

Hamsa Bastani

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Operations, Information & Decisions (OID) Group
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Academic Position

Assistant Professor, Wharton School, University of Pennsylvania
Operations, Information & Decisions (OID), 2018 – present

- *Affiliate*, Warren Center for Networks & Data Sciences
- *Affiliate*, Penn Research in Machine Learning
- *Affiliate*, Analytics at Wharton & Wharton AI for Business
- *Senior Fellow*, Leonard Davis Institute for Health Economics

Herman Goldstine Postdoctoral Fellow, IBM Research
Math for AI, 2017-2018

Education

Stanford University
Ph.D. in Electrical Engineering, 2012-2017

Harvard University
A.M. in Physics, 2011-2012
A.B. *summa cum laude* in Physics and Mathematics, 2008-2012

Journal Papers

Learning Personalized Product Recommendations with Customer Disengagement, H. Bastani, P. Harsha, G. Perakis and D. Singhvi
Minor Revision, M&SOM

- *2nd Place*, Service Science Best Paper Award (2019)
- *Hon. Mention*, POMS Best Student Paper in Supply Chain (Singhvi, 2019)

Adaptive Clinical Trial Designs with Surrogates: When Should We Bother? A. Anderer, H. Bastani and J. Silberholz
Management Science (Forthcoming)

- *1st Place*, Pierskalla Award for Best Paper in Healthcare (2019)
- *1st Place*, MSOM Student Paper Competition (Anderer, 2020)
- *Finalist*, Public Sector in Operations Best Paper Award (2020)

Meta Dynamic Pricing: Transfer Learning Across Experiments
H. Bastani, D. Simchi-Levi and R. Zhu
Management Science (Forthcoming)

Predicting with Proxies: Transfer Learning in High Dimension
H. Bastani
Management Science (2021)

Mostly Exploration-Free Algorithms for Contextual Bandits
H. Bastani, M. Bayati and K. Khosravi
Management Science (2021)

Online Decision-Making with High-Dimensional Covariates

H. Bastani and M. Bayati

Operations Research (2020)

- *1st Place*, Pierskalla Award for Best Paper in Healthcare (2016)
- *1st Place*, George Nicholson Student Paper Competition (2016)
- *1st Place*, MSOM Student Paper Competition (2016)
- *1st Place*, IBM Service Science Best Student Paper Award (2016)

Evidence of Upcoding in Pay-for-Performance Programs

H. Bastani, J. Goh and M. Bayati

Management Science (2019)

- *1st Place*, Health Applications Society Best Student Paper Award (2015)

Multiplex coherent anti-Stokes Raman scattering (MCARS) for chemically sensitive, label-free flow cytometry

C. Camp, S. Yegnanarayanan, A. Eftekhar, H. Sridhar and A. Adibi

Optics Express (2009)

Working Papers

Deploying a Machine Learning System for COVID-19 Testing at the Greek Border, H. Bastani*, K. Drakopoulos*, V. Gupta*, J. Vlachogiannis, C. Hadjicristodoulou, P. Lagiou, G. Magiorkinis, D. Paraskevis and S. Tsiodras
(* denotes equal contribution)

Revise & Resubmit, Nature (Research Article)

Group-Sparse Matrix Factorization for Transfer Learning of Word Embeddings, K. Xu, X. Zhao, H. Bastani and O. Bastani

- Preliminary version in ICML 2021

Learning Best Practices: Can Machine Learning Improve Human Decision-Making? H. Bastani, O. Bastani and W. Sinchaisri

- *2nd Place*, POMS Behavioral OM Junior Scholar Paper Award (Sinchaisri, 2021)

Unmasking Human Trafficking Risk in Commercial Sex Supply Chains with Machine Learning, P. Ramchandani, H. Bastani and E. Wyatt

Mind the Gap: Safely Bridging Offline and Online Reinforcement Learning, W. Xu, K. Xu, H. Bastani and O. Bastani

Learning Across a Network of Bandits

K. Xu and H. Bastani

Responsible Sourcing: The First Step is the Hardest

P. Ramchandani, H. Bastani and K. Moon

- *People's Choice Award*, Early-Career Sustainable OM Workshop (2020)

Robust Generalization of Quadratic Neural Networks via Function Identification, K. Xu, H. Bastani and O. Bastani

