

Workshop II: Numerics and Dynamics for Optimal Transport

Monday April 14, 2008

- 8:00–10:15 *Check-In/Light Breakfast (Hosted by IPAM)*
- 10:15–10:50 **Adam Oberman** (Simon Fraser University)
Convergent difference schemes for the Monge-Ampere equation, the Pucci equation, and the convex envelope.
- 11:00–11:30 *Break*
- 11:30–12:20 **Olof Runborg** (Royal Institute of Technology (KTH))
A Fast Multiresolution Based Front Tracking Method
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Alessio Figalli** (Université de Nice Sophia Antipolis)
The optimal partial transport problem
- 3:30–4:00 *Break*
- 4:00–4:50 **Maria Gualdani** (University of Texas at Austin)
Blow-Up of Solutions to Quantum Hydrodynamic Models in Bounded Domains
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Tuesday April 15, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Igor Mezic** (University of California, Santa Barbara (UC Santa Barbara))
- 10:00–10:15 *Break*
- 10:15–11:05 **Eldad Haber** (Emory University)
A numerical method for optimal mass transport
- 11:15–11:30 *Break*
- 11:30–12:20 **Kangyu Ni** (University of California, Los Angeles (UCLA))
Local Histogram based Segmentation using the Wasserstein Distance
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Marc Bernot** (École Normale Supérieure de Lyon)
How to achieve the best transport possible just by solving 1D optimal transport problems?
- 3:30–4:00 *Break*

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4:00–4:50 **Marie-Therese Wolfram** (Johann Radon Institute for Computational and Applied Mathematics (RICAM))
Mixed Finite Element Methods for Non-Linear Fokker-Planck Equations

Wednesday April 16, 2008

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Alexandra Landsman** (United States Naval Research Laboratory)
Epidemic extinction along the optimal path

10:00–10:15 *Break*

10:15–11:05 **Tryphon Georgiou** (University of Minnesota, Twin Cities)
Metrics in spectral analysis

11:15–11:30 *Break*

11:30–12:20 **Filippo Santambrogio** (Université de Paris IX (Paris-Dauphine))
Transport with congestion: optimization, equilibria and a fast marching gradient numerical algorithm

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Maria del Mar Gonzalez** (Universitat Politècnica de Catalunya)
Some limit problems for fractional order operators

3:30–4:00 *Break*

4:00 *Applied Math Colloquium*

4:00–4:50 **Allen Tannenbaum** (Georgia Institute of Technology)
Optimal Mass Transport in Medical Imaging

Thursday April 17, 2008

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Ibrahim Fatkullin** (University of Arizona)
Diffusive transport in nematic liquid crystals

10:00–10:15 *Break*

10:15–11:05 **Lorenzo Giacommelli** (Università di Roma “La Sapienza”)
A regularity theory for the thin-film equation

11:15–11:30 *Break*

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- 11:30–12:20 **Chiu-Yen Kao** (Ohio State University)
Shape Optimization for Elliptic Eigenvalue Problems
- 12:30–1:45 *Lunch (on your own)*
- 1:45–2:35 **Axel Voigt** (Technische Universität Dresden)
Geodesic evolution laws - a level set approach
- 2:45–3:00 *Break*
- 3:00–3:50 **Haomin Zhou** (Georgia Institute of Technology)
Stochastic Maxwell Equations in Photonic Crystal Modeling and Simulations
- 4:00–4:15 *Break*
- 4:15–5:00 *Applied Math Colloquium*
- 4:15–5:00 **Neil Trudinger** (Australian National University)
Optimal transportation and nonlinear elliptic PDE

Friday April 18, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Richard Tsai** (University of Texas at Austin)
Exploratory path planning and target detection using visibility
- 10:00–10:15 *Break*
- 10:15–11:05 **Steve LaValle** (University of Illinois at Urbana-Champaign)
Minimal Sensing Structures for Designing Robot Motions
- 11:15–11:30 *Break*
- 11:30–12:20 **Yann Brenier** (Université de Nice Sophia Antipolis)
Optimal Transport, Convection and Magnetic Relaxation

