

Schedule

Friday March 14th 8:00 to 9:30am

Session Chairs	Alper Atamturk	David Gao & Shu-Cherng Fang	Diego Klabjan
Titles	Polyhedral Theory in Integer Programming	Duality in Global Optimization	Integer Programming Applications
Talks	<i>Romy Shioda, Levent Tuncel, & Tor Myklebust.</i> Maximum Utility Product Pricing Models and Algorithms Based on Reservation Prices	<i>Angelia Nedich, & Asuman Ozdaglar.</i> Duality and Penalty for Nonconvex Optimization Problems	<i>Anupam Seth, Diego Klabjan, & Placid Ferreira.</i> An Advanced Hybrid Heuristic for PCB Assembly on a Collect-And-Place Machine and its Analysis
	<i>Jean-Philippe Richard, & Santanu Dey.</i> Generalized MIR Cuts	<i>Mohit Tawarmalani, & Jean-Phillipe Richard.</i> Lifting Inequalities: Generating Strong Cuts for Nonlinear Programs	<i>Frank Curtis, Richard Byrd, & Jorge Nocedal.</i> Infeasibility Detection in Nonlinear Programming
	<i>Shabbir Ahmed, & Alper Atamturk.</i> On Maximizing Certain Submodular Functions	<i>Asu Ozdaglar, & Angelia Nedic.</i> Subgradient Methods for Saddle-Point Problems	<i>Soonhui Lee, Mark S. Daskin, Tito Homem-de-Mello, Karen Smilowitz, & Jonathan Turner.</i> Reducing Truckload Delivery Costs through Customer Flexibility
	<i>Serpil Sayin.</i> Obtaining Representations and Approximations of the Efficient Set in Multiobjective Discrete Optimization	<i>David Gao, Ning Ruan, & Hanif Sherali.</i> Solutions and Optimality Criteria for Nonconvex constrained Global Optimization Problems	<i>Kanchan Das, & Sankar Sengupta.</i> A Production-Distribution Planning Model for a Process Industry in a Global Supply Chain
		<i>David Gao, & Shu-Cherng Fang.</i> Advances in Canonical Duality Theory and Applications in Global Optimization and Nonconvex Systems	

Coffee Break: 9:30 to 10:00am

Friday March 14th 10:00 to 11:30am

Session Chairs	Daniel Bienstock	Shabbir Ahmed	Wotao Yin
Titles	New Developments in Integer Programming	Strategies for Stochastic Programming I	Optimization in Compressed Sensing
Talks	<i>Gabor Pataki, & Mustafa Tural.</i> Parallel Approximation, and Integer Programming Reformulation	<i>Guanghui Lan, Arkadi Nemirovski, & Alexander Shapiro.</i> Robust Stochastic Approximation Method and its Application in Asset Allocation	<i>Rick Chartrand.</i> Nonconvex Compressive Sensing
	<i>Ilya Hicks, & Benjamin McClosky.</i> Co-2-plex Polytope	<i>Santosh Vempala, Merrick Furst, & Justin Melvin.</i> Optimization by Random Sampling.	<i>Jianing Shi, Wotao Yin, Stanley Osher, & Paul Sajda.</i> An Algorithm for Large-Scale l1-regularized Logistic Regression
	<i>Daniel Bienstock, & Abhinav Verma.</i> The Power Flow Interdiction Problem	<i>Arkadi Nemirovski.</i> On Safe Tractable Approximations of Chance Constraints	<i>Petros Boufounos, Chinmay Hegde, & Richard Baraniuk.</i> Sparse Signal Reconstruction from Zero Crossings
		<i>Alexander Shapiro.</i> Risk adverse stochastic programming.	<i>Neena Imam, Barhen Jacob, & Vladimir Protopopescu.</i> Global Optimization of Binary Lennard Jones Clusters via the TRUST (Terminal Repeller Unconstrained Subenergy Tunneling) Algorithm

PLENARY I: 11:40 to 12:30pm Egon Balas, Computational Advances in Cutting Plane Theory

Lunch: 12:30 to 1:30pm (on your own)