Are Bans Effective under Limited Monitoring? Evidence from High Seas Management, H. Bastani and J. F. de Zegher
- *People's Choice Award*, Early-Career Sustainable OM Workshop (2019)

Interpreting Predictive Models for Human-in-the-Loop Analytics
H. Bastani, O. Bastani and C. Kim
- *Finalist*, Pierskalla Award for Best Paper in Healthcare (2018)

Analysis of Medicare Pay-for-Performance Contracts
H. Bastani, M. Bayati, M. Braverman, R. Gummadi and R. Johari

Refereed
Conference
Papers **Group-Sparse Matrix Factorization for Transfer Learning of Word Embeddings**, K. Xu, X. Zhao, H. Bastani and O. Bastani
ICML (2021)

Exploring the Causal Relationships between Initial Opioid Prescriptions and Outcomes, J. Zhang, V. Iyengar, D. Wei, B. Vinzamuri, H. Bastani, A. Macalalad, A. Fischer, G. Yuen-Reed, A. Mojsilović, and K. Varshney
AMIA Workshop on Data Mining for Medical Informatics (2017)

Interpretability via Model Extraction
O. Bastani, C. Kim and H. Bastani
FATML Workshop on Fairness, Accountability, and Transparency (2017)

Analysis of Medicare Pay-for-Performance Contracts
H. Bastani, M. Bayati, M. Braverman, R. Gummadi and R. Johari
EC Workshop on Mechanism Design for Social Good (2017)

Creating Optical Vortex Modes with a Single Cylinder Lens
H. Sridhar, M. Cohen and J. Noe
Proceedings of *SPIE* (2010)

Book
Chapters **Proceed with Care: Integrating Predictive Analytics with Patient Decision-Making**, H. Bastani and P. Shi
Modeling for Health: Making Changes (editors: S. Suen, E. Enns, D. Scheinker)

Applied Machine Learning in Operations Management
H. Bastani, D. J. Zhang and H. Zhang
Innovative Technology at the Interface of Finance and Operations
(editors: V. Babich, J. Birge, G. Hilary)

Students **Arielle Anderer**, Wharton OID
- Advisor
Pia Ramchandani, Wharton OID
- Advisor
Kan Xu, Penn Economics
- Advisor
Wichinpong Sinchaisri, Wharton OID (advisor: G. Allon), grad. in 2021

- Thesis committee member, co-author
 - *Initial Placement:* Assistant Professor at UC Berkeley Haas
- Ruihao Zhu**, MIT IDSS (advisor: D. Simchi-Levi), grad. in 2021

- Thesis committee member, co-author
- *Initial Placement:* Assistant Professor at Purdue Krannert

Divya Singhvi, MIT ORC (advisor: G. Perakis), grad. in 2020

- Co-authored job market paper
- *Initial Placement:* Assistant Professor at NYU Stern

Khashayar Khosravi, Stanford EE (advisor: M. Bayati), grad. in 2019

- Co-authored job market paper
- *Initial Placement:* Postdoctoral fellow at Google

Teaching

Wharton OID, University of Pennsylvania

Instructor, Introduction to Management Science (OIDD 321), 2018 – present

- Recipient of Wharton Teaching Excellence Award in 2019 and 2020

Instructor, Bandits, RL and Transfer Learning (OIDD 941), 2021

- Designed new Ph.D. course

Invited Talks

2021: Wharton Statistics; Lyft Marketplace Labs; Wayfair Labs; Keynote Speaker for KDD Workshop on RL/MAB; Information & Learning Workshop; COVID-19 Panelist for SIAM Conference on Data Mining; Loyola University Chicago Health Informatics Series; Boston Digital Leadership Forum; Rutgers Post-Pandemic Supply Chain & Health Mgmt Conference

2020: Yale School of Management; Chicago Booth OM; U of Maryland DO&IT; Purdue Krannert; Cornell Johnson OTIM; Utah Ops Conference; Facebook Adaptive Experimentation Workshop; Simons Institute for the Theory of Computing; Keynote Speaker for KDD Workshop on Applied Data Science for Healthcare; Invited Speaker for NeurIPS Workshop on Consequential Decision-Making; INFORMS Health Applications Society Tutorial; Wharton Analytics Webinar

