Holly Wiberg

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Academic Appointment	**Carnegie Mellon University, Heinz College,** Pittsburgh, PA Assistant Professor of Public Policy and Operations Research, Fall 2023 – Present.
Education	**Massachusetts Institute of Technology,** Cambridge, MA PhD in Operations Research, May 2022. **Cornell University, College of Engineering**, Ithaca, NY BS (Summa Cum Laude) in Operations Research and Engineering, May 2016. **University of Edinburgh,** Edinburgh, Scotland Semester Abroad, May 2015.
Research Areas	Operations Research, Healthcare, Machine Learning, Artificial Intelligence, Optimization, Analytics
Affiliations	CMU-NIST AI Measurement Science & Engineering Cooperative Research Center (AIMSEC) Block Center for Technology and Society

Publications

Maragno, D., Wiberg, H., Bertsimas, D., Bilber, S. I., den Hertog, D., & Fajemisin, A. (2023) Mixed-Integer Optimization with Constraint Learning. *Operations Research 73(2), 1011-1028.*

Luckhurst, C., Wiberg, H., Masiakos, P., … & Bertsimas, D. (2023). Pediatric Cervical Spine Injury Following Blunt Trauma in Children Younger Than 3 Years Old; A Multi-Center Follow Up Study and a Novel Prediction Model. *JAMA Surgery 158*(11), 1126-1132.

Soenksen, L., Ma, Y., Zeng, C., Boussioux, L., Villalobos Carballo, K., Na, I., Wiberg, H., Li, M., Fuentes, I., & Bertsimas, D. (2022). Integrated Multimodal Artificial Intelligence Framework for Healthcare Applications. *npj Digital Medicine*, 5, 149.

Bertsimas, D., Margonis, G. A., Huang, Y., Andreatos, N., Wiberg, H., Ma, Y., … Wolfgang, C. L. Towards an Optimized Staging System for Pancreatic Ductal Adenocarcinoma: A Clinically Interpretable, Artificial Intelligence-Based Model*. JCO Clinical Cancer Informatics, 5,* 1220-1231*.*

Wiberg, H., Yu, P., Montanaro, P., Mather, J., Birz, S., Schneider, M., & Bertsimas, D. (2021). Prediction of Neutropenic Events in Chemotherapy Patients: A Machine Learning Approach. *JCO Clinical Cancer Informatics*, 5, 904–911.

Bertsimas, D., Borenstein, A., Mingardi, L., Nohadani, O., Orfanoudaki, A., Stellato, B., Wiberg, H., Sarin, P., Varelmann, D., Estrada, V., Macaya, C., & Gil, I. N. (2021). Personalized Prescription of ACEI/ARBs for Hypertensive COVID-19 Patients. *Health care management science,* 1-17.

Bertsimas, D., Boussioux, L., Cory-Wright, R., Delarue, A., Digalakis, V., Jacquillat, A., Kitane, D.L., Lukin, G., Li, M.L., Mingardi, L., Nohadani, O., Orfanoudaki, A., Papalexopoulos, T., Paskov, I., Pauphilet, J., Lami, O.S., Stellato, B., Bouardi, H.T., Villalobos Carballo, K., & Zeng, C. (2021). From predictions to prescriptions: A data-driven response to COVID-19. *Health care management science*, 1-20.

Bertsimas, D., Lukin, G., Mingardi, L., Nohadani, O., Orfanoudaki, A., Stellato, B., Wiberg, H., Gonzalez-Garcia, S., Parra Calderón, C.L., The Hellenic COVID-19 Study Group, Robinson, K., Schneider, M., Stein, B., Estirado, A., a Beccara, L., Canino, R., Dal Bello, M., Pezzetti, F., & Pan, F. (2020). COVID-19 mortality risk assessment: An international multi-center study. *PLOS One,* 15(12), e0243262.

Bertsimas, D., & Wiberg, H. (2020). Machine learning in oncology: Methods, applications, and challenges. *JCO Clinical Cancer Informatics*, 4, 885-894.

Bertsimas, D., Orfanoudaki, A., & Wiberg, H. (2020). Interpretable clustering: an optimization approach. *Machine Learning*, *110*(1), 89-138.

Bertsimas, D., Masiakos, P. T., Mylonas, K. S., & Wiberg, H. (2019). Prediction of cervical spine injury in young pediatric patients: an optimal trees artificial intelligence approach. *Journal of pediatric surgery*, *54*(11), 2353-2357.

Jian, N., Freund, D., Wiberg, H. M., & Henderson, S. G. (2016). Simulation optimization for a large-scale bike-sharing system. In *2016 Winter Simulation Conference (WSC)*(pp. 602-613). IEEE.