Friday March 14th 1:30 to 3:00pm

Session Chairs	Cole Smith	Shabbir Ahmed	Miguel Anjos
Titles	Polyhedral Integer Programming and Applications	Strategies for Stochastic Programming II	Optimization in Engineering
Talks	<i>Simge Kucukyavuz.</i> On Fixed-Charge Network Flow Polyhedra	<i>Xin Chen.</i> Uncertain Linear Programs: Extended Affinely Adjustable Robust Counterparts	<i>Miguel Anjos, Chaomin Luo, & Anthony Vannelli.</i> Large-Scale Fixed-Outline Floor planning Design Using Convex Optimization
	<i>Z. Caner Taskin, J. Cole Smith, Shabbir Ahmed, & Andrew J. Schaefer.</i> Cutting Plane Algorithms for Solving a Robust Edge Partition Problem	<i>Anureet Saxena, Pierre Bonami, & Jon Lee.</i> Disjunctive Cuts for Non-convex Mixed Integer Quadratically Constrained Programs	<i>Logan Rakai, Laleh Behjat Behjat, Sebastian Martin, & Jose Aguado.</i> A Multi-grid Cluster Evaluation Technique for VLSI Layout
	<i>Ilyia Hicks, Elif Ulusal, & Cole Smith.</i> Integer Programming Techniques for the Branchwidth Problem	<i>Michael Chen, & Sanjay Mehrotra.</i> Sparse Grid Method in Scenario Generation for Stochastic Programming	<i>Zhen Yang, Shawki Areibi, & Anthony Vannelli.</i> Efficient Multi-criteria Integer Linear Programming based Global Routing
	<i>Siriwat Visoldilokpun, & Jay Rosenberger.</i> Limiting Fuel Burn Variance in UAV Routing	<i>Doug Altner, Shabbir Ahmed, & Ozlem Ergun.</i> Rapidly Computing Stochastic and Robust Maximum Flows	<i>Yung Yi, Alexandre Proutiere, & Mung Chiang</i> Scheduling in Wireless Networks: Complexity, Tradeoffs, and Impacts

Coffee Break: 3:00 to 3:30pm

Friday March 14th 3:30 to 5:00pm

Session Chairs	Ted Ralphs	Andrzej Ruszczyński	Güzin Bayraksan
Titles	Computational Integer Programming	Risk-Averse Optimization: Stochastic Dominance Constraints	Stochastic Integer and Network Optimization
Talks	<i>Fatma Kilinc Karzan, Alejandro Toriello, Shabbir Ahmed, George Nemhauser, & Martin Savelsbergh.</i> Approximating the Stability Region of Binary Variables with Linear Objectives	<i>James Luedtke.</i> Computationally Attractive Formulations for Optimization Under Stochastic Dominance Constraints	<i>Daniel Reich, & Leo Lopes.</i> The Most Likely Path
	<i>Menal Guzelsoy, & Ted Ralphs.</i> The Value Function of a Mixed Integer Program with a Single Constraint	<i>Andrzej Ruszczyński, & Gabor Rudolf.</i> Cutting Plane Methods for Dominance-Constrained Optimization	<i>David Morton.</i> A Stochastic Integer Program for Prioritization
	<i>Mahdi Namazifar, & Andrew Miller.</i> A Parallel Macro Partitioning (PMaP) Framework for Solving Large Mixed Integer Programs	<i>Darinka Dentcheva, & Andrzej Ruszczyński.</i> Semi-Infinite Composite Optimization with Applications to Stochastic Dominance Constraints	<i>Yongpei Guan, & Andrew Miller.</i> Polynomial Time Algorithms for Stochastic Uncapacitated Lot-Sizing Problem with Backlogging
	<i>Bernell Stone, John Guerard, & Mustafa Gultekin.</i> Empirical Evidence of Significant Performance Benefits from the Application of the Mathematical Assignment Program (MAP)	<i>Juan Pablo Vielma, Shabbir Ahmed, & George Nemhauser.</i> A Lifted Linear Programming Branch-and-Bound Algorithm for Mixed Integer Conic Quadratic Programs	

