

He Wang

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Academic Employment

H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology. Atlanta, GA

- Jerry and Harriet Thuesen Early Career Associate Professor (8/2023 – present)
- Colonel John B. Day Early Career Assistant Professor (8/2020 – 7/2023)
- Assistant Professor (1/2017 – 7/2020)

Massachusetts Institute of Technology, Cambridge, MA (Sep 2016 – Dec 2016)
Postdoctoral Associate, *Department of Civil and Environmental Engineering.*

Industry Employment

Uber Technology, San Francisco, CA (May 2021 – Aug 2022)
Staff Applied Scientist, *Uber Freight - Marketplace Dynamics Group.*

IBM Research, Yorktown Heights, NY (Jun 2013 – Aug 2013)
Research Intern, *Mathematical Science Group.*

China Petrochemical Corporation, Guangdong, China (Jul 2010 – Aug 2010)
Summer Intern

Education

Massachusetts Institute of Technology, Cambridge, MA

Ph.D. in Operations Research, 2016
S.M. in Transportation, 2013

Tsinghua University, Beijing, China

B.S. in Industrial Engineering, 2011
B.S. in Pure and Applied Mathematics, 2011

Research Interests

- Revenue management; dynamic pricing; supply chain management; e-commerce; marketplace design; logistics and transportation; machine learning; online learning

Honors & Awards

- NSF CAREER Award, 2022.
- Finalist, Daniel H. Wagner Prize for Excellence in the Practice of Advanced Analytics and Operations Research, 2021.
- MSOM Society Operations Research Best OM Paper Award, 2021.
- Second place, “Doing Good with Good OR” Student Paper Competition (awarded to student advised), 2019.
- First place, MSOM Student Paper Competition (awarded to student advised), 2019.
- Amazon Research Award, 2019.
- First place, INFORMS Junior Faculty Interest Group (JFIG) Paper Competition, 2018.
- Finalist, MSOM Student Paper Competition (awarded to student advised), 2018.
- Class of 1969 Teaching Fellow, Georgia Tech, 2017.
- Finalist, IBM Service Science Best Student Paper Award, 2015.
- Second place, Chinese Scholars Association for Management Science and Engineering (CSAMSE) Best Paper Award, 2013.
- Edward H. Linde (1962) MIT Presidential Graduate Fellowship, 2011.
- Outstanding Graduate of Tsinghua University (ranked 1st among students majored in Industrial Engineering), 2011.
- Chinese National Scholarship, awarded by the Chinese Ministry of Education, 2009.
- Tsinghua Tung OOCL Scholarship for academic excellence, 2008, 2010.

Publications

Preprints / Under Review

- Jiang, Y., and Wang, H. “Causal Inference under Network Interference Using a Mixture of Randomized Experiments.” Under review at *Management Science*.
- Behrendt, A., Savelsbergh, M., and Wang, H. “Crowdsourced Same-day Delivery: Joint Planning and Coordination for Centralized and Decentralized Couriers.” Under review at *Transportation Research Part C* (major revision).
- Cao, Y., Kleywegt, A. J., and Wang, H. “Dynamic Pricing for Two-sided Marketplaces with Offer Expiration.” Under review at *Management Science* (major revision).
- Rivera, A., Wang, H., and Xu, H. “Online Saddle Point Problem with Applications to Constrained Online Convex Optimization.” Under review at *Mathematics of Operations Research* (minor revision).

Book Chapter

- Chen, Q., Wang, H., and Wang, Z. (2022). "Learning and Pricing with Inventory Constraints." In: Chen, X., Jasin, S., Shi, C. (eds) *The Elements of Joint Learning and Optimization in Operations Management*. Springer Series in Supply Chain Management, vol 18. Springer, Cham.

