:00 AM

Piri, Saeed

1193 Monday, 02:00 PM - 03:00 PM

Pixton, Clark

1099 Monday, 11:30 AM - 12:30 PM

Plambeck, Erica

1151 Monday, 12:45 PM - 01:45 PM

Pohlen, Terrance

442 Saturday, 11:30 AM - 12:30 PM

Ponce-Cueto, Eva

578 Saturday, 03:15 PM - 04:15 PM
1217 Monday, 02:00 PM - 03:00 PM

Posada-Henao, John

122 Friday, 11:30 AM - 12:30 PM
205 Friday, 02:00 PM - 03:00 PM
289 Friday, 04:30 PM - 05:30 PM
1133 Monday, 11:30 AM - 12:30 PM

Poshdar, Mani

258 Friday, 04:30 PM - 05:30 PM

Posner, Marc

956 Sunday, 04:30 PM - 05:30 PM

Pott, Christoph

36 Friday, 09:00 AM - 10:00 AM

Pourghannad, Behrooz

89 Friday, 11:30 AM - 12:30 PM

Pournader, Mehrdokht (Medo)

1224 Monday, 03:15 PM - 04:15 PM

Pourreza, Saba

607 Saturday, 04:30 PM - 05:30 PM

Powless, Seth

432 Saturday, 11:30 AM - 12:30 PM
840 Sunday, 12:45 PM - 01:45 PM

Prasad, Ashutosh

864 Sunday, 02:00 PM - 03:00 PM

Prasad, Padmanabhan

1116 Monday, 11:30 AM - 12:30 PM

Prataviera, Lorenzo Bruno

207 Friday, 02:00 PM - 03:00 PM

Prateek, Pranay

845 Sunday, 02:00 PM - 03:00 PM

Pritchard, Alan

200 Friday, 02:00 PM - 03:00 PM

Prybutok, Gayle

269 Friday, 04:30 PM - 05:30 PM

Prybutok, Victor

269 Friday, 04:30 PM - 05:30 PM
428 Saturday, 11:30 AM - 12:30 PM
442 Saturday, 11:30 AM - 12:30 PM

Pullman, Madeleine

405 Saturday, 10:15 AM - 11:15 AM

Pun, Hubert

9 Friday, 09:00 AM - 10:00 AM
892 Sunday, 03:15 PM - 04:15 PM

9 Friday, 09:00 AM - 10:00 AM
688 Sunday, 09:00 AM - 10:00 AM

Peng, Yunlong

822 Sunday, 12:45 PM - 01:45 PM

Peng, Yuqi

41 Friday, 09:00 AM - 10:00 AM
533 Saturday, 02:00 PM - 03:00 PM
1102 Monday, 11:30 AM - 12:30 PM

Perakis, Georgia

1108 Monday, 11:30 AM - 12:30 PM

Perdikaki, Olga

200 Friday, 02:00 PM - 03:00 PM
242 Friday, 03:15 PM - 04:15 PM
284 Friday, 04:30 PM - 05:30 PM

Perez-Arostegui, M^a Nieves

258 Friday, 04:30 PM - 05:30 PM

Perez-Guzman, Sofia

554 Saturday, 03:15 PM - 04:15 PM
697 Sunday, 09:00 AM - 10:00 AM

Peters, Megan

781 Sunday, 11:30 AM - 12:30 PM

Petersen, Finn

601 Saturday, 04:30 PM - 05:30 PM

Petersen, Moritz

922 Sunday, 03:15 PM - 04:15 PM
1175 Monday, 12:45 PM - 01:45 PM

Petruzzi, Nicholas

788 Sunday, 11:30 AM - 12:30 PM

Petryk, Mariia

581 Saturday, 03:15 PM - 04:15 PM

Phan, Anh

457 Saturday, 11:30 AM - 12:30 PM

Phares, Jonathan

185 Friday, 02:00 PM - 03:00 PM

Phares, Jonathan

185 Friday, 02:00 PM - 03:00 PM

Phillips, Wendy

135 Friday, 12:45 PM - 01:45 PM

Picanço Rodrigues, Vinicius

578 Saturday, 03:15 PM - 04:15 PM
583 Saturday, 03:15 PM - 04:15 PM

Pincheira, Lilia

924 Sunday, 03:15 PM - 04:15 PM

Pinheiro, Maria Clara

553 Saturday, 03:15 PM - 04:15 PM

Pinker, Edieal

184 Friday, 02:00 PM - 03:00 PM

Piran, Fabio

458 Saturday, 11:30 AM - 12:30 PM

Piri, Hossein

144 Friday, 12:45 PM - 01:45 PM
1068 Monday, 10:15 AM - 11:15 AM

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Raghunathan, Srinivasan

387 Saturday, 10:15 AM - 11:15 AM
1069 Monday, 10:15 AM - 11:15 AM

Rahemi, Hasti

91 Friday, 11:30 AM - 12:30 PM

Rahmani, Morvarid

216 Friday, 03:15 PM - 04:15 PM
912 Sunday, 03:15 PM - 04:15 PM

Rajagopalan, Raj

248 Friday, 03:15 PM - 04:15 PM

Rajaguru, Rajesh

1116 Monday, 11:30 AM - 12:30 PM

Rajapakshe, Tharanga

863 Sunday, 02:00 PM - 03:00 PM

Ramachandran, Karthik

216 Friday, 03:15 PM - 04:15 PM
702 Sunday, 09:00 AM - 10:00 AM
912 Sunday, 03:15 PM - 04:15 PM

Raman, Ananth

132 Friday, 12:45 PM - 01:45 PM

Ramanathan, Ramakrishnan

713 Sunday, 09:00 AM - 10:00 AM

Ramdas, Kamalini

1 Friday, 09:00 AM - 10:00 AM
343 Saturday, 09:00 AM - 10:00 AM
438 Saturday, 11:30 AM - 12:30 PM

Ramesh, Ram

437 Saturday, 11:30 AM - 12:30 PM

Ramkumar, M

207 Friday, 02:00 PM - 03:00 PM
1059 Monday, 10:15 AM - 11:15 AM

Rampim, Danielle

1026 Monday, 09:00 AM - 10:00 AM

Ran, Lun

837 Sunday, 12:45 PM - 01:45 PM

Rana, Rishabh

163 Friday, 12:45 PM - 01:45 PM
428 Saturday, 11:30 AM - 12:30 PM

Rana, Shraddha

1100 Monday, 11:30 AM - 12:30 PM

Rancourt, Marie-Eve

867 Sunday, 02:00 PM - 03:00 PM

Rancourt, Marie-Eve Rancourt

1075 Monday, 10:15 AM - 11:15 AM

Ranjan, Amit

924 Sunday, 03:15 PM - 04:15 PM

Ransom, Elizabeth

573 Saturday, 03:15 PM - 04:15 PM

Rao, Shashank

1035 Monday, 09:00 AM - 10:00 AM

Ratcliffe, Aaron

17 Friday, 09:00 AM - 10:00 AM

Rath, Sandeep

142 Friday, 12:45 PM - 01:45 PM
396 Saturday, 10:15 AM - 11:15 AM
605 Saturday, 04:30 PM - 05:30 PM
856 Sunday, 02:00 PM - 03:00 PM

Ravichandran, T.

543 Saturday, 02:00 PM - 03:00 PM
795 Sunday, 11:30 AM - 12:30 PM
1069 Monday, 10:15 AM - 11:15 AM

Ravid, Yaniv

425 Saturday, 11:30 AM - 12:30 PM

Ray, Saibal

32 Friday, 09:00 AM - 10:00 AM

Raychaudhuri, Avijit

457 Saturday, 11:30 AM - 12:30 PM
628 Saturday, 04:30 PM - 05:30 PM

Raymond, Collin

100 Friday, 11:30 AM - 12:30 PM

Razavi, Hamideh

383 Saturday, 10:15 AM - 11:15 AM

Rea, David

244 Friday, 03:15 PM - 04:15 PM

Regal , Andres

175 Friday, 02:00 PM - 03:00 PM
946 Sunday, 04:30 PM - 05:30 PM

Reid, Iain

120 Friday, 11:30 AM - 12:30 PM
132 Friday, 12:45 PM - 01:45 PM
916 Sunday, 03:15 PM - 04:15 PM

Reis, Lilian

1026 Monday, 09:00 AM - 10:00 AM

Ren, Hang

430 Saturday, 11:30 AM - 12:30 PM
450 Saturday, 11:30 AM - 12:30 PM

Ren, Jie

24 Friday, 09:00 AM - 10:00 AM

Ren, Xinyi (Kate)

956 Sunday, 04:30 PM - 05:30 PM

Renteria, Rafael

175 Friday, 02:00 PM - 03:00 PM

Restivo, Michaela

244 Friday, 03:15 PM - 04:15 PM

Reyes, Lorena

579 Saturday, 03:15 PM - 04:15 PM

Rezaee Vessal, Sara

1038 Monday, 09:00 AM - 10:00 AM

Rezaei, Mostafa

763 Sunday, 11:30 AM - 12:30 PM

Ribeiro, Claudia

1026 Monday, 09:00 AM - 10:00 AM

Ricciardelli, Caroline

1109 Monday, 11:30 AM - 12:30 PM

Richard, Abigail

1149 Monday, 12:45 PM - 01:45 PM

Richards, Timothy

573 Saturday, 03:15 PM - 04:15 PM

Richter, Lori

425 Saturday, 11:30 AM - 12:30 PM

Riesenegger, Lena

410 Saturday, 10:15 AM - 11:15 AM

Rikhtehgar Berenji, Hossein

506 Saturday, 02:00 PM - 03:00 PM
595 Saturday, 04:30 PM - 05:30 PM

Ritchie, William

541 Saturday, 02:00 PM - 03:00 PM
563 Saturday, 03:15 PM - 04:15 PM

Ritchken, Peter

517 Saturday, 02:00 PM - 03:00 PM

Rivera, Michael

581 Saturday, 03:15 PM - 04:15 PM

Ro, Joon H.