Saturday March 15th 8:00 to 9:30am

Session Chairs	Mohit Tawarmalani	Peng Sun	Zhaoqiong Qin
Titles	Global Optimization Algorithms for Specially Structured Problems	Topics in Stochastic Optimization	Transportation Applications
Talks	<i>Churlzu Lim.</i> A New Implicit Enumeration Algorithm for Solving Bilinear Programming Problems	<i>David Brown, James Smith, & Peng Sun.</i> Information Relaxation and Duality in Stochastic Dynamic Programs	<i>Zhaoqiong Qin.</i> Analysis of Light Rail Access to the Airports for the Effective Ground Transportation
	<i>Ming-Hua Lin.</i> Finding Multiple Solutions of Signomial Discrete Programming Problems	<i>Simai He, Jiawei Zhang, & Shuzhong Zhang.</i> Bounding Probability of Small Deviation: A Fourth Moment Approach	<i>Zhaoqiong Qin.</i> Modal Choice to Inland Transportation of International Containers
	<i>Miguel Anjos, Bissan Ghaddar, & Frauke Liers.</i> Solving Minimum k-Partition Problems Using Semidefinite Programming	<i>David Brown, & Melvyn Sim.</i> Satisficing Measures for Analysis of Risky Positions	<i>Hamdy Elwany, Aly Megahed, Amr Eltawil, & Mohamed Abou-Ali.</i> A Dynamic Multi-Commodity Design for Supply Chain Networks: A Mixed Integer Programming Approach
	<i>Mohit Tawarmalani, Kwanghun Chung, & Jean-Philippe Richard.</i> Strong Inequalities for the Bilinear Knapsack Sets		<i>Haluk Yapicioglu, & Alice E. Smith.</i> Retail Store Layout with Variable Area Departments and a Racetrack Aisle

Coffee Break: 9:30 to 10:00

Saturday March 15th 10:00 to 11:30am

Session Chairs	Nick Sahinidis	Jitamitra Desai	Eldad Haber
Titles	Non-Convex Optimization	Global Optimization I	Nonlinear Programming and Applications
Talks	<i>Xiaowei Bao, & Nick Sahinidis.</i> Global Optimization of Nonconvex, Quadratically-Constrained Quadratic Programs	<i>Jeff Linderoth.</i> Latest Developments with FIIMINT: A Solver for Mixed Integer Nonlinear Programs	<i>Eldad Haber.</i> Optimal Experimental Design for Ill-posed Problems
	<i>Luis Miguel Rios, & Nick Sahinidis.</i> Algorithms and Software for Derivative-Free Optimization	<i>Jitamitra Desai, & Suvrajeet Sen.</i> Optimization Models and Algorithms for Decision Trees	<i>Lior Horesh.</i> Optimal Experimental Design for Non-linear, Ill-posed Problems by Sparsity Constraints
	<i>Jung-Fa Tsai.</i> Global Optimization for Nonlinear Integer Programming	<i>Baski Balasundaram, & Sergiy Butenko.</i> Sum-of-affine-ratios Fractional Program for the Independence Number of a Graph	<i>Seyed Mehdi Afzali, Reza Taghavi, & Behrooz Farshi.</i> Preliminary Aerodynamic Design Optimization of Axial Compressors Based on Complex Method
	<i>Alexander Smith, & Nick Sahinidis.</i> Nonconvex Optimization in X-ray Crystallography	<i>Archis Ghate, Marina Epelman, & Robert Smith.</i> Bounded rational sampled fictitious play for discrete optimization	<i>Adil Salam, Nadia Bhuiyan, Gerard Gouw, & Asif Raza.</i> Estimating Design Effort in Product Development at Pratt & Whitney Canada for Compressor Aerodynamics

PLENARY II: 11:40 to 12:30pm
Yurii Nesterov, Gradient methods for minimizing composite objective function

Lunch: 12:30 to 1:30pm (on your own)