Journal Publications

- Behrendt, A., Savelsbergh, M., and Wang, H. (2023). "A Prescriptive Machine Learning Method for Courier Scheduling on Crowdsourced Delivery Platforms." *Transportation Science*, 57(4), 889-907.
- Zhu, S., He Wang, and Yao Xie. (2022). "Data-Driven Optimization for Atlanta Police Zone Design." *INFORMS Journal of Applied Analytics*, 52(5), 412-432.
 - Finalist, 2021 Daniel H. Wagner Prize for Excellence in the Practice of Advanced Analytics and Operations Research.
 - Second place, 2019 INFORMS "Doing Good with Good OR" Student Paper Competition (awarded to S. Zhu).
- Varma, S. M., Bumpensanti, P., Maguluri, S. T., and Wang, H. (2023). "Dynamic pricing and matching for two-sided queues." *Operations Research*, 71(1), 83-100.
 - Extended abstract appeared in ACM SIGMETRICS 2020.
- Cao, Y., Kleywegt, A., and Wang, H. (2022). "Network revenue management under a spiked multinomial logit choice model." *Operations Research*, 70(4), 2237-2253.
- Wang, Y., and Wang, H. (2022). "Constant Regret Re-solving Heuristics for Price-based Revenue Management." *Operations Research*, 70(6), 3538-3557.
- Nambiar, M., Simchi-Levi, D., and Wang, H. (2021). "Dynamic inventory allocation with demand learning for seasonal goods." *Production and Operations Management (Special Issue in Honor of Professor Hau Lee)*, 30(3), 750-765.
- Li, J., Toriello, A., Wang, H., Borin, S., Gallarno, C. (2021). "Dynamic Inventory Allocation for Seasonal Merchandise at Dillard's Inc." *INFORMS Journal on Applied Analytics*, 51(4), 297-311.
- Bumpensanti, P. and Wang, H. (2020). "A re-solving heuristic with uniformly bounded loss for network revenue management." *Management Science*, 66(7), 2993-3009.
 - First place, 2018 INFORMS Junior Faculty Interest Group (JFIG) Paper Competition.
 - Finalist, 2018 MSOM Student Paper Competition (awarded to P. Bumpensanti).

- Nambiar, M., Simchi-Levi, D. and Wang, H. (2019). "Dynamic learning and pricing with model misspecification." *Management Science* 65(11), 4980-5000.
 - *First place, 2019 MSOM Student Paper Competition (awarded to M. Nambiar).*
- Simchi-Levi, D., Wang, H. and Wei, Y. (2018). "Constraint generation for two-stage robust network flow problem." *INFORMS Journal on Optimization*, 1(1), 49-70.
- Ferreira, K. J., Simchi-Levi, D. and Wang, H. (2018) "Online network revenue management using Thompson sampling." *Operations Research*, 66(6), 1586-1602.
 - *MSOM Society 2021 Operations Research Best OM Paper Award.*
 - *Finalist in 2015 IBM Service Science Best Student Paper Award.*
- Simchi-Levi, D., Wang, H. and Wei, Y. (2018). "Increasing supply chain robustness through process flexibility and inventory." *Production and Operations Management*, 27(8), 1476-1491.
 - *Second place in 2013 Chinese Scholars Association for Management Science and Engineering (CSAMSE) Best Paper Award.*
- Cheung, W. C., Simchi-Levi, D. and Wang, H. (2017). "Dynamic pricing and demand learning with limited price experimentation." *Operations Research*, 65(6), 1722-1731.
- Wang, H., Huang, S., Liu, Z. and Zheng, L. (2013). "Optimal tanker chartering decisions with spot freight rate dynamics considerations." *Transportation Research Part E*, 51, s109-116.

Conference Proceedings

- Zhu, S., Bukharin, A., Lu, L., Wang, H., and Xie, Y. (2021). "Data-Driven Optimization for Police Beat Design in South Fulton, Georgia." *KDD Workshop on Data Science for Social Good*.
- Varma, S. M., Bumpensanti, P., Maguluri, S. T., Wang, H. (2020). "Dynamic pricing and matching for two-sided queues." *ACM SIGMETRICS*.
- Rivera, A., Wang, H., and Xu, H. (2019). "Large scale Markov decision processes with changing rewards." *Advances in Neural Information Processing Systems (NeurIPS)*.
- Rivera, A., Abernethy, J., Wang, H., Xu, H. (2019). "Competing against Nash equilibria in adversarially changing zero-sum games." *International Conference on Machine Learning (ICML)*.

