

AIMOR @ Banff

Artificial Intelligence and Machine Learning in Operations Management Research (AIMOR) Workshop

May 14–15, 2025

All sessions will be held in the Fairholme Room of the Royal Canadian Lodge in Banff

Day 1 (May 14)

8:00 am	8:50 am	Registration
8:50 am	09:00	Welcome Message
9:00 am	10:30 am	Keynote: <i>Bridging AI and OM: Enhancing Decision-Making Through Machine Learning</i> by Pengyi Shi (Purdue University) – Part 1
10:30 am	11:00 am	Break
11:00 am	12:30 pm	Keynote: <i>Bridging AI and OM: Enhancing Decision-Making Through Machine Learning</i> by Pengyi Shi (Purdue University) – Part 2
12:30 pm	1:30 pm	Lunch (provided)
1:30 pm	3:00 pm	Keynote: <i>AI-Inspired Operations: How AI Is Shaping the Field of OM and How OM Can Shape AI</i> by Tinglong Dai (Johns Hopkins University) – Part 1
3:00 pm	3:30 pm	Break
3:30 pm	5:00 pm	Keynote: <i>AI-Inspired Operations: How AI Is Shaping the Field of OM and How OM Can Shape AI</i> by Tinglong Dai (Johns Hopkins University) – Part 2
6:00 pm	8:00 pm	Dinner (provided)

Day 2 (May 15)

9:00 am	10:30 am	Technical Session 1
10:30 am	11:00 am	Break
11:00 am	12:00 pm	Lightning Session 1
12:00 pm	1:00 pm	Lunch (provided)
1:00 pm	2:30 pm	Technical Session 2
2:30 pm	3:30 pm	Poster Session
3:30 pm	4:00 pm	Break
4:00 pm	5:00 pm	Lightning Session 2
5:00 pm	5:05 pm	Farewell

Wednesday, May 14, 2025

9:00 am – 12:30 pm: Keynote by Pengyi Shi (Purdue University, Daniels School of Business)

Bridging AI and OM: Enhancing Decision-Making Through Machine Learning

This tutorial explores the integration of AI and ML into OM research. We will look at how state-of-the-art tools such as generative AI, reinforcement learning, and online learning algorithms can help to address operational challenges, such as workforce scheduling, resource allocation, and personalized intervention in dynamic and high-stakes environments. By bridging the gap between theory and practice, this tutorial aims to equip participants with actionable insights and tools to enhance the impact of OM research in industries such as healthcare, public sector, and service operations.

1:30 pm – 5:00 pm: Keynote by Tinglong Dai (Johns Hopkins University, Carey Business School)

AI-Inspired Operations: How AI Is Shaping the Field of OM and How OM Can Shape AI

The rapid advancement of artificial intelligence (AI) is driving profound change in the field of operations management (OM). While much attention has been paid to how AI can shape OM practices, the reverse perspective—how OM principles can enhance AI development, deployment, and scaling—remains little explored. This talk highlights the unique opportunity for the OM community to address this gap and produce high-quality research with broader societal impact.

OM, with its systemic perspective and analytical rigor, is uniquely positioned to address critical challenges across the AI lifecycle. OM methods can improve AI training processes, generate real-world evidence of AI's impact on productivity, efficiency, and sustainability, and balance trade-offs such as model accuracy versus pattern recognition (including those beyond human capabilities). In addition, OM can play a critical role in scaling the AI marketplace, fostering continuous learning, and ensuring alignment between AI developers and stakeholders to enhance safety and accountability.

Using examples primarily from healthcare, as well as insights from other industries, this talk will illustrate how OM can bring order to the world of AI. Time permitting, breakout sessions will encourage brainstorming of potential research topics and collaborations.

Thursday, May 15, 2025

9:00 am – 10:30 am: Technical Session 1

Contextual Linear Optimization with Bandit Feedback

Yichun Hu (Cornell University, Johnson Graduate School of Management)

When Less is More: Optimizing Prescription Alerts under Fatigue

Michael Lingzhi Li (Harvard University, Harvard Business School)

Balancing Personalized Medicine and One-Size-Fits-All: Navigating Trade-Offs in Complexity, Efficiency, and Equity

Narges Mohammadi (Imperial College London, Imperial College Business School)

Boosted Generalized Normal Distributions for Modelling Patient Wait and Service Time Distributions in EDs

Donald Lee (Emory University, Goizueta Business School)

11:00 am – 12:00 pm: Lightning Session 1	
	<i>Supply Chain Coordination under Unknown Demand Distribution: Online Learning and Contracting Mechanisms</i> Shi Chen (University of Washington, Foster School of Business)
	<i>(Machine) Learning Preferences from Complex Choice Sets: An Application to Service Networks</i> Ken Moon (University of Pennsylvania, Wharton School)
	<i>Multiclass Queue Scheduling Under Slowdown: An Approximate Dynamic Programming Approach</i> Berk Gorgulu (McMaster University, DeGroote School of Business)
	<i>Training Neural Networks for the GI/G/K Queue</i> Qi-Ming He (University of Waterloo, Department of Management Sciences and Engineering)
1:00 pm – 2:30 pm: Technical Session 2	
	<i>Build Agility and Resilience by Leveraging Machine Learning for Supply Chain Planning</i> Morris Cohen (University of Pennsylvania, Wharton School)
	<i>Biases of Humans, of AI, and of Humans with AI</i> Tracy Jenkin (Queen's University, Smith School of Business)
	<i>Cognitive Costs and Ethical Choices: Fairness in Human-Machine Decision Systems</i> Mohammadreza Shahsahebi (University of Calgary, Haskayne School of Business)
	<i>Rethinking Algorithmic Fairness for Human-AI Collaboration</i> Hamsa Bastani (University of Pennsylvania, Wharton School)
2:30 pm – 3:30 pm: Poster Session (alphabetic order of presenter)	
	<i>OPT2CODE: RAG Framework for Generating Linear Programming Solver Code</i> Tasnim Ahmed (Queen's University, School of Computing)
	<i>The Average Tree of a Random Forest</i> Rim Hariss (McGill University, Desautels Faculty of Management)
	<i>Job Insecurity in the Age of Algorithms: Employee Reactions to Hiring Decision Aids</i> Mehnaz Rafi (University of Calgary, Haskayne School of Business)
	<i>Seeding with Differentially Private Network Information</i> Amin Rahimian (University of Pittsburgh, Swanson School of Engineering)
	<i>ML-based Dynamic Uncertainty Sets to Optimize Hybrid Renewable Energy Systems</i> Ahmed Saif (Dalhousie University, Department of Industrial Engineering)
	<i>Evaluating Drone-Delivery Efficiency in Different Urban Settings Using Graph Neural Networks</i> Bahar Viniche (York University, Lassonde School of Engineering)
4:00 pm – 5:00 pm: Lightning Session 2	
	<i>Inference-Aware Policy Optimization</i> Osbert Bastani (University of Pennsylvania, Department of Computer and Information Science)
	<i>Data-Driven Contextual Stochastic Optimization for Adaptive Capacity Planning</i> Borzou Rostami (University of Alberta, Alberta School of Business)
	<i>Generative AI for Operations Management: Applications in Simulation, Qualitative Analysis, and Causal Graphs</i> Mohammad Jalali (Harvard University, Harvard Medical School)
	<i>Racing with Generative AI: Impact of Conversational Agents on Mental Health Counselors</i> Seokjun Youn (University of Arizona, Eller College of Management)