366 Saturday, 09:00 AM - 10:00 AM

Ro, Young

1023 Monday, 09:00 AM - 10:00 AM

Roath, Anthony

1087 Monday, 10:15 AM - 11:15 AM

Robins Boone, Janetta

1017 Monday, 09:00 AM - 10:00 AM

Robinson, Anne

43 Friday, 10:15 AM - 11:15 AM

Robinson, Powell

777 Sunday, 11:30 AM - 12:30 PM
946 Sunday, 04:30 PM - 05:30 PM

Rodilitz, Scott

865 Sunday, 02:00 PM - 03:00 PM

Rodrigues, Vasco

405 Saturday, 10:15 AM - 11:15 AM

Rodriguez, Michelle

175 Friday, 02:00 PM - 03:00 PM
946 Sunday, 04:30 PM - 05:30 PM

Roels, Guillaume

10 Friday, 09:00 AM - 10:00 AM

Roemer, Nils

376 Saturday, 09:00 AM - 10:00 AM

Roet-Green, Ricky

790 Sunday, 11:30 AM - 12:30 PM

Rogers, Zac

541 Saturday, 02:00 PM - 03:00 PM

Romero, Dana

816 Sunday, 12:45 PM - 01:45 PM

Romero, Gonzalo

250 Friday, 03:15 PM - 04:15 PM
1090 Monday, 10:15 AM - 11:15 AM

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Rosa, Raquel

760 Sunday, 11:30 AM - 12:30 PM

Rosa, Valentina

782 Sunday, 11:30 AM - 12:30 PM

Rosales, Claudia

375 Saturday, 09:00 AM - 10:00 AM

Roscoe, Sam

1099 Monday, 11:30 AM - 12:30 PM

Rosenzweig, Eve

769 Sunday, 11:30 AM - 12:30 PM

1052 Monday, 10:15 AM - 11:15 AM

Rosinia, Frank

144 Friday, 12:45 PM - 01:45 PM

Rosman, Cas

693 Sunday, 09:00 AM - 10:00 AM

Ross, Anthony

338 Saturday, 09:00 AM - 10:00 AM

380 Saturday, 10:15 AM - 11:15 AM

422 Saturday, 11:30 AM - 12:30 PM

Rossi Tafuri, Silvia

847 Sunday, 02:00 PM - 03:00 PM

Roth, Aleda

165 Friday, 12:45 PM - 01:45 PM

195 Friday, 02:00 PM - 03:00 PM

402 Saturday, 10:15 AM - 11:15 AM

Rout, Arun Kumar

153 Friday, 12:45 PM - 01:45 PM

215 Friday, 03:15 PM - 04:15 PM

621 Saturday, 04:30 PM - 05:30 PM

Roy, Abhishek

21 Friday, 09:00 AM - 10:00 AM

206 Friday, 02:00 PM - 03:00 PM

230 Friday, 03:15 PM - 04:15 PM

273 Friday, 04:30 PM - 05:30 PM

416 Saturday, 10:15 AM - 11:15 AM

828 Sunday, 12:45 PM - 01:45 PM

Roy, Arkajyoti

144 Friday, 12:45 PM - 01:45 PM

394 Saturday, 10:15 AM - 11:15 AM

Roy, Debjit

1030 Monday, 09:00 AM - 10:00 AM

1072 Monday, 10:15 AM - 11:15 AM

Roy, Dwaipayan

1039 Monday, 09:00 AM - 10:00 AM

Roy, Rahul

460 Saturday, 11:30 AM - 12:30 PM

527 Saturday, 02:00 PM - 03:00 PM

Roy, Ram

819 Sunday, 12:45 PM - 01:45 PM

Rueda-Velasco, Feizar

8 Friday, 09:00 AM - 10:00 AM

Ruehle, Chrissann

882 Sunday, 02:00 PM - 03:00 PM

Rungtusanatham, M

92 Friday, 11:30 AM - 12:30 PM

Rusmevichientong, Paat

243 Friday, 03:15 PM - 04:15 PM

Ryan, Christopher

117 Friday, 11:30 AM - 12:30 PM

Ryan, Jennifer

191 Friday, 02:00 PM - 03:00 PM

338 Saturday, 09:00 AM - 10:00 AM

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Saban, Daniela

865 Sunday, 02:00 PM - 03:00 PM

Sabbaghi, Arman

191 Friday, 02:00 PM - 03:00 PM

Saberi, Sara

417 Saturday, 10:15 AM - 11:15 AM

697 Sunday, 09:00 AM - 10:00 AM

Sabol, Matthew

260 Friday, 04:30 PM - 05:30 PM

Sabzehzar, Amin

20 Friday, 09:00 AM - 10:00 AM

Sadeghi, Azadeh

1114 Monday, 11:30 AM - 12:30 PM

Sadeghzadeh, Keivan

824 Sunday, 12:45 PM - 01:45 PM

Saez De Tejada Cuenca, Anna

575 Saturday, 03:15 PM - 04:15 PM

1013 Monday, 09:00 AM - 10:00 AM

Safaya, Shikha

823 Sunday, 12:45 PM - 01:45 PM

Saghafian, Soroush

228 Friday, 03:15 PM - 04:15 PM

772 Sunday, 11:30 AM - 12:30 PM

Saha, Rajib

566 Saturday, 03:15 PM - 04:15 PM

Saha, Subhankar

186 Friday, 02:00 PM - 03:00 PM

825 Sunday, 12:45 PM - 01:45 PM

Sahan, Sahika

285 Friday, 04:30 PM - 05:30 PM

Sahare, Mamta

231 Friday, 03:15 PM - 04:15 PM

Sahin, Funda

422 Saturday, 11:30 AM - 12:30 PM

946 Sunday, 04:30 PM - 05:30 PM

Sahinyazan, Feyza

259 Friday, 04:30 PM - 05:30 PM

1075 Monday, 10:15 AM - 11:15 AM

Sahoo, Rosalin

610 Saturday, 04:30 PM - 05:30 PM

Sahu, Aditya

396 Saturday, 10:15 AM - 11:15 AM

SAÏAH, Félícia

415 Saturday, 10:15 AM - 11:15 AM

1099 Monday, 11:30 AM - 12:30 PM

Salarpour, Mojtaba

428 Saturday, 11:30 AM - 12:30 PM

Saleh, Fahad

182 Friday, 02:00 PM - 03:00 PM

Salvador, Fabrizio

408 Saturday, 10:15 AM - 11:15 AM

950 Sunday, 04:30 PM - 05:30 PM

Samorani, Michele

438 Saturday, 11:30 AM - 12:30 PM

San, Dee

353 Saturday, 09:00 AM - 10:00 AM

Sanders Jones, Janine

366 Saturday, 09:00 AM - 10:00 AM

Sangal, Rohit

184 Friday, 02:00 PM - 03:00 PM

Sankaranarayanan, Sriram

1144 Monday, 12:45 PM - 01:45 PM

Santos, Renan

269 Friday, 04:30 PM - 05:30 PM

Sanyal, Bishwapriya

1075 Monday, 10:15 AM - 11:15 AM

Sapra, Amar

686 Sunday, 09:00 AM - 10:00 AM

Saragih, Austin

824 Sunday, 12:45 PM - 01:45 PM

830 Sunday, 12:45 PM - 01:45 PM

Saraiva, Flaviane

553 Saturday, 03:15 PM - 04:15 PM

Saranga, Haritha

461 Saturday, 11:30 AM - 12:30 PM

Sarkar, Puja

777 Sunday, 11:30 AM - 12:30 PM

Sarkar, Sourish

617 Saturday, 04:30 PM - 05:30 PM

Sarkar, Sumit

33 Friday, 09:00 AM - 10:00 AM

SARKAR, PIYAL

37 Friday, 09:00 AM - 10:00 AM

Sartal, Antonio

611 Saturday, 04:30 PM - 05:30 PM

Sasanuma, Katsunobu

1065 Monday, 10:15 AM - 11:15 AM

Saure, Denis

620 Saturday, 04:30 PM - 05:30 PM

1057 Monday, 10:15 AM - 11:15 AM

Saurin, Tarcísio

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782 Sunday, 11:30 AM - 12:30 PM
sauser, brian
521 Saturday, 02:00 PM - 03:00 PM
Savaskan, Canan
870 Sunday, 02:00 PM - 03:00 PM
Savin, Sergei
1151 Monday, 12:45 PM - 01:45 PM
Savitskie, Katrina
248 Friday, 03:15 PM - 04:15 PM
SAYARSHAD, Hamid
417 Saturday, 10:15 AM - 11:15 AM
Scavarda, Luiz
398 Saturday, 10:15 AM - 11:15 AM
Schaumann, Sarah
442 Saturday, 11:30 AM - 12:30 PM
1156 Monday, 12:45 PM - 01:45 PM
Scheller-Wolf, Alan
228 Friday, 03:15 PM - 04:15 PM
688 Sunday, 09:00 AM - 10:00 AM
1100 Monday, 11:30 AM - 12:30 PM
Schiffels, Sebastian
257 Friday, 04:30 PM - 05:30 PM
Schlaich, Tim
452 Saturday, 11:30 AM - 12:30 PM
Schmidt, Christoph
176 Friday, 02:00 PM - 03:00 PM
Schmidt, Glen
816 Sunday, 12:45 PM - 01:45 PM
Schmidt, William
224 Friday, 03:15 PM - 04:15 PM
Schneider, Jon
452 Saturday, 11:30 AM - 12:30 PM
Schniederjans, Dara
941 Sunday, 04:30 PM - 05:30 PM
Schoenherr, Tobias
541 Saturday, 02:00 PM - 03:00 PM
Schoenherr, Tobias
123 Friday, 11:30 AM - 12:30 PM
380 Saturday, 10:15 AM - 11:15 AM
617 Saturday, 04:30 PM - 05:30 PM
Scholtes, Stefan
268 Friday, 04:30 PM - 05:30 PM
1152 Monday, 12:45 PM - 01:45 PM
Schön, Anna-Mara
511 Saturday, 02:00 PM - 03:00 PM
Schroeder, Roger
366 Saturday, 09:00 AM - 10:00 AM
Schuelken, Ruth
113 Friday, 11:30 AM - 12:30 PM
Secomandi, Nicola
686 Sunday, 09:00 AM - 10:00 AM

Segev, Danny
411 Saturday, 10:15 AM - 11:15 AM
Segura, Jhon
133 Friday, 12:45 PM - 01:45 PM
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511 Saturday, 02:00 PM - 03:00 PM
Sekar, Shreyas
452 Saturday, 11:30 AM - 12:30 PM
Sen, Pradyot
449 Saturday, 11:30 AM - 12:30 PM
Sengul Orgut, Irem
202 Friday, 02:00 PM - 03:00 PM
Senot, Claire
911 Sunday, 03:15 PM - 04:15 PM
Seo, Donghwi
563 Saturday, 03:15 PM - 04:15 PM
Seo, Yong Won
239 Friday, 03:15 PM - 04:15 PM
Serpa, Juan Camilo
829 Sunday, 12:45 PM - 01:45 PM
Seshadri, Sridhar
423 Saturday, 11:30 AM - 12:30 PM
686 Sunday, 09:00 AM - 10:00 AM
769 Sunday, 11:30 AM - 12:30 PM
915 Sunday, 03:15 PM - 04:15 PM
1057 Monday, 10:15 AM - 11:15 AM
Setaputra, Robert
8 Friday, 09:00 AM - 10:00 AM
Sethi, Suresh
1132 Monday, 11:30 AM - 12:30 PM
Sethuraman, Jay
182 Friday, 02:00 PM - 03:00 PM
Sethuraman, Nagarajan
178 Friday, 02:00 PM - 03:00 PM
Settanni, Ettore
104 Friday, 11:30 AM - 12:30 PM
911 Sunday, 03:15 PM - 04:15 PM
Seuken, Sven
1039 Monday, 09:00 AM - 10:00 AM
Sexton, Thomas
1065 Monday, 10:15 AM - 11:15 AM
Seyed Haeri, Seyed Amin
559 Saturday, 03:15 PM - 04:15 PM
Sezer, Furkan
934 Sunday, 04:30 PM - 05:30 PM
Sgarbossa, Fabio
1030 Monday, 09:00 AM - 10:00 AM
Shaffer, Christopher
385 Saturday, 10:15 AM - 11:15 AM
Shah, Bhavin
12 Friday, 09:00 AM - 10:00 AM

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1068 Monday, 10:15 AM - 11:15 AM
Shah, Rachna
186 Friday, 02:00 PM - 03:00 PM
601 Saturday, 04:30 PM - 05:30 PM
714 Sunday, 09:00 AM - 10:00 AM
1052 Monday, 10:15 AM - 11:15 AM
1068 Monday, 10:15 AM - 11:15 AM
1236 Monday, 03:15 PM - 04:15 PM
Shaheen, lana
134 Friday, 12:45 PM - 01:45 PM
596 Saturday, 04:30 PM - 05:30 PM
Shahsavari, Masoumeh
146 Friday, 12:45 PM - 01:45 PM
Shalpegin, Timofey
1038 Monday, 09:00 AM - 10:00 AM
1080 Monday, 10:15 AM - 11:15 AM
Shan, Xi
873 Sunday, 02:00 PM - 03:00 PM
Shang, Guangzhi
681 Sunday, 09:00 AM - 10:00 AM
Shanthikumar, George
189 Friday, 02:00 PM - 03:00 PM
364 Saturday, 09:00 AM - 10:00 AM
598 Saturday, 04:30 PM - 05:30 PM
1115 Monday, 11:30 AM - 12:30 PM
Shao, Lusheng
854 Sunday, 02:00 PM - 03:00 PM
Shara, Nawar
520 Saturday, 02:00 PM - 03:00 PM
sharifi, Rozhin
383 Saturday, 10:15 AM - 11:15 AM
Sharma, Ankit
1191 Monday, 02:00 PM - 03:00 PM
Sharma, Kartikey
354 Saturday, 09:00 AM - 10:00 AM
Sharma, Luv
101 Friday, 11:30 AM - 12:30 PM
237 Friday, 03:15 PM - 04:15 PM
240 Friday, 03:15 PM - 04:15 PM
697 Sunday, 09:00 AM - 10:00 AM
1194 Monday, 02:00 PM - 03:00 PM
Sharma, Neha
12 Friday, 09:00 AM - 10:00 AM
201 Friday, 02:00 PM - 03:00 PM
285 Friday, 04:30 PM - 05:30 PM
Sharma, Nivedita
1258 Monday, 03:15 PM - 04:15 PM
Sharma, Pratyush
164 Friday, 12:45 PM - 01:45 PM
Sharma, Shreya
817 Sunday, 12:45 PM - 01:45 PM
Shechter, Steven

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144 Friday, 12:45 PM - 01:45 PM
1068 Monday, 10:15 AM - 11:15 AM