Research Grants

- **National Science Foundation.** "CAREER: Marketplace Design for Freight Transportation and Logistics Platforms." Role: PI. \$528,190. (01/2022-12/2026)
- **Georgia Tech EVPR Office** (Seed Grant). "Future Cyber Manufacturing as a Service." Role: PI. \$63,600. (04/2021-03/2023)
- **National Science Foundation.** "Data-Driven Optimal Police Patrol Zone Districting and Staffing." Role: PI. Co-PI: Yao Xie, George Nemhauser. \$564,547. (10/2020-09/2023)
- **Americold.** "Data-Driven Capacity Monitoring, Prediction and Planning for Hyperconnected Cold Chain Facilities." Role: co-PI. PI: Benoit Montreuil. \$300,000. (01/2020-04/2021)
- **Dillard's Inc.** "Dynamic Inventory Allocation in a Fashion Retail Network." Role: PI. Co-PI: Alejandro Toriello. \$100,000. (08/2019-05/2020)
- **SF Express.** "Data-driven Design and Operation of Hyperconnected Inter-city Logistics." Role: co-PI. PI: Benoit Montreuil, co-PIs: Alan Erera, Martin Savelsbergh, Alejandro Toriello. \$1,076,689. (08/2018-07/2021)
- **Oracle.** "Online Demand Learning and Prize Optimization with Endogeneity Effect." Role: co-PI. PI: David Simchi-Levi. \$100,000. (05/2018-04/2019)

Students Advised

PhD Students

- **Adrian Rivera Cardoso:** Graduated in December 2019 (co-advised with Huan Xu). Current position: LinkedIn.
- **Yufeng Cao:** Graduated in July 2020 (co-advised with Anton Kleywegt). Current position: Antai School of Management, Shanghai Jiao Tong University.
- **Pornpawee Bumpensanti:** Graduated in May 2021. Current position: Amazon.
- **Sung Woo Kim:** Graduated in May 2022. Current position: DoorDash.
- **Jana Boerger:** (co-advised with Benoit Montreuil). Graduated in August 2022. Current position: Shopify.
- **Adam Behrendt:** (co-advised with Martin Savelsbergh). Graduated in May 2023. Current position: Johns Hopkins University Applied Physics Laboratory.
- **Yiming Jiang.** Expected graduate date: May 2026.

MS Students

- **Felipe Simon:** MS in Operations Research. Graduated in December 2020. Current position: Ph.D. Student, University of Minnesota, ISyE.
- **Rafael J. Hanashiro:** MS in Computer Science. Graduated in December 2020. Current position: Ph.D. Student, MIT, EECS.

Served on Thesis or Dissertation Committees

- **Robert R Bishop**: Graduate in October 2019 (advised by Chip White).
- **Yasaman Mohammadshahi**: Graduated in August 2020 (advised by Pinar Keskinocak, Beril Toktay).
- **Zhaowei She**: Graduated in October 2021 (advised by Turgay Ayer).
- **Hongzhang Shao**: Passed thesis proposal in September 2020 (advised by Anton Kleywegt).
- **Shixiang Zhu**: Graduated May 2022 (advised by Yao Xie).
- **Sushil Mahavir Varma**: Passed thesis proposal in July 2021 (advised by Siva Theja Maguluri).
- **Haotian Wu**: Graduated in May 2022 (advised by Anton Kleywegt, Martin Savelsbergh).
- **Xinyue Pan**: Passed thesis proposal in January 2022 (advised by Benoit Montreuil).

Teaching Experience

Georgia Institute of Technology

- Supply Chain Economics (ISYE 4301), Undergraduate course – Spring 2017 (rating: 4.5/5.0), Fall 2017 (rating: 4.3/5.0), Spring 2019 (2 sections, rating: 4.6/5.0, 4.7/5.0), Spring 2020 (2 sections, rating: N/A due to COVID), Spring 2021 (rating: 4.8/5.0), Spring 2023 (rating: 4.8/5.0)
- Revenue Management (ISYE 8803), PhD course – Spring 2018 (rating: 5.0/5.0).
- Inventory Theory (ISYE 7105), PhD course – Fall 2019 (rating: 5.0/5.0), Fall 2021 (rating: 4.7/5.0).

