

JOLINE UICHANCO

University of Michigan, Ross School of Business
701 Tappan St, Room R4418, Ann Arbor MI 48109
Email: jolineu@umich.edu

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PROFESSIONAL

University of Michigan, Ross School of Business, Ann Arbor, MI

- Associate Professor of Technology and Operations (with tenure) 2022 to present
- Ford Motors Co. Director of the Joel D. Tauber Institute for Global Operations 2024 to present

Previous rank:

- Assistant Professor of Technology and Operations 2014 to 2022

Amazon (on leave from U of Michigan)

- Senior Research Scientist, Modeling and Optimization 2022 to 2023

IBM T.J. Watson Research Center, Yorktown Heights, NY

- Postdoctoral Researcher, Supply Chain Analytics 2013 to 2014

EDUCATION

Ph.D. in Operations Research 2013

Massachusetts Institute of Technology (MIT), Sloan School of Management

Dissertation: Data-driven optimization and analytics for operations management applications

Advisors: Prof. Retsef Levi and Prof. Georgia Perakis

M.S. in Computation for Design and Optimization 2007

Massachusetts Institute of Technology (MIT), School of Engineering

Dissertation: Data-driven revenue management

Advisors: Prof. Retsef Levi and Prof. Georgia Perakis

M.S. in Computational Engineering 2007

National University of Singapore (NUS)

Dissertation: Ambiguous risk measures and piecewise linear utility models in portfolio management

Advisors: Prof. Karthik Natarajan and Prof. Melvyn Sim

B.Sc. (Honors) in Computational Finance 2006

National University of Singapore (NUS)

Lijen Industrial Development Medal for the best 2006 Honors-year project in Computational Finance

HONORS AND AWARDS

Institutional

- 2019. **Arnold M and Linda T Jacob Faculty Development Award**, Ross School of Business, University of Michigan (Ross school-wide, junior faculty research award)

Grants

- NSF, CMMI, 1561791, “Joint optimization of pricing, assortment, and fulfillment in omnichannel retail”, 6/1/2016–05/31/2020, Total: \$246,263, Stef Jasin (PI), Joline Uichanco (co-PI)

Professional

- 2017. **INFORMS Revenue Management Practice Prize**, a prestigious award given once every 2 years to outstanding applications of revenue management techniques, for the project “Omni-Channel Markdown Optimization” with IBM Research (Markus Ettl, Pavithra Harsha, and Shiva Subramanian) and a Top 15 U.S. retailer
- 2017. Honorable Mention in the first-ever **Biennial M&SOM Practice-Based Research Competition** for the paper “Dynamic pricing for omnichannel inventories” (appearing in the journal *M&SOM*) coauthored with Pavithra Harsha (IBM Research) and Shiva Subramanian (IBM Research)
- 2012. First Prize in the **IBM Service Science Best Student Paper Award** for the paper “Stochastic Optimization for Resource Allocation with Random Emergencies”

Student Awards

- 2022. Jiaxin (Alys) Liang: Winner of **EURO Working Group for Pricing and Revenue Management Student Video Award** for the presentation of the paper “Asymptotically Optimal Dynamic Pricing in the Presence of Stochastic Returns”
- 2022. Jiaxin (Alys) Liang: Second Place in the **POMS-HK Best Student Paper Competition** for the paper “Managing Retail Inventory and Pricing in the Presence of Stochastic Purchase Returns”
- 2020. Mengzhenyu Zhang: Awarded the **Rackham Predoctoral Fellowship**, one of the most prestigious awards granted by the University of Michigan for outstanding doctoral candidates working on dissertations that are unusually creative, ambitious and impactful
- 2019. Aravind Govindarajan: Second Place in the **POMS College of Supply Chain Management Best Student Paper Competition** for the paper “The distribution-free inventory problem for e-commerce fulfillment networks”
- 2019. Aravind Govindarajan: Finalist in the **POMS-HK Best Student Paper Competition** for the paper “The distribution-free inventory problem for e-commerce fulfillment networks”
- 2018. Mengzhenyu Zhang: Awarded the **W. Allen Spivey/Valerie and William Hall Family Fellowship** by the Ross School of Business, an award given to a 4th or 5th year Ph.D. student to recognize academic excellence, contributions to the research environment, and service to the program

GRADUATE STUDENTS

I have graduated three Ph.D. students with two academic placements. Currently, I am advising two Ph.D. students.