Under Review	Raman, N., Wiberg, H. (2025). Assortment Optimization for Patient-Provider Matching. *arXiv.*
	Wiberg, H., Dai, T., Lam, H., Kulkarni, R. (2025). Synergizing Artificial Intelligence and Operations Research: Perspectives from INFORMS Fellows on the Next Frontier. *Under review at INFORMS Journal on Data Science.*
Selected Working Papers	Jelic, B., Kalra, G., Orfanoudaki, A., Wiberg, H. (2025). From Prediction to Policy: AI-Enabled Decision-Making in Fertility Treatment.
	Yao, X., Padman, R., Sherahadeh, K., Wiberg, H. (2025). Can LLMs Support Medical Knowledge Imputation? An Evaluation-Based Perspective.
	Verma, S., Tayur, S., Wiberg, H., Zhu, W. (2025). From Data to Dose: Personalized Dosing with Data Generation and Expert Feedback.
	Neha, Wiberg, H., Zhang, P. (2025). Tactical planning of school bus operations in potential delays.
	Wiberg, H., & Barrett, S. (2024). Optimizing Access to Primary Care.
Pre-prints	Waskom, M. L., Tan, K., Wiberg, H., Cohen, A. B., Wittmerhaus, B., Shapiro, W. (2023). A hybrid approach to scalable real-world data curation by machine learning and human experts. *medRxiv.*
Books	Bertsimas, D., Orfanoudaki, A., & Wiberg, H. (2025). *The Analytics Edge in Healthcare*.
Reports	Kulkarni, R., Brero, G., Ding, Y., Gupta, S., Koenig, S., Krishnan, R., Serra, T., Vayanos, P., Wasserkrug, S., Wiberg, H. (2025). AI/OR Workshop Series Final Report. Washington, D.C.: Computing Research Association (CRA).
Media	Wasserkrug, S., Cheriyan, V., Dai, T., …, & Wiberg, H. (2025). A Prominent Role for INFORMS in the Age of AI. *ORMS Today.*
	INFORMS. (2024). Changing the Landscape of Healthcare as we Know it—The Role and Impact of AI [Video]. YouTube.

Selected Talks   Optimizing Access to Primary Care
- INFORMS Annual Meeting (October 2024)

A hybrid approach to scalable real-world data curation by machine learning and human experts
- POMS Annual Meeting (April 2024)
- IMSI Workshop: Mathematics, Statistics, and Innovation in Health Care (May 2023)
- INFORMS Annual Meeting (October 2022)

Optimizing Virtual Care for Chronic Disease Patients: A Case Study in Diabetes
- INFORMS Annual Meeting (October 2022)

Mixed-integer Optimization with Constraint Learning
- INFORMS Optimization Society Annual Meeting (March 2024)
- YinzOR Conference (August 2023)
- Cornell ORIE Young Researchers Workshop (October 2021)

From Data to Prescriptions: An Optimization Framework for Treatment Personalization
- INFORMS Annual Meeting (October 2021)
- INFORMS Healthcare (July 2021)

COVID-19 Mortality Prediction: A Data-Driven Risk Assessment Tool
- SwissRe COVID-19 Summit: Moving from Reacting to Managing (November 2020)
- INFORMS Annual Meeting (October 2020)
- University of Cambridge Public Health Seminar (October 2020)

An Optimization Approach to Roster Creation
- Sloan Sports Analytics Conference (March 2020)

A Network-Based Approach to Drug-Target Interactions in Cancer
- INFORMS Annual Meeting (October 2019)
- INFORMS Healthcare (July 2019)

Predicting Cervical Spine Injury in Pediatric Trauma Patients
- INFORMS Annual Meeting (November 2018)

Teaching   **Carnegie Mellon University,** Pittsburgh, PA
90-722 Management Science I (Fall 2023, Spring 2024, Spring 2025)
90-760 Management Science II (Fall 2023, Spring 2024, Spring 2025)

Honors and Awards

2025	Martcia T. Wade Teaching Award (Heinz College, Carnegie Mellon University)
2019-2022	National Science Foundation Graduate Student Research Fellowship
2020	William Pierskalla Best Paper Award, 2020 INFORMS Annual Meeting
2017	Henry Gabbay Fellowship, MIT Sloan School of Management
2016	Byron W. Saunders Prize, Cornell University
2015	Omega Rho Honor Society, Cornell University ORIE Department
2014	Tau Beta Pi, Cornell University

Service	*University Service:*

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- Dean search committee, Heinz College of Information Systems and Public Policy (2024-Present)
- Monday Faculty Research Seminar Co-organizer (2024-Present)
- Operations Research Center Seminar Co-organizer (2021)
- Search committee, Assistant Dean for Diversity, Equity, and Inclusion of MIT Schwarzman College of Computing (2021)

INFORMS Service:
- Member, INFORMS AI Integration Committee (2025)
- Subgroup Lead, INFORMS AI Roadmap Ad-Hoc Committee (2024)

Conference Service: INFORMS Optimization Society Conference Program Committee (2024), Pierskalla Award Reviewer (2021-2024), Sloan Sports Analytics Conference Research Competition Reviewer (2021, 2022), MSOM SIG Day Reviewer (2022)

Journal Reviewer: Management Science, Manufacturing & Service Operations Management, INFORMS Journal on Optimization, INFORMS Journal of Computing, JAMIA, JCO Clinical Cancer Informatics, npj Digital Medicine, JMIR, JMIR Medical Informatics, BMC Medical Informatics and Decision-Making, Scientific Reports

Professional Membership　Institute for Operations Research and the Management Sciences
　　　Societies: Health Applications Society, Public Sector OR, Manufacturing and Service Operations Management Society
Production and Operations Management Society

Professional Experience

2022-2023　**Flatiron Health**, New York, NY
Senior Machine Learning Operations Researcher (Post-doctoral role)

2015-2017　**athenahealth**, Watertown, MA
Member of Technical Staff, Data Science
Intern, Data Engineering