Shekhar, Shiva

272 Friday, 04:30 PM - 05:30 PM

Shen, Hao

364 Saturday, 09:00 AM - 10:00 AM

Shen, Max

243 Friday, 03:15 PM - 04:15 PM
338 Saturday, 09:00 AM - 10:00 AM
364 Saturday, 09:00 AM - 10:00 AM

Shen, Sam

1079 Monday, 10:15 AM - 11:15 AM

Shen, Yaohan

1030 Monday, 09:00 AM - 10:00 AM

Shen, Yinghua

1124 Monday, 11:30 AM - 12:30 PM

Shen, Yiwen

772 Sunday, 11:30 AM - 12:30 PM

Sheng, Lifei

117 Friday, 11:30 AM - 12:30 PM
864 Sunday, 02:00 PM - 03:00 PM

Shetty, Bala

189 Friday, 02:00 PM - 03:00 PM
843 Sunday, 02:00 PM - 03:00 PM

shi, Lingling

1132 Monday, 11:30 AM - 12:30 PM

Shi, Cong

226 Friday, 03:15 PM - 04:15 PM
604 Saturday, 04:30 PM - 05:30 PM
814 Sunday, 12:45 PM - 01:45 PM

Shi, Duo

136 Friday, 12:45 PM - 01:45 PM

Shi, Jim

825 Sunday, 12:45 PM - 01:45 PM

Shi, Pengyi

102 Friday, 11:30 AM - 12:30 PM
184 Friday, 02:00 PM - 03:00 PM
438 Saturday, 11:30 AM - 12:30 PM
605 Saturday, 04:30 PM - 05:30 PM
1010 Monday, 09:00 AM - 10:00 AM

Shi, Yilin

811 Sunday, 12:45 PM - 01:45 PM

Shi, Yunting

259 Friday, 04:30 PM - 05:30 PM

Shin, Hyeonsik

440 Saturday, 11:30 AM - 12:30 PM

Shin, Hyoduk

805 Sunday, 12:45 PM - 01:45 PM

Shiping, Liu

520 Saturday, 02:00 PM - 03:00 PM

Shirzadeh Chaleshtari, Ali

1032 Monday, 09:00 AM - 10:00 AM

shivendu, shivendu

455 Saturday, 11:30 AM - 12:30 PM

Shockley, Jeff

352 Saturday, 09:00 AM - 10:00 AM
587 Saturday, 03:15 PM - 04:15 PM

Shroff, Arvind

12 Friday, 09:00 AM - 10:00 AM

Shubham, Abhinav

1049 Monday, 09:00 AM - 10:00 AM

Shumsky, Robert

437 Saturday, 11:30 AM - 12:30 PM

Siddique, Aftab

1035 Monday, 09:00 AM - 10:00 AM

Siderius, James

10 Friday, 09:00 AM - 10:00 AM
263 Friday, 04:30 PM - 05:30 PM

Siebert, Ralph

398 Saturday, 10:15 AM - 11:15 AM

Siegler, Jane

39 Friday, 09:00 AM - 10:00 AM

Siemens, Enno

351 Saturday, 09:00 AM - 10:00 AM

Silberholz, John

144 Friday, 12:45 PM - 01:45 PM
226 Friday, 03:15 PM - 04:15 PM

Silva, Graça

760 Sunday, 11:30 AM - 12:30 PM
1216 Monday, 02:00 PM - 03:00 PM

Sim, Shuzhen

100 Friday, 11:30 AM - 12:30 PM

Simsek, A. Serdar

215 Friday, 03:15 PM - 04:15 PM
621 Saturday, 04:30 PM - 05:30 PM
808 Sunday, 12:45 PM - 01:45 PM

Sinchaisri, Park

173 Friday, 02:00 PM - 03:00 PM
216 Friday, 03:15 PM - 04:15 PM
1055 Monday, 10:15 AM - 11:15 AM

Singh, Aarti

396 Saturday, 10:15 AM - 11:15 AM

Singh, Gurmeet

377 Saturday, 09:00 AM - 10:00 AM

Singh, Rajendra

395 Saturday, 10:15 AM - 11:15 AM

Singh, Ritik

777 Sunday, 11:30 AM - 12:30 PM
802 Sunday, 12:45 PM - 01:45 PM
1153 Monday, 12:45 PM - 01:45 PM

Singh, Shubham

230 Friday, 03:15 PM - 04:15 PM

Singh, Shubhranshu

570 Saturday, 03:15 PM - 04:15 PM

Singh, Siddharth Prakash

839 Sunday, 12:45 PM - 01:45 PM
1100 Monday, 11:30 AM - 12:30 PM

Singh, Surya

38 Friday, 09:00 AM - 10:00 AM

SINGH, BHARATI

896 Sunday, 03:15 PM - 04:15 PM

Singha, Sumanta

201 Friday, 02:00 PM - 03:00 PM
566 Saturday, 03:15 PM - 04:15 PM
1153 Monday, 12:45 PM - 01:45 PM

Singhal, Kalyan

1136 Monday, 12:45 PM - 01:45 PM

Singhal, Vinod

207 Friday, 02:00 PM - 03:00 PM

Singhvi, Divya

703 Sunday, 09:00 AM - 10:00 AM
1108 Monday, 11:30 AM - 12:30 PM

Singhvi, Somya

27 Friday, 09:00 AM - 10:00 AM
703 Sunday, 09:00 AM - 10:00 AM
1048 Monday, 09:00 AM - 10:00 AM

Sinha, Ankur

946 Sunday, 04:30 PM - 05:30 PM

Sinha, Kingshuk

343 Saturday, 09:00 AM - 10:00 AM
375 Saturday, 09:00 AM - 10:00 AM
814 Sunday, 12:45 PM - 01:45 PM

Siqin, Tana

262 Friday, 04:30 PM - 05:30 PM
432 Saturday, 11:30 AM - 12:30 PM

Sjoding, Michael

144 Friday, 12:45 PM - 01:45 PM
226 Friday, 03:15 PM - 04:15 PM

Skali Lami, Omar

1108 Monday, 11:30 AM - 12:30 PM

Skowronski, Keith

93 Friday, 11:30 AM - 12:30 PM
617 Saturday, 04:30 PM - 05:30 PM

Slaugh, Vincent

286 Friday, 04:30 PM - 05:30 PM
1039 Monday, 09:00 AM - 10:00 AM

Smith, Antoinette

1024 Monday, 09:00 AM - 10:00 AM

Smith, Jeffery

352 Saturday, 09:00 AM - 10:00 AM
587 Saturday, 03:15 PM - 04:15 PM

Smith, Katherine

180 Friday, 02:00 PM - 03:00 PM
807 Sunday, 12:45 PM - 01:45 PM

Smith, Stephen

789 Sunday, 11:30 AM - 12:30 PM

Snyder, Clare

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929 Sunday, 04:30 PM - 05:30 PM