2019: NYU Stern OM; MIT IDSS Data Science Lab; UC Irvine Operations & Decision Technologies; UC Irvine Algorithms, Combinatorics & Optimization Center; UT Dallas Naveen Jindal OM; Wharton OID; Wharton Empirical Workshop; Information & Learning Workshop, IESE; ISOM Workshop, Emory; Healthcare SIG; CUHK Shenzhen Healthcare & Service Operations Workshop

2018: IMA Data-Driven Supply Chain Mgmt (Applied) Workshop; IMA Data-Driven Supply Chain Mgmt (Theory) Workshop; Penn Warren Center for Network & Data Sciences; IBM Research Math for AI; IDinsight; MIT ORC IAP Seminar on OR for Social Impact

2017: UCLA Anderson; Duke Fuqua; USC Marshall; Northwestern IEMS; Yale School of Management; Harvard Business School; Columbia IEOR / DRO; Ross School of Business; INSEAD; Chicago Booth OM; Kellogg OM; Purdue Krannert IS; MIT IDSS Data Science Lab; U of Cambridge, Judge Business School; IBM Research Applied Probability Seminar; Cornell Tech; Stanford-Berkeley Health Economics Workshop

2016: Cornell ORIE; Wharton OI; Indiana Kelley; London Business School; Pittsburgh Katz; MIT Sloan OM; Stanford GSB OIT; Stanford Biostatistics Workshop; Stanford Medical School Med-X Conference; Healthcare SIG

2015 & earlier: Cornell ORIE; Cornell ORIE Young Scholars Workshop; Wharton Empirical Research in OM Workshop

Awards

Wharton Teaching Excellence Award, 2020
Finalist, Public Sector in Operations Best Paper Award, 2020
People's Choice Award, Early-Career Sustainable OM Workshop, 2020
1st Place, Pierskalla Award for Best Paper in Healthcare, 2019
2nd Place, Service Science Best Paper Award, 2019
People's Choice Award, Early-Career Sustainable OM Workshop, 2019
Wharton Teaching Excellence Award, 2019
Finalist, Pierskalla Award for Best Paper in Healthcare, 2018
1st Place, Pierskalla Award for Best Paper in Healthcare, 2016
1st Place, George Nicholson Student Paper Competition, 2016
1st Place, MSOM Student Paper Competition, 2016
1st Place, IBM Service Science Best Student Paper Award, 2016
1st Place, Health Applications Society Best Student Paper Award, 2015
National Science Foundation Fellow, 2012-2017
Stanford Department Fellowship in Electrical Engineering, 2012-2013
Finalist, Intel Science Talent Search, 2008

Service

Associate Editor for *M&SOM* (2021-)
Reviewer for *Management Science*, *Operations Research*, *M&SOM*, *POM*, *JRSS Series B*, *Annals of Statistics*, *JASA*, *JMLR*, *Statistics in Medicine*, *NeurIPS*, *ICML*, *AISTATS* and *Nature*

Area Chair, NeurIPS Conference, 2021
Program Committee, EAAMO Conference, 2021
Program Committee, EC Workshop on Design of Online Platforms, 2021
Co-Chair, George Nicholson Student Paper Competition, 2020
Co-Chair, Pierskalla Award for Best Paper in Healthcare, 2020
Program Committee, EC Conference, 2020
Program Committee, AAAI Conference on Artificial Intelligence, 2020
Program Committee, EC Mechanism Design for Social Good Workshop, 2018-2020
Wharton Dean's Advisory Council, 2019-2020
Area Chair, Mechanism Design for Social Good Workshop, 2019
Meritorious Service Award for *Management Science*, 2018
Co-Chair, Pierskalla Award for Best Paper in Healthcare, 2017
Speaker, CMU YinzOR Student Conference, 2017

Various years: Judge for George Nicholson Student Paper Competition, Revenue Management & Pricing Conference, RM&P Best Student Paper Award, Healthcare Applications Society Student Paper Competition, MSOM Student Paper Competition, Healthcare SIG in MSOM, Sustainability SIG in MSOM, POMS Best Healthcare OM Paper Competition, Elwood S. Buffa Doctoral Dissertation Award, Service Science Best Cluster Paper Award