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Convex Relaxation Methods for Geometric Problems in Scientific Computing

February 11 - 15, 2013

IPAM Building

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Monday, February 11, 2013

Morning Session

- 8:00 - 8:55 Check-In/Breakfast (Hosted by IPAM)
- 8:55 - 9:00 Welcome and Opening Remarks
- 9:00 - 9:50 **Francis Bach (Institut National de Recherche en Informatique Automatique (INRIA))**
["Structured Sparsity-inducing Norms through Submodular Functions"](#)
- 10:00 - 10:15 Break
- 10:15 - 11:05 **Massimiliano Pontil (University College London)**
["Multi-task Learning and Structured Sparsity"](#)
- 11:15 - 11:30 Break
- 11:30 - 12:20 **Gabriele Steidl (Universität Kaiserslautern)**
["Constrained image restoration problems"](#)
- 12:30 - 2:30 Lunch (on your own)

Afternoon Session

- 2:30 - 3:20 **Amir Beck (Technion - Israel Institute of Technology)**
["Sparsity Constrained Nonlinear Optimization: Optimality Conditions and Algorithms"](#)
- 3:30 - 4:00 Break
- 4:00 - 4:50 **Yuri Boykov (University of Western Ontario)**
- 5:00 - 7:00 Reception and Poster Session (Hosted by IPAM)

Tuesday, February 12, 2013

Morning Session

- 8:00 - 9:00 Continental Breakfast
- 9:00 - 9:50 **Xavier Bresson (City University of Hong Kong)**
["Total Variation Clustering"](#)
- 10:00 - 10:15 Break
- 10:15 - 11:05 **Thomas Pock (Technische Universität Graz)**
["Convex relaxation of a class of vertex penalizing functionals"](#)
- 11:15 - 11:30 Break
- 11:30 - 12:20 **Tom Goldstein (Rice University)**
["Fast alternating direction methods for Optimization"](#)
- 12:30 - 2:30 Lunch (on your own)

Afternoon Session

2:30 - 3:20	Selim Esedoglu (University of Michigan) "Threshold dynamics for the mean curvature motion of networks with unequal surface tensions"
3:30 - 4:00	Break
4:00 - 4:50	Jerome Darbon (University of California, Los Angeles (UCLA))

Wednesday, February 13, 2013

Morning Session

8:00 - 9:00	Continental Breakfast
9:00 - 9:50	Daniel Cremers (Technische Universität München) "Convex Relaxations for the Mumford-Shah Functional"
10:00 - 10:15	Break
10:15 - 11:05	Xue-Cheng Tai (University of Bergen) "Graph cut, convex relaxation and continuous max-flow problem"
11:15 - 11:30	Break
11:30 - 12:20	Luminita Vese (University of California, Los Angeles (UCLA))

12:30 - 2:30 Lunch (on your own)

Afternoon Session

2:30 - 3:20	Stanley Osher (University of California, Los Angeles (UCLA))
3:30 - 4:00	Break
4:00 - 4:50	Jan Lellmann (University of Cambridge) "Convexity and Non-Convexity in Partitioning and Interpolation Problems"

Thursday, February 14, 2013

Morning Session

8:00 - 9:00	Continental Breakfast
9:00 - 9:50	Antonin Chambolle (École Polytechnique)
10:00 - 10:15	Break
10:15 - 11:05	Gabriel Peyre (Université de Paris IX (Paris-Dauphine)) "SURE-based Parameter Selection for Sparse Regularization of Inverse Problems"
11:15 - 11:30	Break
11:30 - 12:20	Wotao Yin (Rice University)

12:30 - 2:30 Lunch (on your own)

Afternoon Session

2:30 - 3:20	Nikos Komodakis (École Nationale des Ponts-et-Chaussées) "Efficient learning of high order graphical models for computer vision and image analysis"
3:30 - 4:00	Break
4:00 - 4:50	Christoph Schnörr (University of Heidelberg) "Shape, Segmentation and Convex Relaxations in Computer Vision"

Friday, February 15, 2013

Morning Session

8:00 - 9:00	Continental Breakfast
9:00 - 9:50	Mila Nikolova (École Normale Supérieure de Cachan) " ℓ_1-concave versus ℓ_1 - TV energies. Questions and challenges"
10:00 - 10:15	Break
10:15 - 11:05	Simon Setzer (Saarland University) "Optimizing Data for Interpolation and Approximation with Homogeneous Diffusion"
11:15 - 11:30	Break
11:30 - 12:20	Matthias Hein (Saarland University) "Nonlinear Eigenproblems and Tight Relaxations of Constrained Fractional Set Programs"
12:30	Conclusion