Saturday March 15th 1:30 to 3:00pm

Session Chairs	Wilbert Wilhelm	Sanjay Mehrotra	Tauseef Rehman
Titles	Decomposition Methods in Integer Programming	Algorithms for Continuous Optimization	Optimization and Applications I
Talks	<i>Dong Liang, & Wilbert Wilhelm.</i> A Generalization of Column Generation to Accelerate Convergence	<i>Peter Richtarik.</i> An Efficient Algorithm for Large-Scale Linear and Convex optimization in Relative Scale	<i>Tauseef Rehman, Gallagher Pryor, Eldad Haber, & Allen Tannenbaum.</i> Realistic Image Morphing Using Optimal Mass Transport
	<i>Cole Smith, & John Penuel.</i> An Integer Decomposition Algorithm for Solving a Two-Stage Facility Location Problem with Second-Stage Activation Costs	<i>Sanjay Mehrotra.</i> Analysis of Weighted Interior Decomposition Algorithms Using a Self Concordant Random Assumption	<i>Amineh Ghods, & Ali Ghodoosian.</i> Shape Optimization For 2D Contact Problem With Genetic Algorithm
	<i>Matthew Galati, & Ted Ralphs.</i> DECOMP: A Framework for Decomposition in Integer Programming	<i>Goran Lesaja, Kees Roos, & Yanqin Bai.</i> Kernel Functions and Interior-Point Methods for Sufficient Linear Complementarity Problems	<i>Adel Bessadok, & Pierre Hansen.</i> Optimized Search for Local Maxima by Combining EM and VNS Algorithms
	<i>Deepak Warriar, & Wilbert Wilhelm.</i> Cut Generation within Branch-and-Price: Invoking Lift and Project	<i>Kartik Sivaramakrishnan.</i> A PARALLEL Interior Point Decomposition Algorithm for Block-Angular Semidefinite Programs	<i>Wheyming Song, Aaron Bair, & Minhchang Chih.</i> A study of Optimal Physician starting Shift Time in a Routine Medical Physical Examination Service

Coffee Break: 3:00 to 3:30

Saturday March 15th 3:30 to 5:00pm

Session Chairs	Anureet Saxena	Mitsuhiro Fukuda	Eduardo Uchoa	
Titles	Recent Advances in Probabilistic Programming	Applications of Nonlinear Optimization	Optimization Methods	
Talks	<i>Vineet Goyal, & R. Ravi.</i> A PTAS for Chance Constrained Knapsack Problem with Normally Distributed Sizes	<i>Martin Mevissen, Masakazu Kojima, & Nobuki Takayama.</i> Polynomial Optimization Techniques to Solve Nonlinear Partial Differential Equations	<i>Peter Hahn, Yi-Rong Zhu, William Hightower, & Monique Guignard-Spielberg.</i> A Level-3 Reformulation Linearization Technique Lower Bound for the Quadratic Assignment Problem (QAP)	3:30-4:15pm
	<i>Anureet Saxena.</i> Recent Progress on the Probabilistic Set Covering Problem	<i>Mitsuhiro Fukuda, Maho Nakata, Bastiaan Braams, Katsuki Fujisawa, & Jerome Percus.</i> Accurate Electronic Structure Calculations Using Semidefinite Programming Software	<i>Anhua Lin.</i> Path-following Methods for Some Bilevel Projection Problems and Their Generalizations	ILOG tutorial
	<i>Leila Horchani, & Monia Bellalouna.</i> The Two-Dimensional Probabilistic Bin Packing Problem	<i>Akiko Yoshise.</i> Homogeneous algorithms for monotone conic complementarity problems	<i>Eduardo Uchoa, & Artur Pessoa.</i> Cuts over Large Extended Flow Formulations for Path Problems	
	<i>Alexander Nikolaev.</i> Sequential Stochastic Assignment with a Random Number of Jobs	<i>Tamas Terlaky, Antoine Deza, & Yuri Zinchenko.</i> Diameter and Curvature – The Hirsh Conjecture and its Relative		

Mary Fenelon
MIP: Beyond Tradition

KEYNOTE AND DINNER BANQUET 6:00-9:30pm

**Robert Bixby, Recent Advances in Computational Linear and Mixed-Integer Programming
Ellis Johnson's 70th Birthday Celebration**