Snyder, Jim

435 Saturday, 11:30 AM - 12:30 PM

Sodero, Annibal

956 Sunday, 04:30 PM - 05:30 PM

Sodhi, Manmohan

364 Saturday, 09:00 AM - 10:00 AM

390 Saturday, 10:15 AM - 11:15 AM

885 Sunday, 03:15 PM - 04:15 PM

1099 Monday, 11:30 AM - 12:30 PM

Soh Noume, Franck Loic

436 Saturday, 11:30 AM - 12:30 PM

Sohoni, Milind

201 Friday, 02:00 PM - 03:00 PM

285 Friday, 04:30 PM - 05:30 PM

Solak, Senay

208 Friday, 02:00 PM - 03:00 PM

1033 Monday, 09:00 AM - 10:00 AM

Soltani, Mohamad

257 Friday, 04:30 PM - 05:30 PM

Soltanisehat, Leili

343 Saturday, 09:00 AM - 10:00 AM

Sommer, Svenja

324 Friday, 05:45 PM - 06:45 PM

Son, Byung-Gak

1099 Monday, 11:30 AM - 12:30 PM

Song, Bomi

408 Saturday, 10:15 AM - 11:15 AM

Song, Hua

938 Sunday, 04:30 PM - 05:30 PM

Song, Hummy

100 Friday, 11:30 AM - 12:30 PM

268 Friday, 04:30 PM - 05:30 PM

773 Sunday, 11:30 AM - 12:30 PM

1236 Monday, 03:15 PM - 04:15 PM

Song, Jeannette

812 Sunday, 12:45 PM - 01:45 PM

Song, Jie

1105 Monday, 11:30 AM - 12:30 PM

Song, Jing-Sheng

1048 Monday, 09:00 AM - 10:00 AM

Song, Lina

228 Friday, 03:15 PM - 04:15 PM

443 Saturday, 11:30 AM - 12:30 PM

772 Sunday, 11:30 AM - 12:30 PM

802 Sunday, 12:45 PM - 01:45 PM

814 Sunday, 12:45 PM - 01:45 PM

Song, Peijian

901 Sunday, 03:15 PM - 04:15 PM

Song, Sining

41 Friday, 09:00 AM - 10:00 AM

345 Saturday, 09:00 AM - 10:00 AM

418 Saturday, 10:15 AM - 11:15 AM

533 Saturday, 02:00 PM - 03:00 PM

587 Saturday, 03:15 PM - 04:15 PM

Soundararajan, Balaji

544 Saturday, 02:00 PM - 03:00 PM

Souyris, Sebastian

1057 Monday, 10:15 AM - 11:15 AM

Souza, Gilvan

376 Saturday, 09:00 AM - 10:00 AM

1150 Monday, 12:45 PM - 01:45 PM

Spangher, Lucas

1021 Monday, 09:00 AM - 10:00 AM

Spanos, Costas

1021 Monday, 09:00 AM - 10:00 AM

Sparks, Kevin

825 Sunday, 12:45 PM - 01:45 PM

Spaulding, Trent

17 Friday, 09:00 AM - 10:00 AM

Spielberg, Jonars

1075 Monday, 10:15 AM - 11:15 AM

Spiess, Jann

96 Friday, 11:30 AM - 12:30 PM

Spreitzenbarth, Jan

113 Friday, 11:30 AM - 12:30 PM

1112 Monday, 11:30 AM - 12:30 PM

Srai, Jagjit

104 Friday, 11:30 AM - 12:30 PM

156 Friday, 12:45 PM - 01:45 PM

603 Saturday, 04:30 PM - 05:30 PM

911 Sunday, 03:15 PM - 04:15 PM

Srinivas, Sharan

380 Saturday, 10:15 AM - 11:15 AM

Srinivasan, Karthik

371 Saturday, 09:00 AM - 10:00 AM

Srinivasan, Ravi

230 Friday, 03:15 PM - 04:15 PM

Sriskandarajah, Chelliah

189 Friday, 02:00 PM - 03:00 PM

400 Saturday, 10:15 AM - 11:15 AM

685 Sunday, 09:00 AM - 10:00 AM

797 Sunday, 11:30 AM - 12:30 PM

819 Sunday, 12:45 PM - 01:45 PM

863 Sunday, 02:00 PM - 03:00 PM

1088 Monday, 10:15 AM - 11:15 AM

Srivastava, Abhishek

1088 Monday, 10:15 AM - 11:15 AM

Srivastava, Joydeep

206 Friday, 02:00 PM - 03:00 PM

Srivastava, Rajesh

690 Sunday, 09:00 AM - 10:00 AM

Srivastava, Samir

377 Saturday, 09:00 AM - 10:00 AM

871 Sunday, 02:00 PM - 03:00 PM

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Srivastava, Smriti

845 Sunday, 02:00 PM - 03:00 PM

St. Jacques, Paul

17 Friday, 09:00 AM - 10:00 AM

Staats, Bradley

142 Friday, 12:45 PM - 01:45 PM

772 Sunday, 11:30 AM - 12:30 PM

856 Sunday, 02:00 PM - 03:00 PM

Stark, Eric

563 Saturday, 03:15 PM - 04:15 PM

Starr, Martin

715 Sunday, 10:15 AM - 11:15 AM

1184 Monday, 02:00 PM - 03:00 PM

Stauffer, Jon

819 Sunday, 12:45 PM - 01:45 PM

863 Sunday, 02:00 PM - 03:00 PM

Stecke, Kathryn

864 Sunday, 02:00 PM - 03:00 PM

Steele, Dayton

914 Sunday, 03:15 PM - 04:15 PM

Stefano, Gustavo

458 Saturday, 11:30 AM - 12:30 PM

Stefano, Leticia

458 Saturday, 11:30 AM - 12:30 PM

Stefanowicz, Jared

691 Sunday, 09:00 AM - 10:00 AM

Steven, Adams

783 Sunday, 11:30 AM - 12:30 PM

Stevenson, Mark

266 Friday, 04:30 PM - 05:30 PM

Stoll, Anna

180 Friday, 02:00 PM - 03:00 PM

432 Saturday, 11:30 AM - 12:30 PM

Storz, Cornelia

1164 Monday, 12:45 PM - 01:45 PM

Stuckenschmidt, Heiner

113 Friday, 11:30 AM - 12:30 PM

1112 Monday, 11:30 AM - 12:30 PM

Sturm, Sebastian

711 Sunday, 09:00 AM - 10:00 AM

Su, Hao

696 Sunday, 09:00 AM - 10:00 AM

Su, Huifeng

184 Friday, 02:00 PM - 03:00 PM

Su, Hung-Chung

41 Friday, 09:00 AM - 10:00 AM

1023 Monday, 09:00 AM - 10:00 AM

Su, Jingjie

1266 Monday, 04:30 PM - 05:30 PM

Su, Xuanming

147 Friday, 12:45 PM - 01:45 PM

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Subramanian, Anand

596 Saturday, 04:30 PM - 05:30 PM

Subramanian, Ravi

823 Sunday, 12:45 PM - 01:45 PM

1049 Monday, 09:00 AM - 10:00 AM

Suen, Sze-chuan

564 Saturday, 03:15 PM - 04:15 PM

Sul, Inki

808 Sunday, 12:45 PM - 01:45 PM

Sumkin, Dmitrii

140 Friday, 12:45 PM - 01:45 PM

Sun, Can

1069 Monday, 10:15 AM - 11:15 AM

Sun, Daewon

805 Sunday, 12:45 PM - 01:45 PM

Sun, Geng

177 Friday, 02:00 PM - 03:00 PM

520 Saturday, 02:00 PM - 03:00 PM

556 Saturday, 03:15 PM - 04:15 PM

Sun, Haoyan

901 Sunday, 03:15 PM - 04:15 PM

Sun, Hongmei

679 Sunday, 09:00 AM - 10:00 AM

Sun, Jiankun

108 Friday, 11:30 AM - 12:30 PM

242 Friday, 03:15 PM - 04:15 PM

766 Sunday, 11:30 AM - 12:30 PM

Sun, Jiong

108 Friday, 11:30 AM - 12:30 PM

Sun, Kai

144 Friday, 12:45 PM - 01:45 PM

Sun, Kai

33 Friday, 09:00 AM - 10:00 AM

Sun, Libo

406 Saturday, 10:15 AM - 11:15 AM

Sun, Shujing

396 Saturday, 10:15 AM - 11:15 AM

Sun, Tianshu

625 Saturday, 04:30 PM - 05:30 PM

Sun, Xichen

1084 Monday, 10:15 AM - 11:15 AM

Sun, Xu

233 Friday, 03:15 PM - 04:15 PM

790 Sunday, 11:30 AM - 12:30 PM

Sun, Zhankun

509 Saturday, 02:00 PM - 03:00 PM

Sunar, Nur

460 Saturday, 11:30 AM - 12:30 PM

527 Saturday, 02:00 PM - 03:00 PM

559 Saturday, 03:15 PM - 04:15 PM

620 Saturday, 04:30 PM - 05:30 PM

Sunder, Gautham

1154 Monday, 12:45 PM - 01:45 PM

Sunder, Sarang

186 Friday, 02:00 PM - 03:00 PM

Sundriyal, Vivek

198 Friday, 02:00 PM - 03:00 PM

Sungu, Alp

1 Friday, 09:00 AM - 10:00 AM

438 Saturday, 11:30 AM - 12:30 PM

Suresh, Akshaya

865 Sunday, 02:00 PM - 03:00 PM

Suresh, Nallan

7 Friday, 09:00 AM - 10:00 AM

854 Sunday, 02:00 PM - 03:00 PM

1157 Monday, 12:45 PM - 01:45 PM

Surucu Balci, Ebru

121 Friday, 11:30 AM - 12:30 PM

Suzuki, Yoshinori

526 Saturday, 02:00 PM - 03:00 PM

Swaminathan, Jayashankar

178 Friday, 02:00 PM - 03:00 PM

396 Saturday, 10:15 AM - 11:15 AM

527 Saturday, 02:00 PM - 03:00 PM

Swaminathan, Jayashankar

9 Friday, 09:00 AM - 10:00 AM

460 Saturday, 11:30 AM - 12:30 PM

559 Saturday, 03:15 PM - 04:15 PM

787 Sunday, 11:30 AM - 12:30 PM

Sweeney, Kevin

200 Friday, 02:00 PM - 03:00 PM

Swierczek, Artur

458 Saturday, 11:30 AM - 12:30 PM

583 Saturday, 03:15 PM - 04:15 PM

Swink, Morgan

320 Friday, 05:45 PM - 06:45 PM

Swinkels, Lisa

955 Sunday, 04:30 PM - 05:30 PM

Swinney, Robert

284 Friday, 04:30 PM - 05:30 PM

SYED, ROOHID AHMED

455 Saturday, 11:30 AM - 12:30 PM

Szajnfarber, Zoe

1142 Monday, 12:45 PM - 01:45 PM

Szmerekovsky, Joseph

554 Saturday, 03:15 PM - 04:15 PM

T

Ta, Ha

192 Friday, 02:00 PM - 03:00 PM

358 Saturday, 09:00 AM - 10:00 AM

Taaffe, Kevin

353 Saturday, 09:00 AM - 10:00 AM

395 Saturday, 10:15 AM - 11:15 AM

Tacheva, Zhasmina

1057 Monday, 10:15 AM - 11:15 AM

Tafti, Ali

358 Saturday, 09:00 AM - 10:00 AM

Taheri Bavi Oliaei, Mahyar

796 Sunday, 11:30 AM - 12:30 PM

Takasi, Goutham

12 Friday, 09:00 AM - 10:00 AM

863 Sunday, 02:00 PM - 03:00 PM

Takenouchi, Reiko

908 Sunday, 03:15 PM - 04:15 PM

TALAY, ISILAY

155 Friday, 12:45 PM - 01:45 PM

Tan, Tarkan

922 Sunday, 03:15 PM - 04:15 PM

923 Sunday, 03:15 PM - 04:15 PM

Tan, Tom

870 Sunday, 02:00 PM - 03:00 PM

Tan, Xiao

136 Friday, 12:45 PM - 01:45 PM

1115 Monday, 11:30 AM - 12:30 PM

Tan, Xuan

688 Sunday, 09:00 AM - 10:00 AM

Tan, Yinliang (Ricky)

177 Friday, 02:00 PM - 03:00 PM

Tan Erciyas, Burcu

523 Saturday, 02:00 PM - 03:00 PM

603 Saturday, 04:30 PM - 05:30 PM

Taneri, Niyazi

576 Saturday, 03:15 PM - 04:15 PM

Tang, Bill

781 Sunday, 11:30 AM - 12:30 PM

Tang, Christopher

111 Friday, 11:30 AM - 12:30 PM

213 Friday, 03:15 PM - 04:15 PM

363 Saturday, 09:00 AM - 10:00 AM

364 Saturday, 09:00 AM - 10:00 AM

406 Saturday, 10:15 AM - 11:15 AM

443 Saturday, 11:30 AM - 12:30 PM

699 Sunday, 09:00 AM - 10:00 AM

892 Sunday, 03:15 PM - 04:15 PM

1025 Monday, 09:00 AM - 10:00 AM

1032 Monday, 09:00 AM - 10:00 AM

Tang, Hua

197 Friday, 02:00 PM - 03:00 PM

Tang, Ping

943 Sunday, 04:30 PM - 05:30 PM

1069 Monday, 10:15 AM - 11:15 AM

Tang, Sammi

1115 Monday, 11:30 AM - 12:30 PM

Tang, Shaojie

33 Friday, 09:00 AM - 10:00 AM

455 Saturday, 11:30 AM - 12:30 PM

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Tang, Yanhan Tang

228 Friday, 03:15 PM - 04:15 PM
688 Sunday, 09:00 AM - 10:00 AM

Tang, Yi

375 Saturday, 09:00 AM - 10:00 AM
787 Sunday, 11:30 AM - 12:30 PM

Tao, Jun

435 Saturday, 11:30 AM - 12:30 PM

Tarokh, Vahid

122 Friday, 11:30 AM - 12:30 PM

Tasouji Hassanpour, Saeed

1156 Monday, 12:45 PM - 01:45 PM

Tatikonda, Mohan

198 Friday, 02:00 PM - 03:00 PM

Taylor, sean

705 Sunday, 09:00 AM - 10:00 AM

Tayur, Sridhar

228 Friday, 03:15 PM - 04:15 PM
688 Sunday, 09:00 AM - 10:00 AM

Tehlan, Vishwadeep

691 Sunday, 09:00 AM - 10:00 AM
817 Sunday, 12:45 PM - 01:45 PM

Tekriwal, Medha

691 Sunday, 09:00 AM - 10:00 AM

Teller, Jessica

825 Sunday, 12:45 PM - 01:45 PM

Tenhiala, Antti

383 Saturday, 10:15 AM - 11:15 AM

Teo, Chung-Piaw

1166 Monday, 12:45 PM - 01:45 PM

Terekhov, Maxim

352 Saturday, 09:00 AM - 10:00 AM

Tereyagoglu, Necati

195 Friday, 02:00 PM - 03:00 PM

Terwiesch, Christian

1236 Monday, 03:15 PM - 04:15 PM

Tewari, Anurag

29 Friday, 09:00 AM - 10:00 AM
449 Saturday, 11:30 AM - 12:30 PM

Thakar, Devashish

93 Friday, 11:30 AM - 12:30 PM
617 Saturday, 04:30 PM - 05:30 PM

Thayaparan, Leann

1108 Monday, 11:30 AM - 12:30 PM

Theile, Keno

207 Friday, 02:00 PM - 03:00 PM

Thirumalai, Sriram

186 Friday, 02:00 PM - 03:00 PM

Thomas, Amrita

908 Sunday, 03:15 PM - 04:15 PM

Thomas, Stephanie

1037 Monday, 09:00 AM - 10:00 AM

Thome, Antonio

398 Saturday, 10:15 AM - 11:15 AM

Thornton, Sabrina

36 Friday, 09:00 AM - 10:00 AM

Thraves, Charles

221 Friday, 03:15 PM - 04:15 PM

Thurer, Matthias

362 Saturday, 09:00 AM - 10:00 AM
404 Saturday, 10:15 AM - 11:15 AM
698 Sunday, 09:00 AM - 10:00 AM

Tian, Lin

780 Sunday, 11:30 AM - 12:30 PM

Tian, Min

541 Saturday, 02:00 PM - 03:00 PM

Tian, Zhili

240 Friday, 03:15 PM - 04:15 PM

Timenes, Atle

1030 Monday, 09:00 AM - 10:00 AM

Tipnis, Vinit

91 Friday, 11:30 AM - 12:30 PM

Tiwari, Manoj Kumar

38 Friday, 09:00 AM - 10:00 AM
105 Friday, 11:30 AM - 12:30 PM
610 Saturday, 04:30 PM - 05:30 PM
680 Sunday, 09:00 AM - 10:00 AM
777 Sunday, 11:30 AM - 12:30 PM
802 Sunday, 12:45 PM - 01:45 PM
1153 Monday, 12:45 PM - 01:45 PM