Invited Seminar Presentations

2022	UC Berkeley, Haas School of Business, Marketing/OITM joint seminar. McGill University, Desautels Faculty of Management. The Chinese University of Hong Kong (CUHK) Business School. National University of Singapore, Industrial Systems Engineering and Management. Shanghai Jiao Tong University, Antai School of Management.
2021	University of Chicago, Booth School of Business, Operations Management Group.
2020	London Business School, Management Science & Operations Group. Duke University, Decision Sciences Group. Shanghai Jiao Tong University, Antai College of Economics & Management. Washington University in St. Louis, Olin Business School.

- 2019 Emory University, Information Systems & Operations Management Group.
University of Michigan, Industrial & Operations Engineering Department.
Georgia Tech, Scheller College of Business.
- 2018 MIT, Institute for Data, Science, and Society.
Hong Kong University of Science and Technology Business School.
- 2017 Tsinghua University, Department of Industrial Engineering.
Georgia Tech, Supply Chain Logistics Institute.
New York University (Shanghai).
- 2016 UC Berkeley, Industrial Engineering and Operations Research.
UIUC, Industrial and Enterprise Systems Engineering.
University of Michigan, Ross School of Business.
Carnegie Mellon University, Tepper School of Business.
- 2015 University of North Carolina, Kenan-Flagler Business School.
Georgia Tech, School of Industrial and Systems Engineering.
MIT, Sloan School of Management, Operations Management Seminar.

Conference & Workshop Presentations

INFORMS Annual Meeting, 2012-2022.
 MSOM Annual Conference, 2022, 2017-2019, 2015, 2014.
 MSOM Supply Chain SIG Conference, 2015.
 INFORMS Revenue Management & Pricing Conference, 2021, 2019, 2016, 2015.
 INFORMS Applied Probability Society (APS) Conference, 2019, 2017.
 INFORMS Optimization Society Conference, 2016.
 POMS Annual Conference, 2016, 2015.
 Supply Chain Optimization Faculty Summit, Amazon (Seattle, WA), 2017.
 University of Bergamo/Georgia Tech Optimization Workshop, 2017.
 Machine Learning @ GT Launch Event, Georgia Tech, 2017.
 Workshop on Data-driven Research in Operations Innovation, Fudan University (Shanghai, China), 2022, 2017.
 Consortium for Operational Excellence in Retailing (COER), Harvard Business School, 2022, 2021, 2019.
 University of Chicago Workshop on E-commerce and Logistics, 2022.

Professional Service

- Associate Editor for *Management Science* (2021-present).
- Journal Referee for *Mathematics of Operations Research*, *Operations Research*, *Management Science*, *European Journal of Operational Research*, *Production and*

Operations Management, IIE Transactions, Manufacturing & Service Operations Management, MIS Quarterly, INFORMS Journal on Optimization, Transportation Science, Naval Research Logistics, IEEE Transactions on Information Theory.

- Conference Reviewer for *COLT, NeurIPS, ICML, ICLR, INFORMS RMP, MSOM SIG*.
- Grant Reviewer/Panelist for *NSF (USA), NSERC (Canada), ISF (Israel), RGC (HK)*.
- INFORMS Junior Faculty Interest Group (JFIG), Vice President/President-Elect (2019-2020); President (2020-2021)
- Program Committee, INFORMS Revenue Management & Pricing Conference 2017
- Session Chair for INFORMS 2015-2022
- Coordinator for Georgia Tech ISyE seminar series, 2017-2018
- Reviewer for MS Analytics Admission, Georgia Tech, 2017
- ISyE Ph.D. Admission Committee, Georgia Tech, 2017-2020
- Coordinator for MIT Data Science Lab (DSL) seminar series, 2015-2016
- Chair of PhD IE Supply Chain Comprehensive Exam Committee, 2020-2021