Graduated Ph.D. students

- Jiaxin (Alys) Liang, 2024, Product Return Management at Large Scale: Effective Joint Decision-Making Supported by Comprehensive Performance Metrics, Co-advised with Stef Jasin.
Current position: Assistant Professor, McGill University
- Mengzhenyu Zhang, 2021, Revenue management in the new age: Analysis and learning with dependency and non-stationarity, Co-advised with Hyun-soo Ahn.
Current position: Assistant Professor, University College London (UCL)
- Aravind Govindarajan, 2019, Essays on e-commerce and omnichannel retail operations, Sole advisor.
Current position: Principal Scientist - Data Science, Global Supply Chain and Logistics at Target Corp.

Current Ph.D. students

- Hanqi Wen, Expected graduation: 2026, Co-chair with Izak Duenyas.
- Bogyeon Lee, Expected graduation: 2029, Co-chair with Hyun-soo Ahn.

Graduated Pre-doctoral Research Fellows

- Benjamin Lewis, Currently: Admitted into MIT Sloan Marketing Ph.D. program

Dissertation committee membership

- Chao Wu, 2023, Three essays on non-profit supply chain management. Arizona State University
- Manqi Li, 2021, Data-driven Operations Management. University of Michigan, Ross School of Business
- Amando Bernal, 2020, Pricing in Network Revenue Management Systems with Reusable Resources. University of Michigan, Industrial & Operations Engineering
- Qi Luo, 2020, Incentive Contracts in Multi-agent Systems: Theory and Applications. University of Michigan, Industrial & Operations Engineering
- Ece Sancı, 2019, Strategies for Disaster Preparedness and Disruption Risk Mitigation. University of Michigan, Industrial & Operations Engineering
- Hao Yuan, 2019, Data Driven Optimization: Theory and Applications in Supply Chain Systems. University of Michigan, Industrial & Operations Engineering

PUBLICATIONS AND SCHOLARLY PRESENTATIONS

Notes: Underline denotes co-authors who (at the time of authorship) were Ph.D. students and post-docs
Dagger[†] denotes co-authors who (at the time of authorship) were industry collaborators

Refereed Journals

- [1] 2024. M. Jamalzadeh, E. Cuniberto, Z. Huang, R. Feeley, J. Patel, M. Rice, **J. Uichanco**, D. Shahrjerdi, "Toward robust quantification of dopamine and serotonin in mixtures using nano-graphitic carbon sensors", *Analyst*, Volume: 149, Pages: 2351-2362
- [2] 2023. S. Najafi, I. Duenyas, S. Jasin, **J. Uichanco**, "Multi-product dynamic pricing (and ranking) with limited inventories under Cascade Click model", *Manufacturing & Service Operations Management*, Volume: 26, Issue: 2, Pages: 554-572
- [3] 2022. M. Lin, T. Huh, H. Krishnan, **J. Uichanco**, "Data-driven newsvendor problem: Performance of the sample approximation approach", *Operations Research*, Volume: 70, Issue: 4, Pages: iii-vii
- [4] 2022. M. Zhang, H.-S. Ahn, **J. Uichanco**, "Data-driven pricing for new products", *Operations Research*, Volume:

- [5] 2022. Y. Lei, S. Jasin, **J. Uichanco**, A. Vakhutinsky[†], “Joint product framing (display, ranking, pricing) and order fulfillment under the MNL model for e-commerce retailers”, *Manufacturing & Service Operations Management*, Volume: 24, Issue: 3, Pages: 1261-1885
- [6] 2021. **J. Uichanco**, “A model for pre-positioning emergency relief items before a typhoon with uncertain trajectory”, *Manufacturing & Service Operations Management*, Volume: 24, Issue: 2, Pages: 766–790
- [7] 2021. A. Govindarajan, A. Sinha[†], **J. Uichanco**, “Distribution-free inventory risk pooling in a multi-location newsvendor”, *Management Science*, Volume: 67, Issue: 4, Pages 2272-2291
- Second Place in the 2019 POMS College of Supply Chain Management Best Student Paper Competition
 - Finalist in the 2019 POMS-HK Best Student Paper Competition
- [8] 2021. A. Govindarajan, A. Sinha, **J. Uichanco**, “Joint inventory and fulfillment decisions for omnichannel retail networks”, *Naval Research Logistics*, Special issue on Analytics and Operations of Online Retailing, Volume: 68, Issue: 6, Pages: 779–794
- [9] 2019. P. Harsha[†], S. Subramanian[†], **J. Uichanco**, “Dynamic pricing of omnichannel inventories”, *Manufacturing & Service Operations Management* (Special Section: First M&SOM Practice-Based Research Competition), Volume: 21, Issue: 1, Pages: 47–65
- Winner of the 2017 INFORMS Revenue Management Practice Prize
 - Honorable mention in the 2017 Biennial M&SOM Practice-Based Research Competition
- [10] 2018. K. Natarajan, M. Sim, **J. Uichanco**, “Asymmetry and Ambiguity in Newsvendor Models”, *Management Science*, Volume: 64, Issue: 7, Pages: 3146–3167
- [11] 2015. R. Levi, G. Perakis, **J. Uichanco**, “The data-driven newsvendor problem: New bounds and insights”, *Operations Research*, Volume: 63, Issue: 6, Pages: 1294–1306
- [12] 2014. M. Angalakudati[†], S. Balwani[†], J. Calzada[†], B. Chatterjee[†], G. Perakis, N. Raad[†], **J. Uichanco**, “Business analytics for flexible resource allocation under random emergencies”, *Management Science*, Volume: 60, Issue: 6, Pages: 1552–1573
- Winner of the 2012 IBM Service Science Best Student Paper Award
- [13] 2010. K. Natarajan, M. Sim, **J. Uichanco**, “Tractable robust expected utility and risk models for portfolio optimization”, *Mathematical Finance*, Volume: 20, Issue: 4, Pages: 695–731

Under Review in Refereed Journals

- [14] J. Liang, S. Jasin, **J. Uichanco**, “Assortment and Inventory Planning Under Dynamic Substitution with MNL Model: Structural Results and a Near-Optimal Heuristic”, *Operations Research*, Under review (Round 3)
- [15] S. Najafi, S. Jasin, **J. Uichanco**, J. Zhao, “Assortment and Price Optimization Under a Multi-Attribute (Contextual) Choice Model”, *Operations Research*, Under review (Round 2)
- [16] C. Wu, M. Eftekhar, **J. Uichanco**, “Workforce Configuration in Charity Settings: A Forward-Looking Approach”, *Manufacturing & Service Operations Management*, Invited for a minor revision (Round 3)
- [17] J. Liang, S. Jasin, **J. Uichanco**, “Asymptotically Optimal Dynamic Pricing in the Presence of Stochastic Purchase Returns”, *Mathematics of Operations Research*, Invited for a major revision (Round 1)
- Selected for the 2023 MSOM Supply Chain Management SIG
 - Winner of 2022 EURO Working Group for Pricing and Revenue Management Student Video Award
 - Second Place in the 2022 POMS-HK Best Student Paper Competition

- [18] H.-S. Ahn, C. Ryan, **J. Uichanco**, M. Zhang, “Certainty-equivalent pricing with dependent demand and limited price-changing opportunities”, *Mathematics of Operations Research*, Invited for a major revision (Round 1)
- Selected through a full-paper peer-review process as a Spotlight presentation at the 2019 Revenue Management and Pricing Conference (In the Top 16 out of 86 full paper submissions)
- [19] H. Wen, I. Duenyas, **J. Uichanco**, “The Interplay Between Information Solicitation and Product Innovation: A Dynamic Solution”, Submitted to *Manufacturing & Service Operations Management*

