

Discrete Mathematics and Optimization Program Review 2015

Dr. JeanLuc Cambier | December 14-16, 2015 | Arlington, VA

Basic Research and Innovation Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Agenda Day 1 – December 14, 2015
08:00 – 16:00

	TIME	TOPIC	SPEAKER
	07:30 – 07:55	Registration	
Session I	07:55 – 08:00	Opening Remarks	Jean-Luc Cambier Program Officer AFOSR/RTA2
	08:00 – 08:25	Using Surrogates for Solving Black-box Optimization Problems	Charles Audet Polytechnique Montreal
	08:25 – 08:50	Modulation Design in Wireless HARQ Transmissions	Hans Mittelmann Arizona State University
	08:50 – 09:15	Risk Management Approaches in Engineering Applications	Stan Uryasev University of Florida
	09:15 – 09:40	Coherent Risk-Adjusted Optimization	Jonathan Eckstein Rutgers
	09:40 – 09:55	BREAK	
Session II	09:55 – 10:20	Optimal Dynamic Asset Allocation with Risk-sensitive Performance Measures	Sheldon H. Jacobson University of Illinois, Champaign-Urbana
	10:20 – 10:45	Simulation-Based and Risk-Sensitive Methodologies	Steve Marcus University of Maryland, College Park
	10:45 – 11:10	Large-Scale Optimization	Gerald G. Brown Naval Postgraduate School
	11:10 – 11:35	Monotone sets of solutions for attacker-defender and defender-attacker-defender problems	Matt Carlyle Naval Postgraduate School
	11:35 – 12:50	LUNCH	
Session III	12:50 – 13:15	Bayesian Optimization of Expensive Functions with Applications in Bionanocombinatorics and Aerospace Design	Peter Frazier Cornell University
	13:15 – 13:40	Pseudo-Boolean Optimization: New Search Methods and New Applications	Darrell Whitley Adele Howe Colorado State University
	13:40 – 14:05	New Approaches for Very Large-Scale Integer Programming	George Nemhauser Georgia Tech Research Corporation
	14:05 – 14:30	Optimal Learning in Materials: From Nonlinear Parametric to High-Dimensional Sparse-Additive Models	Warren B. Powell Princeton University

	14:30 – 14:45	BREAK	
Session IV	14:45 – 15:10	A Sampling Framework for Solving Network Interdiction Problems with Fortification	J. Cole Smith Clemson University
	15:10 – 15:35	Identifying Resilient Structures in Stochastic Networks: A Two-Stage Stochastic Optimization Approach	Pavlo Krokhmal University of Iowa Eduardo Pasilio AFRL/RW Maciej Rysz NRC, AFRL/RW
	15:35 – 16:00	Clique Relaxations in Complex Networks: Foundations and Algorithms	Sergiy Butenko Texas A&M University B. Balasundaram OK State University Vlad Boginski University of Central Florida
	16:00 – 16:25	Finding the Symmetry Group of a Linear Program	Dursun Bulutoglu Air Force Institute of Technology
	16:25	Meeting Adjourned for the Day	

Agenda Day 2 – Tuesday, December 15, 2015

08:00 – 16:00

	TIME	TOPIC	SPEAKER
	07:30 – 08:00	Registration	
Session V	08:00 – 08:25	Gradient-based Adaptive Stochastic Search	Enlu Zhou Georgia Institute of Technology
	08:25 – 08:50	Optimization under Stochastic Ambiguity – A Lopsided Perspective	Johannes O. Royset Naval Postgraduate School
	08:50 – 09:15	Real-Time Optimization in Complex stochastic Environments	Christos G. Cassandras Boston University
	09:15 – 09:40	A Convergent Decentralized Algorithms for Certain Nash Equilibrium and Stochastic Programming Problems	Andrew Liu Purdue University
	09:40 – 09:55	BREAK	
Session VI	09:55 – 10:20	Robust Design – Applications to Photonics	J. Peraire N. C. Nguyen Robert Freund MIT
	10:20 – 10:45	Mixed-Integer Nonconvex Quadratic Optimization Relaxations, Performance Analysis	Yinyu Ye Stanford University
	10:45 – 11:10	Unconstrained Trust Region-Based Stochastic Optimization with Biased and Unbiased Noise	Katya Scheinberg Lehigh University
	11:10 – 11:35	Enabling Large-Scale Structural Design via Mixed Integer Conic Optimization	Tamás Terlaky Lehigh University Luis Zuluaga Lehigh University Joaquim Martins University of Michigan

	11:35 – 12:50	LUNCH	
Session VII	12:50 – 13:15	Statistical Optimality, Algorithms and Resilience	Suvrajeet Sen University of Southern California, Los Angeles
	13:15 – 13:40	Efficient and Robust Recovery of Structure in Large Data Sets Using Convex Optimization	Steve Vavasis Henry Wolkowicz University of Waterloo
	13:40 – 14:05	Level-Set Methods in Convex Optimization	Dmitriy Drusvyatskiy University of Washington
	14:05 – 14:30	Combinatorial Optimization problems in Computer Security	K. Subramani West Virginia University
	14:30 – 14:45	BREAK	
Session VIII	14:45 – 15:10	Expanding the Reach of Nonlinear Optimization	Steve Robinson Michael Ferris University of Wisconsin, Madison
	15:10 – 15:35	Incentives for Efficient Black-box Resource Allocation	Alfredo Garcia University of Florida
	15:35 – 16:00	Further Developments in the Global Resolution of Convex Programs	Jong-Shi Pang University of Southern California, Los Angeles
	16:00	Meeting Adjourned	