Tobey, Margaret

1073 Monday, 10:15 AM - 11:15 AM

Toktay, Beril

544 Saturday, 02:00 PM - 03:00 PM
703 Sunday, 09:00 AM - 10:00 AM
1144 Monday, 12:45 PM - 01:45 PM

Tomasi, Stella

158 Friday, 12:45 PM - 01:45 PM

Tonetto, Leandro

782 Sunday, 11:30 AM - 12:30 PM

Tong, Jordan

90 Friday, 11:30 AM - 12:30 PM
131 Friday, 12:45 PM - 01:45 PM

Tong, Xin

248 Friday, 03:15 PM - 04:15 PM

Tongarlak, Mustafa

405 Saturday, 10:15 AM - 11:15 AM

Topaloglu, Huseyin

411 Saturday, 10:15 AM - 11:15 AM

Topuz, Kazim

760 Sunday, 11:30 AM - 12:30 PM

Torabi, Elham

375 Saturday, 09:00 AM - 10:00 AM

Torres, Juan Pablo

1057 Monday, 10:15 AM - 11:15 AM

Tortorella, Guilherme Tortorella

362 Saturday, 09:00 AM - 10:00 AM
404 Saturday, 10:15 AM - 11:15 AM
782 Sunday, 11:30 AM - 12:30 PM

Tosyali, Ali

413 Saturday, 10:15 AM - 11:15 AM

Toufani, Parinaz

292 Friday, 04:30 PM - 05:30 PM

Toyasaki, Fuminori

679 Sunday, 09:00 AM - 10:00 AM

Transchel, Sandra

796 Sunday, 11:30 AM - 12:30 PM

Trapp, Andrew

806 Sunday, 12:45 PM - 01:45 PM

Trehan, Srishti

817 Sunday, 12:45 PM - 01:45 PM

Triki, Anis

887 Sunday, 03:15 PM - 04:15 PM

Trindade, Maria

798 Sunday, 11:30 AM - 12:30 PM

Tripathi, Arvind

565 Saturday, 03:15 PM - 04:15 PM

Tripathi, Muktak Krishnachandra

188 Friday, 02:00 PM - 03:00 PM
437 Saturday, 11:30 AM - 12:30 PM

Tripathy, Asit

1174 Monday, 12:45 PM - 01:45 PM

Tripathy, Manish

24 Friday, 09:00 AM - 10:00 AM
430 Saturday, 11:30 AM - 12:30 PM
586 Saturday, 03:15 PM - 04:15 PM

Trivella, Alessio

686 Sunday, 09:00 AM - 10:00 AM

Tröster, Chrstian

376 Saturday, 09:00 AM - 10:00 AM

Tsai, Mitchell

354 Saturday, 09:00 AM - 10:00 AM

Tschang, Feichin

604 Saturday, 04:30 PM - 05:30 PM

Tseng, Kevin

30 Friday, 09:00 AM - 10:00 AM

Tsolakis, Naoum

522 Saturday, 02:00 PM - 03:00 PM
711 Sunday, 09:00 AM - 10:00 AM
795 Sunday, 11:30 AM - 12:30 PM
1101 Monday, 11:30 AM - 12:30 PM
1217 Monday, 02:00 PM - 03:00 PM

Tsoukalas, Gerry

14 Friday, 09:00 AM - 10:00 AM

Tucker, Anita

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268 Friday, 04:30 PM - 05:30 PM
351 Saturday, 09:00 AM - 10:00 AM
856 Sunday, 02:00 PM - 03:00 PM
857 Sunday, 02:00 PM - 03:00 PM

Tulett, David

1156 Monday, 12:45 PM - 01:45 PM

Tuna, Ali Kaan

284 Friday, 04:30 PM - 05:30 PM

Turcic, Danko

1147 Monday, 12:45 PM - 01:45 PM

Turken, Nazli

21 Friday, 09:00 AM - 10:00 AM
863 Sunday, 02:00 PM - 03:00 PM

Turki, selim

520 Saturday, 02:00 PM - 03:00 PM

Turner, Garrett

840 Sunday, 12:45 PM - 01:45 PM

Turner, John

36 Friday, 09:00 AM - 10:00 AM

Turut, Ozge

94 Friday, 11:30 AM - 12:30 PM

Tyagi, Hanu

1236 Monday, 03:15 PM - 04:15 PM

U

U, Dinesh

162 Friday, 12:45 PM - 01:45 PM
413 Saturday, 10:15 AM - 11:15 AM

u2150635@unimail.hud.ac.uk, Meritta

121 Friday, 11:30 AM - 12:30 PM

Udenio, Maximiliano

37 Friday, 09:00 AM - 10:00 AM
575 Saturday, 03:15 PM - 04:15 PM
923 Sunday, 03:15 PM - 04:15 PM

Uichanco, Joline

427 Saturday, 11:30 AM - 12:30 PM
872 Sunday, 02:00 PM - 03:00 PM

Ulku, Sezer

509 Saturday, 02:00 PM - 03:00 PM

Unberath, Mathias

562 Saturday, 03:15 PM - 04:15 PM

Unver, Utku

1039 Monday, 09:00 AM - 10:00 AM

Urrea, Gloria

91 Friday, 11:30 AM - 12:30 PM
679 Sunday, 09:00 AM - 10:00 AM
823 Sunday, 12:45 PM - 01:45 PM

Uwalaka, Victor

135 Friday, 12:45 PM - 01:45 PM

V

V. Natarajan, Karthik

89 Friday, 11:30 AM - 12:30 PM

343 Saturday, 09:00 AM - 10:00 AM
617 Saturday, 04:30 PM - 05:30 PM

Vaezinejad, Soode

941 Sunday, 04:30 PM - 05:30 PM

Vakharia, Asoo

136 Friday, 12:45 PM - 01:45 PM

Vakhutinsky, Andrew

369 Saturday, 09:00 AM - 10:00 AM

Valavi, Ehsan

132 Friday, 12:45 PM - 01:45 PM

Valdes, Leon

91 Friday, 11:30 AM - 12:30 PM
551 Saturday, 03:15 PM - 04:15 PM
1055 Monday, 10:15 AM - 11:15 AM

Valimoradi, Reza

903 Sunday, 03:15 PM - 04:15 PM

Van der Auweraer, Sarah

693 Sunday, 09:00 AM - 10:00 AM

Van der Valk, Wendy

829 Sunday, 12:45 PM - 01:45 PM

Van Jaarsveld, Willem

541 Saturday, 02:00 PM - 03:00 PM

Van Mieghem, Jan

773 Sunday, 11:30 AM - 12:30 PM
1025 Monday, 09:00 AM - 10:00 AM

Van Oorschot, Kim

512 Saturday, 02:00 PM - 03:00 PM

Van Oyen, Mark

226 Friday, 03:15 PM - 04:15 PM
604 Saturday, 04:30 PM - 05:30 PM
814 Sunday, 12:45 PM - 01:45 PM
1067 Monday, 10:15 AM - 11:15 AM

van Pelt, Thomas

693 Sunday, 09:00 AM - 10:00 AM

van Rijn, Lisanne

1016 Monday, 09:00 AM - 10:00 AM

Van Wassenhove, Luk

512 Saturday, 02:00 PM - 03:00 PM
527 Saturday, 02:00 PM - 03:00 PM
774 Sunday, 11:30 AM - 12:30 PM
900 Sunday, 03:15 PM - 04:15 PM
955 Sunday, 04:30 PM - 05:30 PM
1016 Monday, 09:00 AM - 10:00 AM
1175 Monday, 12:45 PM - 01:45 PM

Vandaele, Nico

385 Saturday, 10:15 AM - 11:15 AM

Varadarajan, Deepa

702 Sunday, 09:00 AM - 10:00 AM

Varadejsatitwong, Paitoon

260 Friday, 04:30 PM - 05:30 PM

Varkkey, Helena

419 Saturday, 10:15 AM - 11:15 AM

Vasoya, Devin

563 Saturday, 03:15 PM - 04:15 PM
564 Saturday, 03:15 PM - 04:15 PM
899 Sunday, 03:15 PM - 04:15 PM

Vastag, Gyula

258 Friday, 04:30 PM - 05:30 PM
628 Saturday, 04:30 PM - 05:30 PM

Vayanos, Phebe

781 Sunday, 11:30 AM - 12:30 PM

Vaziri, Baback

375 Saturday, 09:00 AM - 10:00 AM

Vázquez, Xose H.

611 Saturday, 04:30 PM - 05:30 PM

Vedantam, Aditya

1065 Monday, 10:15 AM - 11:15 AM

Vega, Diego

415 Saturday, 10:15 AM - 11:15 AM
1099 Monday, 11:30 AM - 12:30 PM

Venkataraman, Ashwin

369 Saturday, 09:00 AM - 10:00 AM

Venkataraman, Sriram

125 Friday, 11:30 AM - 12:30 PM
158 Friday, 12:45 PM - 01:45 PM
195 Friday, 02:00 PM - 03:00 PM
395 Saturday, 10:15 AM - 11:15 AM
533 Saturday, 02:00 PM - 03:00 PM
1102 Monday, 11:30 AM - 12:30 PM

Verdugo, Victor

263 Friday, 04:30 PM - 05:30 PM

Verma, Nishant K

461 Saturday, 11:30 AM - 12:30 PM

Verma, Priyanka

802 Sunday, 12:45 PM - 01:45 PM

Verma, Rohit

1052 Monday, 10:15 AM - 11:15 AM

Verma, Virendra Kumar

1194 Monday, 02:00 PM - 03:00 PM

Verter, Vedat

858 Sunday, 02:00 PM - 03:00 PM

Victorino, Liana

1126 Monday, 11:30 AM - 12:30 PM

Vidal, Valeria

946 Sunday, 04:30 PM - 05:30 PM

Vidor, Gabriel

393 Saturday, 10:15 AM - 11:15 AM

Vieira, Saulo Fabiano

955 Sunday, 04:30 PM - 05:30 PM

Villa, Sebastian

91 Friday, 11:30 AM - 12:30 PM
679 Sunday, 09:00 AM - 10:00 AM
1013 Monday, 09:00 AM - 10:00 AM

Villareal, Jacobo

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785 Sunday, 11:30 AM - 12:30 PM

