First Annual Northeast Regional Conference on Optimization and Optimal Control under Uncertainty
December 7-9
IBM T.J. Watson Research Center, Yorktown Heights, New York

Technical Program Schedule

December 7 (Yorktown Auditorium)

7:30 – 8:00	Coffee and light breakfast
8:00 – 8:30	Welcome and Opening Remarks ***Arvind Krishna**, Senior Vice President, Director of Research, IBM Research*

Session I

8:30 – 9:00	Production Planning with Risk Hedging ***David D. Yao**, Columbia University*
9:00 – 9:30	Taylor-ed DPs: Between Dynamic Programming and Brownian Control Problems ***Itay Gurvich**, Cornell University*
9:30 – 10:00	Inventory Management for Assemble-to-Order Systems with General Bill of Materials and Deterministic Lead Times ***Marty Reiman**, Columbia University*
10:00 – 10:30	Fully Polynomial Time (Σ, Π)-Approximation Schemes for Continuous Nonlinear Newsvendor and Continuous Stochastic Dynamic Programs ***Giacomo Nannicini**, IBM Research*
10:30 – 11:00	Coffee break

Session II

11:00 – 11:30	The Statistics of Data-driven Distributionally Robust Optimization via Optimal Transport ***Jose Blanchet**, Columbia University*
11:30 – 12:00	Sparse High Dimensional Linear Regression with Binary Coefficients ***Ilias Zadik**, MIT*
12:00 – 12:30	Bayesian Decision Process for Cost-Efficient Dynamic Ranking via Crowdsourcing ***Kevin Jiao**, New York University*
12:30 – 13:30	Lunch

Session III

13:30 – 14:00 Observational Learning and Abandonment in Congested Systems
***Costis Maglaras**, Columbia University*

14:00 – 14:30 The Information-Collecting Vehicle Routing Problem: Stochastic Optimization for Emergency Storm Response
***Lina Al-Kanj**, Princeton University*

14:30 – 15:00 Minimizing Multimodular Functions and Allocating Capacity in Bike-Sharing Systems
***Daniel Freund,** Cornell University*

15:00 – 15:30 Piecewise Affine Policies for Two-Stage Adjustable Robust Optimization
***Omar El Housni,** Columbia University*

15:30 – 16:00 Coffee break

Session IV

16:00 – 16:30 Social Learning POMDPs
***Vikram Krishnamurthy**, Cornell University*

16:30 – 17:00 Interactive Advertising using POMDPs: A Multiple Stopping Approach
***Sujay Bhatt H.R.,** Cornell University*

17:00 – 17:30 New Uncertainty Models for Stochastic Dual Dynamic Programming
***Alan King**, IBM Research*

<u>*December 8 (Yorktown Auditorium)*</u>

8:30 – 9:00 Coffee and light breakfast

9:00 – 9:15 Welcome and Opening Remarks
***Dario Gil**, Vice President, Science and Solutions, IBM Research*

Session I

9:15 – 9:45 Risk-Averse Control of Partially Observable Markov Systems
***Jingnan Fan**, Rutgers University*

9:45 – 10:15 Risk-Averse Control of Continuous-Time Markov Chains
***Andrzej Ruszczyński**, Rutgers University*

10:15 – 10:45 Risk-Averse Control of Diffusion Processes
***Jianing Yao**, Rutgers University*

10:45 – 11:00 Coffee break

Session II

11:00 – 11:30 Rare Event Estimation For Gaussian Random Vectors
***Ton Dieker**, Columbia University*

11:30 – 12:00	Efficient Monte Carlo Methods for Stochastic Optimization ***Soumyadip Ghosh**, IBM Research*
12:00 – 12:30	Pricing under Estimation Risk ***Richard Neuberg**, Columbia University*
12:30 – 13:30	Lunch

Session III

13:30 – 14:00	Reducing Undiscounted Markov Decision Processes and Stochastic Games with Unbounded Costs to Discounted Ones ***Jefferson Huang,** Cornell University*
14:00 – 14:30	Delay, Memory, and Messaging Tradeoffs in Distributed Service Systems ***Martin Zubeldia**, MIT*
14:30 – 15:00	Sensitivity Analysis of Reflected Diffusions in Polyhedral Cones ***David Lipshutz**, Brown University*
15:00 – 15:30	Scheduling using Interactive Optimization Oracles in Constrained Queueing Networks ***Tonghoon Suk**, IBM Research*
15:30 – 16:00	Coffee break

Session IV

16:00 – 16:30	A Sequential Algorithm for Solving Nonlinear Optimization Problems with Chance Constraints ***Frank E. Curtis**, Lehigh University*
16:30 – 17:00	A Distributed Observer for a Time-Invariant Linear System ***Lili Wang**, Yale University*
17:00 – 17:30	A Distributed Algorithm for Computing a Common Fixed Point of a Family of Paracontractions ***Daniel Fullmer**, Yale University*
17:30 – 18:00	STORM: STochastic Optimization using Random Models ***Matt Menickelly**, Lehigh University and IBM Research*

December 9 (Yorktown Cafeteria Annex in AM and Yorktown Auditorium in PM)

8:00 – 8:30	Coffee and light breakfast

Session I

8:30 – 9:00	Ergodic Control of Parallel Server Networks in the Halfin-Whitt Regime ***Gordon Pang**, Pennsylvania State University*
9:00 – 9:30	Stability and Control of Stochastic Viral Propagation Processes ***Chai Wah Wu**, IBM Research*

9:30 – 10:00	Assortment Optimization and Pricing under the Markov Chain Choice Model ***Huseyin Topaloglu,*** *Cornell University*
10:00 – 10:30	Coffee break
Session II	
10:30 – 11:00	Central Limit Theorems for Composite Risk Functionals ***Darinka Dentcheva****, Stevens Institute of Technology*
11:00 – 11:30	Bounds on the Cost of Risk in Sample-Based Mean-Risk Models ***Gregory J. Stock****, Stevens Institute of Technology*
11:30 – 12:00	Risk-Aversion in Classification Problems ***Constantine Vitt****, Rutgers University and Honeywell*
12:00 – 13:00	Lunch
Session III	
13:00 – 13:30	Recent Developments for Markov Decision Processes Motivated by Inventory Control Applications ***Eugene A. Feinberg****, Stony Brook University*
13:30 – 14:00	Structure of Optimal Solutions to Periodic-Review Total-Cost Inventory Control Problems ***Yan Liang****, Stony Brook University*
14:00 – 14:30	Robust Wait Time Estimation in General Resource Allocation Systems ***Chaitanya Bandi****, Northwestern University*
14:30 – 15:00	On Delay-Optimal Scheduling for a General Class of Input-Queued Switches ***Mark S. Squillante****, IBM Research*
15:00 – 15:30	Coffee break
Session IV	
15:30 – 16:00	Ranking and Selection: Strong Statistical Guarantees on 1000 Cores ***Shane Henderson****, Cornell University*
16:00 – 16:30	A Simulation-Based Prediction Framework for Dynamic Decision Making ***Yuan Yi****, RPI*
16:30 – 17:00	Optimization and Market Design for On-Demand Vehicle-Sharing ***Siddhartha Banerjee****, Cornell University*
17:00 – 17:30	A Game-Theoretic Approach to Design Secure and Resilient Distributed Support Vector Machines ***Rui Zhang****, New York University*