Working Papers

- [20] H.-S. Ahn, C. Ryan, **J. Uichanco**, M. Zhang, “Valuing influence”, In preparation (Draft available upon request)
- [21] **J. Uichanco**, A. Sinha[†], “Data-driven uncertainty sets from high-dimensional data for Amazon’s transportation network”, In preparation (Draft available upon request)
- [22] F. Zhou, H. Jiang, A. Li[†], **J. Uichanco**, “Leftover food blind box design for the two-sided platform for surplus food”
- [23] B. Epstein, W. Ma, A. Sinha[†] **J. Uichanco**, “Algorithms for on-line facility assignment of e-commerce orders in a first-party logistics network”, In preparation
- [24] H. Wang, I. Duenyas, **J. Uichanco**, “Should Fulfilled-by-Amazon (FBA) sellers commingle inventory? An equilibrium analysis of product quality”, In preparation
- [25] **J. Uichanco**, J. Zhang, “Distributionally robust multi-purchase choice model”, In preparation
- [26] B. Lee, H.-S. Ahn, **J. Uichanco**, “Voluntary disclosure of private information when service providers can customize price and service”, In preparation

Chapters in books

- 2019. S. Jasin, A. Sinha, **J. Uichanco**, “Omni-channel operations: Challenges, opportunities, and models”, in S. Gallino and T. Moreno-Garcia (ed.) *Operations in an Omnichannel World*, Springer Series in Supply Chain Management: pp. 15–34

SERVICE

Service to the Profession

- Associate Editor for *Operations Research* (flagship journal in Operations Research) 2024 to present
- Associate Editor for *M&SOM* (flagship journal in Operations Management) 2024 to present
- Senior Editor for *POM* journal (flagship journal in Operations Management) 2022 to present
- Associate Editor for 4OR journal (jointly published by the Belgian, French, and Italian Operations Research Societies) 2014 to present

Other professional service roles

- 2024. Faculty advisor to the University of Michigan team for the ISM Case Competition (Fourth place finish)
- 2023. Selection Committee member for the 2023 POMS College of SCM Best Student Paper Competition
- 2022. Discussant at the Revenue Management and Pricing (RMP) Conference (Virtual)
- 2022. Selection Committee member for the 2022 Best Working Paper Competition for the Technology, Innovation Management, and Entrepreneurship Section (TIMES) of INFORMS
- 2022. Selection Committee member for the POMS Supply Chain Management Student Paper Competition
- 2021. Cluster Chair of the POM in Practice Cluster, POMS 2021 Conference (Virtual)

- 2021. Selection Committee member for the MSOM Best Student Paper Award
- 2020. Selection Committee member for the INFORMS Public Sector Operations Research Best Paper Award
- 2020. Student Paper Prize Committee for the INFORMS Revenue Management and Pricing (RMP) Section
- 2020. Cluster Chair of the POM in Practice Cluster, POMS 2020 Conference in Minneapolis, Minnesota
- 2019. Selection Committee member for the INFORMS Public Sector Operations Research Best Paper Award
- 2019. Cluster Chair of the Revenue Management and Pricing, INFORMS International Conference, Cancun, Mexico
- 2019. Program Committee member, INFORMS Revenue Management & Pricing Section, Stanford, California
- 2019. Selection Committee member for the POM College of Supply Chain Management Best Student Paper Award
- 2018. Selection Committee member for The Elwood S. Buffa Doctoral Dissertation Award given by the Decision Sciences Institute
- Served as reviewer for Operations Research (OR), Management Science (MS), Manufacturing & Service Operations Management (M&SOM), Production and Operations Management (POM), Mathematical Programming (MP), Mathematics of Operations Research (MOR), European Journal of Operations Research (EJOR), Wiley Encyclopedia of Operations Research and Management Science, SIAM Workshop on Analytic Algorithms and Combinatorics (ANALCO '10)

Service to Institution

Faculty Co-Director 2024 to present
 Tauber Institute for Global Operations
 University of Michigan

Ph.D. Program Faculty Coordinator 2018 to 2022
 Technology & Operations area, Ross School of Business, University of Michigan

Core Course Coordinator (TO 313 Operations Management) 2017 to 2022, 2023 to 2024
 Ross School of Business, University of Michigan

Ross Integrative Semester (RIS) Committee Member 2017 to 2022, 2023 to 2024
 Ross School of Business, University of Michigan

