

Xiaoshan Peng

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Indiana University, Kelley School of Business
1275 East 10th Street, Bloomington, IN 47405

Education

Booth School of Business, The University of Chicago

Ph.D. in Operations Management 2017

Kellogg School of Management, Northwestern University

M.S. in Operations Management 2012

Tsinghua University

B. Eng. in Industrial Engineering (with highest honors) 2010

Academic Positions

Kelley School of Business, Indiana University

Assistant Professor, Operations and Decision Technologies 2017 - Present

Research Interests

- Applications: Service Operations, Healthcare Services, Sustainable Operations
- Methodologies: Queueing Theory, Stochastic Control, Dynamic Programming, Optimization

Publications (* indicates alphabetical authorship)

1. Carlsson, J.G., **Peng, X.***, Ryzhov, I.O. 2024. Demand equilibria in spatial service systems. *Manufacturing & Service Operations Management*. Accepted.
2. **Peng, X.**, Wu, O.Q., Souza, G.C. 2024. Renewable, flexible, and storage capacities: Friends or foes. *Manufacturing & Service Operations Management*. Forthcoming.
 - Selected for presentation at 2022 MSOM Sustainable Special-interest-group Conference
 - Selected for presentation at 2022 Early-Career Sustainable Operations Workshop
3. Ata, B., **Peng, X.*** 2020. An optimal callback policy for general arrival processes: a pathwise analysis. *Operations Research*, 68(2), pp. 327-347.
4. Ata, B., **Peng, X.*** 2018. An equilibrium analysis of a multiclass queue with endogenous abandonments in heavy traffic. *Operations Research*, 66(1), pp. 163-183.
 - Honorable mention, George Nicholson Student Paper Competition, 2015
 - Selected for presentation at 2015 MSOM Service Special-interest-group Conference

5. Ata, B., Glynn, P.W., **Peng, X.*** 2017. An equilibrium analysis of a discrete-time Markovian queue with endogenous abandonments. *Queueing Systems*, 86(1), pp. 141-212.
6. Zhao, L., **Peng, X.**, Li, L., Li, Z. 2011. A fast signal timing algorithm for individual oversaturated intersection. *IEEE Transactions on Intelligent Transportation Systems*, 12(1) pp. 280-283.

Under Review and Completed Working Papers (** indicates doctoral student co-author)

7. **Peng, X.** 2024. Admission control to a queueing system with arrival forecast information. Under review at *Manufacturing & Service Operations Management*.
8. Li, B.**, **Peng, X.**, Wu, O.W. 2024. Dynamic Scheduling with Bayesian Updating of Customer Characteristics. Completed Working Paper. (Target outlet: Operations Research, Expected to be submitted by September 30, 2024)
9. Li, L.**, **Peng, X.**, Bretthauer, K.M. 2024. Effects of Biased Belief on Health Outcomes with Underrepresentation in Clinical Trials. Completed Working Paper. (Target outlet: Manufacturing & Service Operations Management, Expected to be submitted by September 30, 2024)
10. Chen, C., Delana, K., **Peng, X.** 2024. A Modified State-Dependent Riccati Equation Controller for Dynamic Production Sequencing in Compounding Pharmacies. Completed Working Paper. (Target outlet: Operations Research, Expected to be submitted by September 30, 2024)

Work in Progress

11. Optimal data-driven scheduling with equity for underrepresented groups. With Ilya O. Ryzhov. (Analysis stage).
12. Impatience in queues with Bayesian updating. With Yunan Liu. (Analysis stage)

Honors and Awards

- Nominee of Indiana University Trustee Teaching Award, 2021
- Honorable mention, George Nicholson Student Paper Competition, 2015
- Doctoral Fellowship, Booth School of Business, University of Chicago
- Graduate Fellowship, Kellogg School of Management, Northwestern University
- Presidential Scholarship, National Scholarship in Tsinghua University

Invited Seminars

- Operations Management and Management Science, Booth School of Business, University of Chicago, June 2023
- ISE Department, University of Florida, January 2023
- McCombs School of Business, University of Texas at Austin, Austin, TX, October 2020
- Brownbag Research Seminar at ODT, Kelley School of Business, Indiana University, March 2020

- Engineering Management, Information, and Systems, Southern Methodist University, Dallas, TX, February 2017
- College of Business Administration, University of Illinois Chicago, Chicago, IL, February 2017
- Sauder School of Business, University of British Columbia, Vancouver, BC, February 2017
- Department of Industrial and Enterprise Systems Engineering, UIUC, Urbana, IL, January 2017
- ODT, Kelley School of Business, Indiana University, Bloomington IN, January 2017

