Workshop II: Numerical Methods for Continuous Optimization

Monday October 11, 2010

8:30–9:15 *Check-In/Light Breakfast (Hosted by IPAM)*

9:15–9:30 *Welcome and Opening Remarks*

9:30–10:20 **Arkadi Nemirovski** (Georgia Institute of Technology)
Accelerating first order methods for large-scale well-structured convex optimization

10:30–11:00 *Break*

11:00–11:50 **Pablo Parrilo** (Massachusetts Institute of Technology)
Rank/sparsity minimization and latent variable graphical model selection

12:00–2:00 *Lunch (on your own)*

2:00–2:50 **Javier Pena** (Carnegie-Mellon University)
A first-order algorithm with $O(\log(1/\epsilon))$ convergence for computing ϵ-equilibrium of two-person zero-sum games

3:00–3:15 *Break*

3:15–4:05 **Yinyu Ye** (Stanford University)
The Simplex Method is Strongly Polynomial for the Markov Decision Process with Fixed Discount

4:15–4:30 *Break*

4:30–5:20 **Yin Zhang** (Rice University)
Recent Advances in Alternating Direction Methods: Theory and Practice

5:30–7:30 *Reception and Poster Session (Hosted by IPAM)*

Tuesday October 12, 2010

8:30–9:30 *Continental Breakfast*

9:30–10:20 **Yurii Nesterov** (Université Catholique de Louvain)
Efficiency of Quasi-Newton Methods on Strictly Positive Functions

10:30–11:00 *Break*

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11:00–11:50 **Guanghui Lan** (University of Florida)
Bundle-type methods uniformly optimal for smooth and non-smooth convex optimization

12:00–2:00 *Lunch (on your own)*

2:00–2:50 **Michael Todd** (Cornell University)
A Robust Optimization Result

3:00–3:15 *Break*

3:15–4:05 **Zhaosong Lu** (Simon Fraser University)
Penalty decomposition methods for rank and L_0-norm minimization

4:15–4:30 *Break*

4:30–5:20 **Masakazu Kojima** (Tokyo Institute of Technology)
Enclosing Ellipsoids and Elliptic Cylinders of Semialgebraic Sets and Their Application to Error Bounds in Polynomial Optimization

Wednesday October 13, 2010

8:30–9:30 *Continental Breakfast*

9:30–10:20 **Jared Tanner** (University of Edinburgh)
Stochastic Geometry and Random Matrix Theory in Compressed Sensing

10:30–11:00 *Break*

11:00–11:50 **Emmanuel Candes** (Stanford University)
Templates for Convex Cone Problems with Applications to Sparse Signal Recovery

12:00–2:00 *Lunch (on your own)*

2:00–2:50 **Benjamin Recht** (University of Wisconsin-Madison)
The Convex Geometry of Inverse Problems

3:00–3:15 *Break*

3:15–4:05 **Alexandre dAspremont** (Princeton University)
Weak Recovery Conditions from Graph Partitioning Bounds and Order Statistics

4:15–4:30 *Break*

4:30–5:20
TBA

Thursday October 14, 2010

8:30–9:30 *Continental Breakfast*

9:30–10:20 **Frank Curtis** (Lehigh University)
A Sequential Quadratic Programming Algorithm for Nonsmooth, Nonconvex Constrained Optimization

10:30–11:00 *Break*

11:00–11:50 **Andreas Waechter** (IBM Thomas J. Watson Research Center)
Large-Scale Nonlinear Optimization with Inexact Step Computations

12:00–2:00 *Lunch (on your own)*

2:00–2:50 **Coralia Cartis** (University of Edinburgh)
Towards Optimal Newton-Type Methods for Nonconvex Smooth Optimization

3:00–3:15 *Break*

3:15–4:05 **Katya Scheinberg** (Lehigh University)
Fast iterative shrinkage thresholding algorithm with full line search and extensions

4:15–4:30 *Break*

4:30–5:20 **Nathan Srebro** (Toyota Technological Institute at Chicago)
More Data Less Work: Optimization from a Machine Learning Perspective

Friday October 15, 2010

8:30–9:30 *Continental Breakfast*

9:30–10:20 **Michel Baes** (ETH Zürich)
Accelerating optimal black-box schemes

10:30–11:00 *Break*

11:00–11:50 **Marc Teboulle** (Tel Aviv University)
A Moving Balls Approximation Method for Smooth Constrained Minimization

12:00–2:00 *Lunch (on your own)*

2:00–2:50 **Henry Wolkowicz** (University of Waterloo)
Taking advantage of Degeneracy in Cone Optimization

3:00–3:15 *Break*

3:15–4:05 **Defeng Sun** (National University of Singapore)
A Majorized Penalty Approach for Calibrating Rank Constrained Correlation Matrix Problems

4:15–4:30 *Break*

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4:30–5:20 **Maryam Fazel** (University of Washington)
Algorithms for Rank Minimization of Structured Matrices