Community Values Committee Member 2021, 2023
 Ross School of Business, University of Michigan

TEACHING

New courses introduced at University of Michigan

- Revenue Management (TO 649), MBA level (2.25 Credits), Fall B 2023
- Survey of Topics in Technology & Operations (TO 899), Ph.D. level (3 Credits), Winter 2020, Winter 2022
- Humanitarian Operations (TO 899), Ph.D. level (3 Credits), Winter 2015

Courses taught at University of Michigan

- Introduction to Operations Management (TO 313), undergraduate level (3 Credits, Core), Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020, Fall 2021, Fall 2023
- Introduction to Operations Management (TO 598), Global MBA level (2.25 Credits, Core), Summer 2023

NOTABLE SEMINARS

Invited Seminar/Workshop Talks (Since joining U of M)

- 2024. Demand shaping strategies to overcome the profitability gap of e-commerce fulfillment networks, March 5, Columbia IEOR-DRO Seminar series, Columbia University, New York, NY
- 2023. Overcoming the profitability problem of e-commerce retail using data-driven product framing, April 28, The 7th Women in Data Science (WiDS) Conference at the American University of Beirut (AUB), Beirut, Lebanon
- 2023. On using data for disaster preparedness in the Pacific typhoon belt: A case study of the Philippines, April 27, The 7th Women in Data Science (WiDS) Conference at the American University of Beirut (AUB), Beirut, Lebanon
- 2023. Overcoming the profitability problem of e-commerce retail using data-driven product framing, April 25, Industrial Engineering Seminar, Bilkent University, Ankara, Turkey
- 2023. Overcoming the profitability problem of e-commerce retail using data-driven product framing, April 20, City University of New York (CUNY), Zicklin School of Business, Operations Management Seminar Series (OMEGA)
- 2022. Distribution-free inventory optimization for a retail fulfillment network, November 7, New York University Stern School of Business (NYU Stern), Operations Management Lunch Seminar (MOILS)
- 2022. Dynamic pricing under a Cascade Click model, Summer workshop on new trends and challenges in e-commerce, supply chain management, and logistics, August 26, University of Chicago Booth School of Business
- 2022. Product Framing for E-commerce Retailers, February, Amazon Tech Talk
- 2021. A model for prepositioning emergency relief items before a typhoon with uncertain trajectory, November 15, University of California Los Angeles (UCLA), Decisions, Operations & Technology Management
- 2021. Hosmer-Hall Interdisciplinary Research (Scholar's Journey) presentation, March 17, University of Michigan, Ross School of Business
- 2020. Product Framing for E-commerce Retailers, July 17, Institute for Data, Systems, and Society (IDSS) seminar series (Virtual seminar), Massachusetts Institute of Technology
- 2020. Decision-making under uncertainty using distributionally robust optimization, January 13, Operations Research and Financial Engineering (ORFE) seminar series, Princeton University
- 2018. Dynamic pricing of omnichannel inventories, October, Operations Management seminar series, Georgia Institute of Technology Scheller School of Business
- 2018. E-commerce revenue management through personalized website displays, pricing and fulfillment, June, Retail Analytics workshop, University of North Carolina Kenan-Flagler Business School
- 2018. Dynamic pricing of omnichannel inventories, February, Operations Management seminar series, Yale School of Management
- 2018. Dynamic pricing of omnichannel inventories, February, Operations Management seminar series, Massachusetts Institute of Technology, Sloan School of Business
- 2017. Dynamic pricing of omnichannel inventories, May, Institute for Data, Systems, and Society (IDSS) seminar series, Massachusetts Institute of Technology
- 2017. Asymmetry and ambiguity in newsvendor models, May, Operations Research and Financial Engineering (ORFE) seminar series, Princeton University
- 2017. Dynamic pricing of omnichannel inventories, May, Operations Management seminar series, Carnegie Mellon

University, Tepper Business School

- 2014. Analytics for humanitarian logistics, December, IBM Philippines and University of Asia and the Pacific, Philippines
- 2014. Analytics for humanitarian logistics, December, Ateneo Institute of Sustainability, Ateneo de Manila University, Philippines