Zhe Liu

Contact	Imperial College Business School Phone: +44 (0)20 7594 7919 Imperial College London E-mail: zhe.liu@imperial.ac.uk London, SW7 2AZ, UK Webpage: profiles.imperial.ac.uk/zhe.liu

Academic Appointment

Imperial College London, Imperial College Business School   London, UK
Department of Analytics, Marketing & Operations
Assistant Professor of Operations Management   2019 – current

Education

Columbia University, Graduate School of Business   New York, NY
Ph.D., Operations Management   2013 – 2019
Advisors: Awi Federgruen, Costis Maglaras

Tsinghua University   Beijing, China
B.S., Industrial Engineering   2009 – 2013
Advisor: Zuo-Jun Max Shen

Research Interests

Revenue management: operations and design of sharing economy platforms, assortment optimization

Supply chain management: multi-sourcing, inventory management

Journal Publications

(1) Ride-Hailing Networks with Strategic Drivers: The Impact of Platform Control Capabilities on Performance, *Manufacturing & Service Operations Management*, 25(5): 1890-1908, 2023 (with Philipp Afèche and Costis Maglaras)
  - MSOM Service SIG Invited Talk, 2018

(2) Combined Pricing and Inventory Control with Multiple Unreliable Suppliers, *Operations Research Letters*, 51(1): 60-66, 2023 (with Awi Federgruen and Jiaqi Lu)

(3) Dual Sourcing: Creating and Utilizing Flexible Capacities with a Second Supply Source, *Production and Operations Management*, 31(7): 2789-2805, 2022 (with Awi Federgruen and Lijian Lu)
  - 2nd Place, POMS College of SCM Student Paper Competition, 2018
  - 2nd Place, POMS-HK Best Student Paper Competition, 2019

(4) Synthesis and Generalization of Structural Results in Inventory Management: A Generalized Convexity Property, *Mathematics of Operations Research*, 45(2): 547-575, 2020 (with Awi Federgruen and Lijian Lu)
  - Finalist, George Nicholson Student Paper Competition, 2018
  - MSOM Supply Chain Management SIG Invited Talk, 2018

Working Papers

(5) Dual Sourcing under Internal and External Volatilities, *Manufacturing & Service Operations Management*, major revision. (with Awi Federgruen and Jiaqi Lu)
  - MSOM Supply Chain Management SIG Invited Talk, 2021

(6) Sourcing with Demand Updates, *Management Science*, major revision. (with Awi Federgruen and Jiaqi Lu)
  - MSOM Supply Chain Management SIG Invited Talk, 2023

(7) Operating Three-sided Marketplace: Pricing and Spatial Staffing in Food Delivery Systems, *Management Science*, major revision. (with Yiwen Shen and Yanwei Sun)
  - 1st Place, INFORMS Service Science Best Cluster Paper Award, 2024
  - 2nd Place, CSAMSE Best Paper Award, 2024

(8) Assortment Optimization and Pricing in a Queue, *Management Science*, under review. (with Kalyan Talluri and Shixin Wang)

(9) Information Design and Pricing of Supply Competition in Lead-Selling Platforms, *to be submitted*. (with Yanwei Sun, Niloofar Zamani-Foroushani and Jiahua Wu)
- ACM Conference on Economics and Computation (EC), 2024

(10) Polling Systems with Strategic Customers, *in preparation*. (with Yanwei Sun and Chiwei Yan)

(11) Robust Weakly Coupled Markov Decision Processes, *in preparation*. (with Fupeng Sun and Wolfram Wiesemann)

(12) Surge Pricing and Dynamic Matching for Hotspot Demand Shock in Ride-Hailing Networks, *in preparation*. (with Philipp Afèche and Costis Maglaras)

OTHER WORKS

Inventory Strategies for Service-Sensitive Demands, *Undergraduate Thesis*, 2013. (Advisor: Zuo-Jun Max Shen)