Villena, Veronica

41 Friday, 09:00 AM - 10:00 AM

573 Saturday, 03:15 PM - 04:15 PM

Visintainer Lerman, Laura

923 Sunday, 03:15 PM - 04:15 PM

1133 Monday, 11:30 AM - 12:30 PM

Visser, Henry

610 Saturday, 04:30 PM - 05:30 PM

voigt, Guido

376 Saturday, 09:00 AM - 10:00 AM

Vojdani, Nina

568 Saturday, 03:15 PM - 04:15 PM

Vu, Duc

864 Sunday, 02:00 PM - 03:00 PM

W

Wagner, Laura

411 Saturday, 10:15 AM - 11:15 AM

Wagner, Stephan

92 Friday, 11:30 AM - 12:30 PM

176 Friday, 02:00 PM - 03:00 PM

348 Saturday, 09:00 AM - 10:00 AM

442 Saturday, 11:30 AM - 12:30 PM

696 Sunday, 09:00 AM - 10:00 AM

1033 Monday, 09:00 AM - 10:00 AM

1156 Monday, 12:45 PM - 01:45 PM

Walczak, Darius

831 Sunday, 12:45 PM - 01:45 PM

Walston, Stephen

816 Sunday, 12:45 PM - 01:45 PM

Wan, Guohua

142 Friday, 12:45 PM - 01:45 PM

259 Friday, 04:30 PM - 05:30 PM

444 Saturday, 11:30 AM - 12:30 PM

Wan, Li

711 Sunday, 09:00 AM - 10:00 AM

1107 Monday, 11:30 AM - 12:30 PM

Wan, Xiang

356 Saturday, 09:00 AM - 10:00 AM

WAN, Li

711 Sunday, 09:00 AM - 10:00 AM

1107 Monday, 11:30 AM - 12:30 PM

Wang, Cheng

578 Saturday, 03:15 PM - 04:15 PM

Wang, Derui

854 Sunday, 02:00 PM - 03:00 PM

Wang, Haixu

517 Saturday, 02:00 PM - 03:00 PM

Wang, Haizhong

1150 Monday, 12:45 PM - 01:45 PM

Wang, Haobo

1157 Monday, 12:45 PM - 01:45 PM

Wang, Jiajie

1157 Monday, 12:45 PM - 01:45 PM

Wang, Jianfu

874 Sunday, 02:00 PM - 03:00 PM

Wang, Jing

880 Sunday, 02:00 PM - 03:00 PM

Wang, Jing

903 Sunday, 03:15 PM - 04:15 PM

Wang, Jingguo

1139 Monday, 12:45 PM - 01:45 PM

Wang, Kanix

16 Friday, 09:00 AM - 10:00 AM

Wang, Keqi

521 Saturday, 02:00 PM - 03:00 PM

1194 Monday, 02:00 PM - 03:00 PM

Wang, Lei

581 Saturday, 03:15 PM - 04:15 PM

Wang, Lina

192 Friday, 02:00 PM - 03:00 PM

358 Saturday, 09:00 AM - 10:00 AM

1072 Monday, 10:15 AM - 11:15 AM

Wang, Lu

871 Sunday, 02:00 PM - 03:00 PM

896 Sunday, 03:15 PM - 04:15 PM

Wang, Lu

394 Saturday, 10:15 AM - 11:15 AM

Wang, Luying

514 Saturday, 02:00 PM - 03:00 PM

850 Sunday, 02:00 PM - 03:00 PM

Wang, Mengxin

243 Friday, 03:15 PM - 04:15 PM

Wang, Peng

455 Saturday, 11:30 AM - 12:30 PM

Wang, Pingfan

265 Friday, 04:30 PM - 05:30 PM

Wang, Qi

606 Saturday, 04:30 PM - 05:30 PM

857 Sunday, 02:00 PM - 03:00 PM

1067 Monday, 10:15 AM - 11:15 AM

Wang, Qili

539 Saturday, 02:00 PM - 03:00 PM

Wang, Qingchen

706 Sunday, 09:00 AM - 10:00 AM

Wang, Qiong

1079 Monday, 10:15 AM - 11:15 AM

Wang, Ridong

521 Saturday, 02:00 PM - 03:00 PM

Wang, Rongjinzi

1105 Monday, 11:30 AM - 12:30 PM

Wang, Ruifeng

1122 Monday, 11:30 AM - 12:30 PM

Wang, Ruxian

410 Saturday, 10:15 AM - 11:15 AM

Wang, Shan

142 Friday, 12:45 PM - 01:45 PM

Wang, Shouqiang

27 Friday, 09:00 AM - 10:00 AM

612 Saturday, 04:30 PM - 05:30 PM

Wang, Siyi

892 Sunday, 03:15 PM - 04:15 PM

Wang, Siyu

447 Saturday, 11:30 AM - 12:30 PM

Wang, Surui

285 Friday, 04:30 PM - 05:30 PM

Wang, Ting

135 Friday, 12:45 PM - 01:45 PM

Wang, Tong

343 Saturday, 09:00 AM - 10:00 AM

Wang, Wei

1032 Monday, 09:00 AM - 10:00 AM

Wang, Wen

1150 Monday, 12:45 PM - 01:45 PM

Wang, Wenjun

182 Friday, 02:00 PM - 03:00 PM

Wang, Xiaoyu

14 Friday, 09:00 AM - 10:00 AM

415 Saturday, 10:15 AM - 11:15 AM

853 Sunday, 02:00 PM - 03:00 PM

Wang, Xin

780 Sunday, 11:30 AM - 12:30 PM

Wang, Xinfang

105 Friday, 11:30 AM - 12:30 PM

386 Saturday, 10:15 AM - 11:15 AM

Wang, Xiuwen

605 Saturday, 04:30 PM - 05:30 PM

Wang, Xuan

556 Saturday, 03:15 PM - 04:15 PM

Wang, Xuchen

453 Saturday, 11:30 AM - 12:30 PM

Wang, Yaolei

832 Sunday, 12:45 PM - 01:45 PM

Wang, Yimin

94 Friday, 11:30 AM - 12:30 PM

Wang, Yining

915 Sunday, 03:15 PM - 04:15 PM

Wang, Yixin Iris

144 Friday, 12:45 PM - 01:45 PM

226 Friday, 03:15 PM - 04:15 PM

914 Sunday, 03:15 PM - 04:15 PM

Wang, Yu

607 Saturday, 04:30 PM - 05:30 PM

Wang, Yuan

Author Index

386 Saturday, 10:15 AM - 11:15 AM
519 Saturday, 02:00 PM - 03:00 PM
561 Saturday, 03:15 PM - 04:15 PM

Wang, Yue

526 Saturday, 02:00 PM - 03:00 PM

Wang, Yulan

780 Sunday, 11:30 AM - 12:30 PM

Wang, Yunfan

950 Sunday, 04:30 PM - 05:30 PM

Wang, Zepeng

569 Saturday, 03:15 PM - 04:15 PM
696 Sunday, 09:00 AM - 10:00 AM

Wang, Zeya

912 Sunday, 03:15 PM - 04:15 PM

Wang, Zhe

360 Saturday, 09:00 AM - 10:00 AM
555 Saturday, 03:15 PM - 04:15 PM

Wang, Zhengli

576 Saturday, 03:15 PM - 04:15 PM

Wang, Zi'ang

224 Friday, 03:15 PM - 04:15 PM

WANG, Yingjia

262 Friday, 04:30 PM - 05:30 PM

Wani, Duhita

105 Friday, 11:30 AM - 12:30 PM
777 Sunday, 11:30 AM - 12:30 PM
1153 Monday, 12:45 PM - 01:45 PM

Wankhede, Kunal

775 Sunday, 11:30 AM - 12:30 PM

Ward, Amy

102 Friday, 11:30 AM - 12:30 PM

Ward, Sara

162 Friday, 12:45 PM - 01:45 PM

Warren, Scott

1017 Monday, 09:00 AM - 10:00 AM
1133 Monday, 11:30 AM - 12:30 PM

Watson-Manheim, Mary Beth

358 Saturday, 09:00 AM - 10:00 AM

Wattal, Sunil

416 Saturday, 10:15 AM - 11:15 AM

Webb, Eric

39 Friday, 09:00 AM - 10:00 AM

Webster, Scott

363 Saturday, 09:00 AM - 10:00 AM
427 Saturday, 11:30 AM - 12:30 PM
573 Saturday, 03:15 PM - 04:15 PM

Wei, Lai

159 Friday, 12:45 PM - 01:45 PM
872 Sunday, 02:00 PM - 03:00 PM

Wei, Lihong

1038 Monday, 09:00 AM - 10:00 AM

Wei, Ningji

449 Saturday, 11:30 AM - 12:30 PM

Wei, Shuang

447 Saturday, 11:30 AM - 12:30 PM

Wei, Wei

208 Friday, 02:00 PM - 03:00 PM

Wei, Xinyu

712 Sunday, 09:00 AM - 10:00 AM

Wei, Zaiyan

1111 Monday, 11:30 AM - 12:30 PM

Weissshuhn, Sandria

765 Sunday, 11:30 AM - 12:30 PM

Wen, Xin

432 Saturday, 11:30 AM - 12:30 PM

Wendt, Kai

116 Friday, 11:30 AM - 12:30 PM
593 Saturday, 04:30 PM - 05:30 PM

Weng, Jingjing

146 Friday, 12:45 PM - 01:45 PM

Wennberg, Karl

198 Friday, 02:00 PM - 03:00 PM

Whiddon, Elizabeth

180 Friday, 02:00 PM - 03:00 PM

Wickeham, Alexander

217 Friday, 03:15 PM - 04:15 PM

Wijnsma, Sytske

703 Sunday, 09:00 AM - 10:00 AM

Williams, Dorothy

698 Sunday, 09:00 AM - 10:00 AM

Windle, Robert

956 Sunday, 04:30 PM - 05:30 PM

Winkenbach, Matthias

824 Sunday, 12:45 PM - 01:45 PM
830 Sunday, 12:45 PM - 01:45 PM

Witman, Allison

607 Saturday, 04:30 PM - 05:30 PM

Woelbeling, Christian

227 Friday, 03:15 PM - 04:15 PM

Woldt, Jason

275 Friday, 04:30 PM - 05:30 PM
1107 Monday, 11:30 AM - 12:30 PM

Wolter, Tim Sergio

774 Sunday, 11:30 AM - 12:30 PM

Wong, Rex

840 Sunday, 12:45 PM - 01:45 PM

Wood, Benjamin

605 Saturday, 04:30 PM - 05:30 PM

Wowak, Kaitlin

165 Friday, 12:45 PM - 01:45 PM
617 Saturday, 04:30 PM - 05:30 PM

Wozabal, David

1021 Monday, 09:00 AM - 10:00 AM

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1063 Monday, 10:15 AM - 11:15 AM

wu, Xiangxiang

150 Friday, 12:45 PM - 01:45 PM

Wu, Andrew

1 Friday, 09:00 AM - 10:00 AM

Wu, Anqi

769 Sunday, 11:30 AM - 12:30 PM

Wu, Chao

427 Saturday, 11:30 AM - 12:30 PM

Wu, Chou-Chun

564 Saturday, 03:15 PM - 04:15 PM

Wu, Di

1046 Monday, 09:00 AM - 10:00 AM

Wu, Jian

189 Friday, 02:00 PM - 03:00 PM

Wu, Jianghua

569 Saturday, 03:15 PM - 04:15 PM
696 Sunday, 09:00 AM - 10:00 AM
869 Sunday, 02:00 PM - 03:00 PM

Wu, Jing

224 Friday, 03:15 PM - 04:15 PM
770 Sunday, 11:30 AM - 12:30 PM
811 Sunday, 12:45 PM - 01:45 PM

Wu, Lixia

625 Saturday, 04:30 PM - 05:30 PM

Wu, Owen

418 Saturday, 10:15 AM - 11:15 AM
422 Saturday, 11:30 AM - 12:30 PM
839 Sunday, 12:45 PM - 01:45 PM

Wu, Qi

517 Saturday, 02:00 PM - 03:00 PM
769 Sunday, 11:30 AM - 12:30 PM

Wu, Su-Ming

200 Friday, 02:00 PM - 03:00 PM

Wu, Ting

816 Sunday, 12:45 PM - 01:45 PM

Wu, Xianghua

1097 Monday, 11:30 AM - 12:30 PM
1139 Monday, 12:45 PM - 01:45 PM

Wu, Xiaojun

1154 Monday, 12:45 PM - 01:45 PM

Wu, Xiaole

854 Sunday, 02:00 PM - 03:00 PM

Wu, Yan

1097 Monday, 11:30 AM - 12:30 PM

Wu, Yaobin

98 Friday, 11:30 AM - 12:30 PM

Wu, Ying

1059 Monday, 10:15 AM - 11:15 AM

Wu, Zhaohui

785 Sunday, 11:30 AM - 12:30 PM

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POMS 2022 Program Book - 358

Wu, Zhengping

681 Sunday, 09:00 AM - 10:00 AM

Wuttke, David

769 Sunday, 11:30 AM - 12:30 PM

X

Xia, Yu

164 Friday, 12:45 PM - 01:45 PM

1115 Monday, 11:30 AM - 12:30 PM

xiao, Yangge

149 Friday, 12:45 PM - 01:45 PM

Xiao, Guang

164 Friday, 12:45 PM - 01:45 PM

598 Saturday, 04:30 PM - 05:30 PM

780 Sunday, 11:30 AM - 12:30 PM

Xiao, Wenli

208 Friday, 02:00 PM - 03:00 PM

Xiao, Zhifeng

122 Friday, 11:30 AM - 12:30 PM

Xie, Gaoyu

114 Friday, 11:30 AM - 12:30 PM

Xie, Heng (John)