Sunday March 16th 8:00 to 9:30am

Session Chairs	Jean-Philippe Richard	Yongpei Guan	Sheldon Jacobson
Titles	Special Session in Honor of Ellis Johnson's 70th Birthday Mixed Integer Linear and Nonlinear Programming	Algorithms for Stochastic and Robust Integer Programming	Health and Biology Applications
Talks	<i>Andrew Miller, Yongpei Guan, & Yves Pochet</i> Fast algorithms and strong formulations for fundamental stochastic lot-sizing models	<i>Guzin Bayraksan, David Morton, & Peguy Pierre-Luis.</i> A Combined Sampling-and-Bounding Approximation Method	<i>I-Lin Wang, & Hui-E Yang.</i> Haplotyping Populations by Pure Parsimony Based on Compatible
	<i>Jeff Linderoth, James Ostrowski, Fabrizio Rossi, & Stefano Smriglio.</i> Constraint Orbital Branching	<i>Muhong Zhang, & Alper Atamturk.</i> The Robust 0-1 Knapsack Polyhedron	<i>Saleh Mohseni, Ahmad Reza Vali, & Valiollah Babaeipour.</i> Optimization of Model and Feeding Profile for Fed-Batch Cultivation of E.coli using PSO Algorithm and GA
	<i>I-Lin Wang, & Cheng-Han Chang.</i> A Least-Squares Dual-Primal Algorithm for the Maximum Flow Problem	<i>Yongpei Guan, & Bo Zeng.</i> A Study of Stochastic Dynamic Knapsack Polytope	<i>Ozlem Ergun, Jessica Heier, & Julie Swann.</i> Optimizing Emergency Systems with Self-routing Users
	<i>Oleksii Ursulenko, Sergiy Butenko, & Oleg Prokopyev.</i> Fractional Combinatorial Optimization with Multiple Ratios	<i>Naoyuki Kamiyama, & Naoki Katoh.</i> Covering Directed Graphs by In-Trees	<i>Sheldon Jacobson, Shane Hall, & Edward Sewell.</i> A Discrete Optimization Framework for Pediatric Immunization

Coffee Break: 9:30 to 10:00am

Sunday March 16th 10:00 to 11:30am

Session Chairs	Jean-Philippe Richard	Sergiy Butenko	Alfred Ma
Titles	Special Session in Honor of Ellis Johnson's 70th Birthday Group-Theoretic and Related Approaches in Integer Programming	Global Optimization II	Optimization and Applications II
Talks	<i>Santanu Dey, & Laurence Wolsey.</i> Extreme Inequalities For Two-Dimensional Group Problem with Minimal Coefficients for Continuous Variables	<i>Shu-Cherng Fang, David Gao, Ruey-Lin Sheu, & Wenxun Xin.</i> Duality Approach for Solving a Class of Fractional Programming Problems	<i>Anantha Venkata Ramana BH, John abraham Nelson, Srinivasa Rao, & Surya Prakasa Rao K.</i> Optimisation of Crude Oil Mix for Maximizing the Required Products in a Petroleum Refinery
	<i>Gerard Cornuejols, & Francois Margot.</i> On the Facets of Mixed Integer Programs with Two Integer Variables and Two Constraints	<i>Sergiy Butenko, & Oleg Prokopyev.</i> On k-club Numbers and Related Gap Recognition Problems in Graphs	<i>Daniel Fylstra.</i> Robust Optimization, Stochastic Programming, and Simulation Optimization in Microsoft Excel
	<i>Jean-Philippe Richard.</i> Lifting and Group Approaches to MIP	<i>Pavlo Krokhmal.</i> Risk Optimization with p-Order Conic Constraints: A Linear Programming Approach	<i>Garud Iyengar, Ka Chun Ma.</i> Cash Flow Matching With Uncertainty
	<i>Yan Xu, Ted Ralphs, Matthew Saltzman, & Laszlo Ladanyi.</i> The CHIPPS Framework for Parallel Tree Search and Integer Programming	<i>Lizhi Wang.</i> Inverse Optimization for Mixed Integer Program	<i>Onur Özkök, Pierre Fouilhoux, Oya Ekin Karaan, Ali Ridha Mahjoub, & Hande Yaman.</i> Survivability in Two Level Telecommunications Networks

PLENARY III: 11:40 to 12:30pm

Brenda Dietrich, Optimization Applications: New Opportunities and Challenges