Service Parts Demand Forecasting and Multi-Echelon Inventory Network Design, *Research Report for Caterpillar Logistics*, 2013. (with K. Wang, W. Zhu and X. Zhao)

Multistage Stochastic Mixed-Integer Programs for Optimizing Gas Contract and Maintenance Scheduling, *Permanent working paper*, 2012. (with Siqian Shen)

Intermittent Demand Forecasting of Slow Moving Parts, *Tsinghua University Student Journal*, 4(2): 34-49, 2012. (with Jialing Tao and Yi Yang)

CASES

ILUMÉXICO: A Built-for-Assembly Supply Chain Strategy, *Columbia CaseWorks*, ID: 170203, 2017. (with Awi Federgruen and Abigail Talcott-Schlaifer)

INDUSTRY

Research Scientist Intern, Amazon, Seattle   June – Aug. 2018

TEACHING

Imperial College Business School, London, UK
• Big Data, AI and Machine Learning (MBA elective)	2020 – 2024
• Decision Analytics (MBA core)	2021 – 2022
• Optimization (PhD core)	2020, 2022 – 2024
• Maths and Statistics Foundations for Analytics (MSBA core)	2019 – 2024

London Business School, London, UK
• Demand and Revenue Management (PhD elective)	2020, 2022, 2024
• Advanced Optimization (PhD elective)	2023

Columbia Business School, New York, NY
• MBA Excel Workshop—Advanced Level	2015 – 2017
• Intro to Spreadsheet Optimization and Simulation (MSE master)	2016 – 2017

HONORS AND AWARDS

- 1st Place, INFORMS Service Science Best Cluster Paper Award, 2024
- 2nd Place, CSAMSE Best Paper Award, 2024
- MSOM Supply Chain Management SIG Invited Talk, 2023
- Management Science Meritorious Service Award, 2022
- MSOM Meritorious Service Award, 2022
- MSOM Supply Chain Management SIG Invited Talk, 2021
- 2nd Place, POMS-HK Best Student Paper Competition, 2019
- Finalist, George Nicholson Student Paper Competition, 2018
- 2nd Place, POMS College of SCM Student Paper Competition, 2018
- Doctoral Fellow Presentation at Deming Cup Award Ceremony, 2018
- Chazen Institute for Global Business Research Award, 2018
- MSOM Service SIG Invited Talk (8/66 submissions), 2018
- MSOM Supply Chain Management SIG Invited Talk (8/43 submissions), 2018
- Deming Doctoral Research Fellowship, 2016
- Deming Doctoral Research Fellowship, 2015

- Doctoral Fellowship, Columbia Business School, 2013–2018
- Tsinghua University Outstanding Undergraduate Student Award, 2013.
- Beijing Outstanding Undergraduate Student Award, 2013.
- President Jiang Nan-Xiang Scholarship, Tsinghua University, 2012.
- 1st Place, 30th Tsinghua Challenge Cup Research and Innovation Contest, 2012.
- Changhong Scholarship, Tsinghua University, 2011.
- Outstanding Prize (Top 4/8000) in 27th National College Physics Contest, 2011.
- OOCL Scholarship, Tsinghua University, 2010.

SERVICES
- PhD Director of the Analytics & Operations area, Imperial College Business School
- Guest Associate Editor for *Naval Research Logistics*
- Journal referee for *Management Science, Manufacturing & Service Operations Management, Operations Research, Operations Research Letters, Production & Operations Management, Transportation Science, Transportation Research Part B*
- External reviewer for the Research Grants Council (RGC) of Hong Kong
- Member of the INFORMS RMP Jeff McGill Student Paper Award Committee, 2024
- Reviewer for the MSOM Service SIG Conference, 2022, 2024
- Reviewer for the MSOM Supply Chain Management SIG Conference, 2020 – 2022
- Judge for the POMS-HK Best Student Paper Competition, 2024
- Judge for the MSOM Student Paper Competition, 2024
- Judge for the CSAMSE Best Paper Competition, 2024
- Organizer of the 2023 INFORMS RMP Annual Conference, Imperial College Business School