269 Friday, 04:30 PM - 05:30 PM

Xie, Jiamuyan

21 Friday, 09:00 AM - 10:00 AM

Xie, Jiaping

1038 Monday, 09:00 AM - 10:00 AM

Xie, Jingui

832 Sunday, 12:45 PM - 01:45 PM

1108 Monday, 11:30 AM - 12:30 PM

Xie, Jinxing

887 Sunday, 03:15 PM - 04:15 PM

Xie, Si

1027 Monday, 09:00 AM - 10:00 AM

Xie, Tianling

371 Saturday, 09:00 AM - 10:00 AM

561 Saturday, 03:15 PM - 04:15 PM

Xie, Wei

521 Saturday, 02:00 PM - 03:00 PM

605 Saturday, 04:30 PM - 05:30 PM

1194 Monday, 02:00 PM - 03:00 PM

Xie, Xiaolei

521 Saturday, 02:00 PM - 03:00 PM

Xing, Enfeng

1018 Monday, 09:00 AM - 10:00 AM

XIONG, YANGCHUN

1017 Monday, 09:00 AM - 10:00 AM

Xu, Ailing

262 Friday, 04:30 PM - 05:30 PM

Xu, Eric

787 Sunday, 11:30 AM - 12:30 PM

Xu, Fasheng

14 Friday, 09:00 AM - 10:00 AM

111 Friday, 11:30 AM - 12:30 PM

182 Friday, 02:00 PM - 03:00 PM

223 Friday, 03:15 PM - 04:15 PM

415 Saturday, 10:15 AM - 11:15 AM

853 Sunday, 02:00 PM - 03:00 PM

1105 Monday, 11:30 AM - 12:30 PM

Xu, Hongyan

1111 Monday, 11:30 AM - 12:30 PM

Xu, Jinpeng

191 Friday, 02:00 PM - 03:00 PM

Xu, Kefeng

1191 Monday, 02:00 PM - 03:00 PM

Xu, Lu

712 Sunday, 09:00 AM - 10:00 AM

Xu, Ning

541 Saturday, 02:00 PM - 03:00 PM

Xu, Pei

24 Friday, 09:00 AM - 10:00 AM

Xu, Su Xiu

1035 Monday, 09:00 AM - 10:00 AM

Xu, Wenxin

780 Sunday, 11:30 AM - 12:30 PM

Xu, Xiaoyan

262 Friday, 04:30 PM - 05:30 PM

1116 Monday, 11:30 AM - 12:30 PM

Xu, Xingchen

539 Saturday, 02:00 PM - 03:00 PM

Xu, Xun

90 Friday, 11:30 AM - 12:30 PM

98 Friday, 11:30 AM - 12:30 PM

Xu, Yuqian

517 Saturday, 02:00 PM - 03:00 PM

Xue, Ling

901 Sunday, 03:15 PM - 04:15 PM

Xue, Lingzhou

435 Saturday, 11:30 AM - 12:30 PM

Xue, Mengying

364 Saturday, 09:00 AM - 10:00 AM

Y

Y. Kara, Bahar

259 Friday, 04:30 PM - 05:30 PM

Yadav, Prajwal

105 Friday, 11:30 AM - 12:30 PM

802 Sunday, 12:45 PM - 01:45 PM

1153 Monday, 12:45 PM - 01:45 PM

Yadav, Prashant

900 Sunday, 03:15 PM - 04:15 PM

1048 Monday, 09:00 AM - 10:00 AM

YADAV, SACHIN

38 Friday, 09:00 AM - 10:00 AM

Yagci Sokat, Kezban

848 Sunday, 02:00 PM - 03:00 PM

Yakovlev, Max

815 Sunday, 12:45 PM - 01:45 PM

Yalcin, Mehmet

121 Friday, 11:30 AM - 12:30 PM

289 Friday, 04:30 PM - 05:30 PM

887 Sunday, 03:15 PM - 04:15 PM

Yan, Hong

8 Friday, 09:00 AM - 10:00 AM

1141 Monday, 12:45 PM - 01:45 PM

Yan, Julia

705 Sunday, 09:00 AM - 10:00 AM

Yan, Lu (Lucy)

524 Saturday, 02:00 PM - 03:00 PM

781 Sunday, 11:30 AM - 12:30 PM

Yan, Nina

223 Friday, 03:15 PM - 04:15 PM

Yan, Tingting

449 Saturday, 11:30 AM - 12:30 PM

Yan, Yingchen

108 Friday, 11:30 AM - 12:30 PM

Yan, Zhenzhen

123 Friday, 11:30 AM - 12:30 PM

617 Saturday, 04:30 PM - 05:30 PM

Yan, Zhenzhen

453 Saturday, 11:30 AM - 12:30 PM

Yang, Bo

686 Sunday, 09:00 AM - 10:00 AM

Yang, Chia-Chun

1068 Monday, 10:15 AM - 11:15 AM

Yang, Haiying

681 Sunday, 09:00 AM - 10:00 AM

Yang, Haoyi

435 Saturday, 11:30 AM - 12:30 PM

Yang, Hu

435 Saturday, 11:30 AM - 12:30 PM

Yang, Hui

514 Saturday, 02:00 PM - 03:00 PM

Yang, Jingwen

375 Saturday, 09:00 AM - 10:00 AM

814 Sunday, 12:45 PM - 01:45 PM

1110 Monday, 11:30 AM - 12:30 PM

Yang, Julius

100 Friday, 11:30 AM - 12:30 PM

268 Friday, 04:30 PM - 05:30 PM

Yang, Liu

429 Saturday, 11:30 AM - 12:30 PM

Yang, Lu

247 Friday, 03:15 PM - 04:15 PM

Yang, Luyi

Author Index

373 Saturday, 09:00 AM - 10:00 AM
509 Saturday, 02:00 PM - 03:00 PM

Yang, Mingwen

440 Saturday, 11:30 AM - 12:30 PM

Yang, Muer

105 Friday, 11:30 AM - 12:30 PM

Yang, Nan

164 Friday, 12:45 PM - 01:45 PM
598 Saturday, 04:30 PM - 05:30 PM

Yang, S. Alex

98 Friday, 11:30 AM - 12:30 PM
343 Saturday, 09:00 AM - 10:00 AM
406 Saturday, 10:15 AM - 11:15 AM
812 Sunday, 12:45 PM - 01:45 PM
853 Sunday, 02:00 PM - 03:00 PM

Yang, Woojin

9 Friday, 09:00 AM - 10:00 AM
555 Saturday, 03:15 PM - 04:15 PM

Yang, Yi

1065 Monday, 10:15 AM - 11:15 AM

Yang, Yi

1059 Monday, 10:15 AM - 11:15 AM

Yang, Zhe

528 Saturday, 02:00 PM - 03:00 PM

Yang, Zhechao

233 Friday, 03:15 PM - 04:15 PM
864 Sunday, 02:00 PM - 03:00 PM
1154 Monday, 12:45 PM - 01:45 PM

Yang, Zhiyong

1074 Monday, 10:15 AM - 11:15 AM

Yao, Evan

815 Sunday, 12:45 PM - 01:45 PM

Yao, Xusheng

913 Sunday, 03:15 PM - 04:15 PM

Yao, Yao

822 Sunday, 12:45 PM - 01:45 PM

Yapar, Ozge

443 Saturday, 11:30 AM - 12:30 PM

Yavuz, Mesut

586 Saturday, 03:15 PM - 04:15 PM

Yavuz, Mirel

461 Saturday, 11:30 AM - 12:30 PM

Yazdani, Alireza

116 Friday, 11:30 AM - 12:30 PM

Yazdani, Elham

581 Saturday, 03:15 PM - 04:15 PM

Yazici, Hulya

882 Sunday, 02:00 PM - 03:00 PM
1058 Monday, 10:15 AM - 11:15 AM

Ye, Teng

117 Friday, 11:30 AM - 12:30 PM

Ye, Yusen

8 Friday, 09:00 AM - 10:00 AM
1141 Monday, 12:45 PM - 01:45 PM

Ye, Yuxiao

7 Friday, 09:00 AM - 10:00 AM
601 Saturday, 04:30 PM - 05:30 PM
1107 Monday, 11:30 AM - 12:30 PM

Ye, Zikun

96 Friday, 11:30 AM - 12:30 PM
150 Friday, 12:45 PM - 01:45 PM
831 Sunday, 12:45 PM - 01:45 PM

Yenipazarli, Arda

136 Friday, 12:45 PM - 01:45 PM

Yi, Zelong

699 Sunday, 09:00 AM - 10:00 AM

Yildirim, Inci

764 Sunday, 11:30 AM - 12:30 PM

Yildirim, Murat

569 Saturday, 03:15 PM - 04:15 PM

Yin, Rui

94 Friday, 11:30 AM - 12:30 PM
358 Saturday, 09:00 AM - 10:00 AM

Yin, Yong

606 Saturday, 04:30 PM - 05:30 PM

Ying, Xie

1017 Monday, 09:00 AM - 10:00 AM

Yom-Tov, Galit

1 Friday, 09:00 AM - 10:00 AM

Yoo, Changseung (Chang)

524 Saturday, 02:00 PM - 03:00 PM

Yoo, Eunae

524 Saturday, 02:00 PM - 03:00 PM
823 Sunday, 12:45 PM - 01:45 PM

Yoon, Donghun

428 Saturday, 11:30 AM - 12:30 PM

Yorukoglu, Sinan

559 Saturday, 03:15 PM - 04:15 PM

Yoshizaki, Hugo

553 Saturday, 03:15 PM - 04:15 PM

Youn, Seokjun

353 Saturday, 09:00 AM - 10:00 AM

Young, Gary

227 Friday, 03:15 PM - 04:15 PM

Young-Hyman, Trevor

1055 Monday, 10:15 AM - 11:15 AM

Yu, Dennis

402 Saturday, 10:15 AM - 11:15 AM

Yu, Haoran

111 Friday, 11:30 AM - 12:30 PM

Yu, Jiahao

869 Sunday, 02:00 PM - 03:00 PM

Yu, Jiayi

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364 Saturday, 09:00 AM - 10:00 AM

Yu, Jiayi

699 Sunday, 09:00 AM - 10:00 AM

Yu, Min

289 Friday, 04:30 PM - 05:30 PM

Yu, Qiuping

174 Friday, 02:00 PM - 03:00 PM

Yu, Tingyi

265 Friday, 04:30 PM - 05:30 PM

Yu, Vincent (Junhao)

89 Friday, 11:30 AM - 12:30 PM

Yu, Yugang

135 Friday, 12:45 PM - 01:45 PM
150 Friday, 12:45 PM - 01:45 PM
406 Saturday, 10:15 AM - 11:15 AM
555 Saturday, 03:15 PM - 04:15 PM