Conference Presentations († indicates a peer-reviewed conference presentation)

- Demand equilibria in spatial service systems
 - INFORMS MSOM Conference, Minnesota MN, June 2024
 - INFORMS Annual Meeting, Seattle WA, October 2024 (*Scheduled*)
- Dynamic scheduling with Bayesian updating of customer characteristics.
 - INFORMS MSOM Conference, Montréal, Canada, June 2023
 - INFORMS Annual Meeting, Phoenix AZ, October 2023
- Renewable, flexible, and storage capacities: Friends or Foes
 - INFORMS Annual Meeting, Virtual, November 2020
 - 2022 Early-Career Sustainable Operations Workshop, March 2022
 - MSOM Sustainable Operations Special-interest-group Conference, June 2022†
 - INFORMS Annual Meeting, Phoenix AZ, October 2023
- An optimal admission control policy for non-stationary arrivals: A dual approach.
 - INFORMS MSOM Conference, Singapore, June 2019
 - INFORMS 20th Applied Probability Society Conference, Brisbane, Australia, July 2019
 - INFORMS Annual Meeting, Seattle, WA, October 2019
 - INFORMS Annual Meeting, Virtual, November 2020
 - ODT Brownbag Seminar, March 2021
 - INFORMS Annual Meeting, Virtual, October 2021
- Managing the callback option under arrival rate uncertainty
 - INFORMS Annual Meeting, Nashville, TN, November 2016
 - INFORMS MSOM Conference, Chapel Hill, NC, June 2017
 - INFORMS 19th Applied Probability Society Conference, Evanston, IL, July 2017
 - INFORMS Annual Meeting, Houston, TX, October 2017
 - INFORMS Annual Meeting, Phoenix, AZ, November 2018
- An equilibrium analysis of a multiclass queue with endogenous abandonments
 - INFORMS Annual Meeting, San Francisco, CA, November 2014
 - MSOM Service Special-interest-group Conference, Toronto, Canada, June 2015†
 - INFORMS 18th Applied Probability Conference, Istanbul, Turkey, July 2015
 - INFORMS Annual Meeting, Philadelphia, PA, November 2015
 - INFORMS Annual Meeting, Phoenix, AZ, November 2018

Student Supervision

- Buyun Li (09/2021 – present, ODT, Kelley School of Business, Indiana University, expected to graduate in 2026)
- Li Ling (09/2022 – present, ODT, Kelley School of Business, Indiana University, expected to graduate in 2027)

Teaching

Kelley School of Business, Indiana University

Instructor

- P429 Operations Processes (*undergraduate*) Spring 2018, Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023, Spring 2024
- K635 Special Topics in Decision Sciences: Queueing Theory (*doctoral*) Spring 2019
- K603 Probability Models (*doctoral*) Spring 2020, Spring 2022
- K604 Stochastic Processes (*doctoral*) Spring 2023

Booth School of Business, The University of Chicago

Teaching assistant

- Managerial Decision Modeling (*executive MBA*)
- Managerial Decision Modeling (*MBA*)
- Managing Service Operations (*MBA*)
- Stochastic Processes (*doctoral*)

Kellogg School of Management, Northwestern University

Teaching assistant

- Analytical Decision Modeling (*MBA*)

University Service

- 2020-2021 ODT Department Tenure-track Hiring Committee
- 2023-2024 ODT Department Tenure-track Hiring Committee

Professional Service

- Track co-chair for M&SOM Service Operations track for the INFORMS Annual Meetings in 2024
- Judge for 2024 MSOM student paper competitions
- Sessions chairs for 2023 INFORMS Annual Meetings (2018, 2019, 2020, 2023)
- Judge for 2022 MSOM student paper competitions
- Reviewers for Manufacturing & Service Operations Management Special Interest Groups (SIG) Conference, 2022
- Judge for 2021 MSOM student paper competitions
- Organizing Committee, Manufacturing & Service Operations Management Conference, 2021
- Sessions chairs for 2020 INFORMS Annual Meetings
- Judge for 2020 MSOM student paper competitions
- Sessions chairs for 2019 INFORMS Annual Meetings

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- Sessions chairs for 2018 INFORMS Annual Meetings
 - Reviewers for Management Science, Operations Research, Mathematics of Operations Research, Manufacturing and Service Operations Management, Production and Operations Management, Stochastic Systems, Mathematical Methods of Operations Research, Operations Research Letters, European Journal of Operational Research, Performance Evaluation, Mathematical Methods of Operations Research