STUDENT
SUPERVISION

Current PhD students
- Fupeng Sun, 2023 –
- Yanwei Sun, 2022 –
- Niloofar Zamani-Foroushani, 2021 –

INVITED SEMINARS
Durham University, Business School	2024
Hong Kong University of Science and Technology, Department of IEDA	2023
Chinese University of Hong Kong, Shenzhen, School of Data Science	2023
Hong Kong Polytechnic University	2022
Rotman Young Scholar Seminar Series, University of Toronto	2022
Chinese University of Hong Kong, CUHK Business School	2022
Shanghai Jiao Tong University, Antai College of Economics and Management	2021
University of Science and Technology of China, School of Management	2021
Tianjin University, College of Management and Economics	2021
Fudan University, School of Management	2020
University College London, School of Management	2019
Imperial College London, Imperial College Business School	2019
University of Toronto, Rotman School of Management	2019
University of Miami, Miami Business School	2019
Indiana University, Kelley School of Business	2019
University of Hong Kong, Faculty of Business and Economics	2019
City University of Hong Kong, College of Business	2019
Hong Kong University of Science and Technology, HKUST Business School	2019
Northwestern University, Kellogg School of Management	2018

CONFERENCE
TALKS
INFORMS Annual Meeting, Seattle, WA	Oct. 2024
INFORMS RMP Section Conference, UCLA	July 2024
MSOM Annual Conference, Minneapolis, MN (2 talks)	July 2024
INFORMS Annual Meeting, Phoenix, AZ	Oct. 2023
Marketplace Innovation Workshop (virtual)	May 2023

- INFORMS RMP Section Conference (virtual), Chicago Booth   June 2022
- Marketplace Innovation Workshop (virtual)   May 2022
- INFORMS Annual Meeting (virtual), Anaheim, CA   Oct. 2021
- CSAMSE Annual Conference, Shanghai, China   July 2021
- INFORMS RMP Section Conference (virtual), Johns Hopkins University June 2021
- MSOM Annual Conference (virtual), Indiana University   June 2021
- INFORMS Annual Meeting (virtual) (2 talks)   Nov. 2020
- INFORMS Annual Meeting, Seattle, WA (3 talks)   Oct. 2019
- 5th Annual Fashion Operations and Retailing Conference, London, UK   Oct. 2019
- MSOM Annual Conference, Singapore   July 2019
- INFORMS RMP Section Conference, Stanford, CA   June 2019
- POMS-HK Int'l Conference (Student Paper Competition), Hong Kong   Jan. 2019
- INFORMS Annual Meeting, Phoenix, AZ (3 talks; George Nicholson Student Paper Competition)   Nov. 2018
- MSOM Service SIG Meeting, Dallas, TX   July 2018
- MSOM Supply Chain Management SIG Meeting, Dallas, TX   July 2018
- MSOM Annual Conference, Dallas, TX (2 talks)   July 2018
- INFORMS RMP Section Conference, Toronto, Canada   June 2018
- POMS Annual Conference (Student Paper Competition), Houston, TX   May 2018
- INFORMS Annual Meeting, Houston, TX (2 talks)   Oct. 2017
- Amazon Supply Chain Optimization Summit (Poster), Seattle, WA   Oct. 2017
- CSAMSE Annual Conference, Guangzhou, China   July 2017
- MSOM Annual Conference, Chapel Hill, NC   June 2017
- Marketplace Innovation Workshop, Stanford, CA   June 2017
- Deming Doctoral Fellow Seminar, New York, NY   April 2017
- INFORMS Annual Meeting, Nashville, TN (3 talks)   Nov. 2016
- MSOM Annual Conference, Auckland, New Zealand (2 talks)   July 2016
- INFORMS RMP Section Conference, New York, NY   June 2016
- Trans-Atlantic Doctoral Conference, London, UK   May 2016
- Deming Doctoral Fellow Seminar, New York, NY   April 2016

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