Yuan, Ruiying

444 Saturday, 11:30 AM - 12:30 PM

Yuan, Shuqing

513 Saturday, 02:00 PM - 03:00 PM

Yuan, Yufei

439 Saturday, 11:30 AM - 12:30 PM

Yucel, Safak

559 Saturday, 03:15 PM - 04:15 PM

Yue, Tan

513 Saturday, 02:00 PM - 03:00 PM

Yue, Wei Thoo

555 Saturday, 03:15 PM - 04:15 PM

Yukins, Chris

785 Sunday, 11:30 AM - 12:30 PM

Z

Zacharia, Zach

956 Sunday, 04:30 PM - 05:30 PM

Zacharias, Christos

689 Sunday, 09:00 AM - 10:00 AM

Zaman, Hosain

250 Friday, 03:15 PM - 04:15 PM

Zamzam, Fatima

132 Friday, 12:45 PM - 01:45 PM

Zang, Xinyu

356 Saturday, 09:00 AM - 10:00 AM

Zeng, Jacob

620 Saturday, 04:30 PM - 05:30 PM

Zeng, Yan

265 Friday, 04:30 PM - 05:30 PM

Zeng, Zhiyu

583 Saturday, 03:15 PM - 04:15 PM

Zenios, Stefanos

576 Saturday, 03:15 PM - 04:15 PM

Zepeda, E. David

Author Index

227 Friday, 03:15 PM - 04:15 PM

Zha, Yong

150 Friday, 12:45 PM - 01:45 PM

Zhai, Chengcheng

763 Sunday, 11:30 AM - 12:30 PM

1016 Monday, 09:00 AM - 10:00 AM

Zhai, Sophie

565 Saturday, 03:15 PM - 04:15 PM

Zhalechian, Mohammad

226 Friday, 03:15 PM - 04:15 PM

604 Saturday, 04:30 PM - 05:30 PM

814 Sunday, 12:45 PM - 01:45 PM

1067 Monday, 10:15 AM - 11:15 AM

Zhan, Dongyuan

551 Saturday, 03:15 PM - 04:15 PM

832 Sunday, 12:45 PM - 01:45 PM

zhang, zhe

455 Saturday, 11:30 AM - 12:30 PM

Zhang, Aiqi

545 Saturday, 02:00 PM - 03:00 PM

Zhang, Bin

1101 Monday, 11:30 AM - 12:30 PM

Zhang, Can

703 Sunday, 09:00 AM - 10:00 AM

1016 Monday, 09:00 AM - 10:00 AM

1048 Monday, 09:00 AM - 10:00 AM

Zhang, Chaoyu

1015 Monday, 09:00 AM - 10:00 AM

Zhang, Cheng

581 Saturday, 03:15 PM - 04:15 PM

Zhang, Chenglin

873 Sunday, 02:00 PM - 03:00 PM

Zhang, Chenglong

387 Saturday, 10:15 AM - 11:15 AM

Zhang, Dennis

96 Friday, 11:30 AM - 12:30 PM

108 Friday, 11:30 AM - 12:30 PM

150 Friday, 12:45 PM - 01:45 PM

242 Friday, 03:15 PM - 04:15 PM

583 Saturday, 03:15 PM - 04:15 PM

625 Saturday, 04:30 PM - 05:30 PM

766 Sunday, 11:30 AM - 12:30 PM

1166 Monday, 12:45 PM - 01:45 PM

Zhang, Dongli

266 Friday, 04:30 PM - 05:30 PM

Zhang, Fan

1105 Monday, 11:30 AM - 12:30 PM

Zhang, Fuqiang

136 Friday, 12:45 PM - 01:45 PM

625 Saturday, 04:30 PM - 05:30 PM

1166 Monday, 12:45 PM - 01:45 PM

Zhang, Guoqing

1112 Monday, 11:30 AM - 12:30 PM

Zhang, Han

217 Friday, 03:15 PM - 04:15 PM

Zhang, Haozhao

455 Saturday, 11:30 AM - 12:30 PM

Zhang, Heng

583 Saturday, 03:15 PM - 04:15 PM

Zhang, Heng

96 Friday, 11:30 AM - 12:30 PM

150 Friday, 12:45 PM - 01:45 PM

243 Friday, 03:15 PM - 04:15 PM

Zhang, Jianxiong

10 Friday, 09:00 AM - 10:00 AM

822 Sunday, 12:45 PM - 01:45 PM

1018 Monday, 09:00 AM - 10:00 AM

Zhang, Jiawei

537 Saturday, 02:00 PM - 03:00 PM

Zhang, Jiayuan

680 Sunday, 09:00 AM - 10:00 AM

1060 Monday, 10:15 AM - 11:15 AM

Zhang, Jiding

98 Friday, 11:30 AM - 12:30 PM

Zhang, Jie

328 Friday, 05:45 PM - 06:45 PM

1067 Monday, 10:15 AM - 11:15 AM

Zhang, Jie

1097 Monday, 11:30 AM - 12:30 PM

Zhang, Lizao

1110 Monday, 11:30 AM - 12:30 PM

Zhang, Mengling

545 Saturday, 02:00 PM - 03:00 PM

837 Sunday, 12:45 PM - 01:45 PM

Zhang, Mengyun

125 Friday, 11:30 AM - 12:30 PM

Zhang, Na

790 Sunday, 11:30 AM - 12:30 PM

822 Sunday, 12:45 PM - 01:45 PM

Zhang, Ning

706 Sunday, 09:00 AM - 10:00 AM

Zhang, Ningwei

1132 Monday, 11:30 AM - 12:30 PM

Zhang, Peter

449 Saturday, 11:30 AM - 12:30 PM

1075 Monday, 10:15 AM - 11:15 AM

Zhang, Renyu (Philip)

96 Friday, 11:30 AM - 12:30 PM

150 Friday, 12:45 PM - 01:45 PM

583 Saturday, 03:15 PM - 04:15 PM

Zhang, Rui

442 Saturday, 11:30 AM - 12:30 PM

Zhang, Shuguang

1065 Monday, 10:15 AM - 11:15 AM

Zhang, Wei

282 Friday, 04:30 PM - 05:30 PM

Zhang, Weiyong

1023 Monday, 09:00 AM - 10:00 AM

Zhang, Wen

346 Saturday, 09:00 AM - 10:00 AM

556 Saturday, 03:15 PM - 04:15 PM

Zhang, Wenchang

892 Sunday, 03:15 PM - 04:15 PM

Zhang, Wenjuan

1154 Monday, 12:45 PM - 01:45 PM

1157 Monday, 12:45 PM - 01:45 PM

Zhang, Wenqing

1116 Monday, 11:30 AM - 12:30 PM

Zhang, Xiaohui

1111 Monday, 11:30 AM - 12:30 PM

Zhang, Xin

555 Saturday, 03:15 PM - 04:15 PM

Zhang, Xinyao

23 Friday, 09:00 AM - 10:00 AM

Zhang, Yanming

197 Friday, 02:00 PM - 03:00 PM

Zhang, Yanzi

837 Sunday, 12:45 PM - 01:45 PM

Zhang, Ying

387 Saturday, 10:15 AM - 11:15 AM

Zhang, Ying (Maggie)

111 Friday, 11:30 AM - 12:30 PM

Zhang, Yingxin

227 Friday, 03:15 PM - 04:15 PM

Zhang, Yu

770 Sunday, 11:30 AM - 12:30 PM

Zhang, Yuankai

439 Saturday, 11:30 AM - 12:30 PM

Zhang, Yuli

1132 Monday, 11:30 AM - 12:30 PM

1156 Monday, 12:45 PM - 01:45 PM

Zhang, Yuxuan

406 Saturday, 10:15 AM - 11:15 AM

853 Sunday, 02:00 PM - 03:00 PM

Zhang, Zheng

1066 Monday, 10:15 AM - 11:15 AM

Zhang, Zhenhuan

509 Saturday, 02:00 PM - 03:00 PM

Zhang, Zhi-Hai

92 Friday, 11:30 AM - 12:30 PM

Zhang, Zhihao

158 Friday, 12:45 PM - 01:45 PM

681 Sunday, 09:00 AM - 10:00 AM

Zhang, Zhiqi

96 Friday, 11:30 AM - 12:30 PM

Zhang, Zhongju

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1111 Monday, 11:30 AM - 12:30 PM

Zhang, Zhoupeng

874 Sunday, 02:00 PM - 03:00 PM

zhao, chenchen

869 Sunday, 02:00 PM - 03:00 PM

Zhao, Haiqing

899 Sunday, 03:15 PM - 04:15 PM

Zhao, Hui

3 Friday, 09:00 AM - 10:00 AM

805 Sunday, 12:45 PM - 01:45 PM

911 Sunday, 03:15 PM - 04:15 PM

Zhao, Jiahong

1156 Monday, 12:45 PM - 01:45 PM

Zhao, Jinglong

537 Saturday, 02:00 PM - 03:00 PM

Zhao, Keran

138 Friday, 12:45 PM - 01:45 PM

Zhao, Ming

688 Sunday, 09:00 AM - 10:00 AM

Zhao, Ruiqing

266 Friday, 04:30 PM - 05:30 PM

564 Saturday, 03:15 PM - 04:15 PM

Zhao, Sai

682 Sunday, 09:00 AM - 10:00 AM

Zhao, Wenhui

265 Friday, 04:30 PM - 05:30 PM

601 Saturday, 04:30 PM - 05:30 PM

Zhao, Xia

581 Saturday, 03:15 PM - 04:15 PM

901 Sunday, 03:15 PM - 04:15 PM

Zhao, Xiaobo

887 Sunday, 03:15 PM - 04:15 PM

Zhao, Xingze

205 Friday, 02:00 PM - 03:00 PM

Zhao, Xinyi

429 Saturday, 11:30 AM - 12:30 PM

Zhao, Xuejun

1199 Monday, 02:00 PM - 03:00 PM

Zhao, Xuying

117 Friday, 11:30 AM - 12:30 PM

864 Sunday, 02:00 PM - 03:00 PM

Zhao, Yao

759 Sunday, 11:30 AM - 12:30 PM

Zhao, Yuyang

514 Saturday, 02:00 PM - 03:00 PM

Zhao, Zhiying

913 Sunday, 03:15 PM - 04:15 PM

1018 Monday, 09:00 AM - 10:00 AM

Zheng, Chunyan

444 Saturday, 11:30 AM - 12:30 PM

Zheng, Fanyin

625 Saturday, 04:30 PM - 05:30 PM

Zheng, Fanyin

772 Sunday, 11:30 AM - 12:30 PM

Zheng, Hua

605 Saturday, 04:30 PM - 05:30 PM

1194 Monday, 02:00 PM - 03:00 PM

Zheng, Jinyang

398 Saturday, 10:15 AM - 11:15 AM

Zheng, Quan

388 Saturday, 10:15 AM - 11:15 AM

1046 Monday, 09:00 AM - 10:00 AM

Zheng, Sarah

606 Saturday, 04:30 PM - 05:30 PM

857 Sunday, 02:00 PM - 03:00 PM

1067 Monday, 10:15 AM - 11:15 AM

Zheng, Yanchong

27 Friday, 09:00 AM - 10:00 AM

Zheng, Zhichao

1108 Monday, 11:30 AM - 12:30 PM

ZHENG, MINQI

950 Sunday, 04:30 PM - 05:30 PM

ZHENG, Yijie

1065 Monday, 10:15 AM - 11:15 AM

Zhi, Jianing

122 Friday, 11:30 AM - 12:30 PM

Zhong, Changqing

1152 Monday, 12:45 PM - 01:45 PM

Zhong, Lina

1126 Monday, 11:30 AM - 12:30 PM

Zhong, Yueyang

102 Friday, 11:30 AM - 12:30 PM

Zhou, Bo

612 Saturday, 04:30 PM - 05:30 PM

Zhou, Jing

346 Saturday, 09:00 AM - 10:00 AM

360 Saturday, 09:00 AM - 10:00 AM

Zhou, Shi-Hao

1124 Monday, 11:30 AM - 12:30 PM

Zhou, Tao

938 Sunday, 04:30 PM - 05:30 PM

1174 Monday, 12:45 PM - 01:45 PM

Zhou, Tianwu

429 Saturday, 11:30 AM - 12:30 PM

Zhou, Wenying

896 Sunday, 03:15 PM - 04:15 PM

Zhou, Yiyao

912 Sunday, 03:15 PM - 04:15 PM

Zhou, Yong-Pin

174 Friday, 02:00 PM - 03:00 PM

Zhou, Yun

374 Saturday, 09:00 AM - 10:00 AM

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439 Saturday, 11:30 AM - 12:30 PM

Zhou, Zijie

537 Saturday, 02:00 PM - 03:00 PM

zhu, wangsheng

33 Friday, 09:00 AM - 10:00 AM

455 Saturday, 11:30 AM - 12:30 PM

Zhu, Cungen

373 Saturday, 09:00 AM - 10:00 AM

Zhu, Emily

816 Sunday, 12:45 PM - 01:45 PM

Zhu, Guiyang

108 Friday, 11:30 AM - 12:30 PM

Zhu, Han

536 Saturday, 02:00 PM - 03:00 PM

Zhu, Huijun

100 Friday, 11:30 AM - 12:30 PM

Zhu, Lingjiong

21 Friday, 09:00 AM - 10:00 AM

233 Friday, 03:15 PM - 04:15 PM

397 Saturday, 10:15 AM - 11:15 AM

517 Saturday, 02:00 PM - 03:00 PM

Zhu, Mengshan

896 Sunday, 03:15 PM - 04:15 PM

Zhu, Ruihao

1199 Monday, 02:00 PM - 03:00 PM

Zhu, Shuyuan

887 Sunday, 03:15 PM - 04:15 PM

Zhu, Wanshan

887 Sunday, 03:15 PM - 04:15 PM

Zhu, Weijun

1038 Monday, 09:00 AM - 10:00 AM

Zhu, Wenbin

191 Friday, 02:00 PM - 03:00 PM

Zhu, Xiaorui

371 Saturday, 09:00 AM - 10:00 AM

Zhu, Yunxia

400 Saturday, 10:15 AM - 11:15 AM

1088 Monday, 10:15 AM - 11:15 AM

Zhuang, Weifen

285 Friday, 04:30 PM - 05:30 PM

941 Sunday, 04:30 PM - 05:30 PM

1152 Monday, 12:45 PM - 01:45 PM

Zhuang, Yanling

439 Saturday, 11:30 AM - 12:30 PM

Zhuang, Yiming

98 Friday, 11:30 AM - 12:30 PM

Zhuang, Ziheng

805 Sunday, 12:45 PM - 01:45 PM

ziaei, zahra

1166 Monday, 12:45 PM - 01:45 PM

Zinn, Walter

956 Sunday, 04:30 PM - 05:30 PM

Zissis, Dimitris

795 Sunday, 11:30 AM - 12:30 PM

Ziya, Serhan

1066 Monday, 10:15 AM - 11:15 AM

Zobel, Christopher

554 Saturday, 03:15 PM - 04:15 PM

679 Sunday, 09:00 AM - 10:00 AM

Zolghadr, Mohammad

416 Saturday, 10:15 AM - 11:15 AM

Zou, Bipan

1030 Monday, 09:00 AM - 10:00 AM

Zou, Dongchen

597 Saturday, 04:30 PM - 05:30 PM

Zou, Fan

237 Friday, 03:15 PM - 04:15 PM

Zou, Qi

386 Saturday, 10:15 AM - 11:15 AM

561 Saturday, 03:15 PM - 04:15 PM

Zou, Tianxin

94 Friday, 11:30 AM - 12:30 PM

612 Saturday, 04:30 PM - 05:30 PM

Zuñiga, Marcela

1057 Monday, 10:15 AM - 11:15 AM

Zunke, Raj

220 Friday, 03:15 PM - 04:15 PM

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