

Workshop III: Statistical and Numerical Methods for Non-commutative Optimal Transport

Monday May 19, 2025

- 8:00 *SESSION CHAIR: Quentin Berthet*
- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Jean Lasserre** (Université de Toulouse III (Paul Sabatier))
Gaussian mixtures closest to a given measure via optimal transport
- 10:00–10:15 *Break*
- 10:15–11:05 **Venkat Chandrasekaran** (California Institute of Technology)
Any-dimensional polynomial optimization
- 11:15–11:30 *Break*
- 11:30–12:20 **Dávid Papp** (North Carolina State University)
Nonsymmetric conic optimization and dual certificates for sums-of-squares
- 12:30–2:00 *Lunch (on your own)*
- 2:00 *SESSION CHAIR: Therese Landry*
- 2:00–2:50 **Giulia Luise** (Microsoft)
Learning to optimize transport plans
- 3:00–3:15 *Break*
- 3:15–4:05 **Cesar Uribe** (Rice University)
Decentralized Optimal Transport and Barycenters: Algorithms, Quantization, and Equity
- 4:15–4:45 *Break*
- 5:00–6:00 **Alessio Figalli** (ETH Zurich)
Green Family Lecture #1: Optimal Transport: From A to B... and Beyond
- 6:15–7:15 *Reception (Location: IPAM Lobby)*



Tuesday May 20, 2025

- 8:00 *SESSION CHAIR: Shmuel Friedland*
- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Ziv Goldfeld** (Cornell University)
Gromov-Wasserstein Alignment: Statistics, Computation, and Geometry
- 10:00–10:15 *Break*
- 10:15–11:05 **Ricardo Baptista** (California Institute of Technology)
Conditional simulation via entropic optimal transport
- 11:15–11:30 *Break*
- 11:30–12:20 **Tudor Manole** (Massachusetts Institute of Technology)
Discrete Signal Recovery under the Wasserstein Distance
- 12:30–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Ricardo Baptista*
- 2:30–3:20 **Bodhisattva Sen** (Columbia University)
Constrained denoising, optimal transport, and empirical Bayes
- 3:30–4:00 *Break*
- 4:30–5:30 **Alessio Figalli** (ETH Zurich)
Green Family Lecture #2: Exploring Stability in Geometric and Functional Inequalities: OT and Beyond

Wednesday May 21, 2025

- 8:00 *SESSION CHAIR: Jean Lasserre*
- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Alessio Figalli** (ETH Zurich)
On the regularity of optimal transport maps
- 10:00–10:15 *Break*
- 10:15–11:05 **Joel Tropp** (California Institute of Technology)
Scalable semidefinite programming
- 11:15–11:30 *Break*

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- 11:30–12:20 **Tyler Maunu** (Brandeis University)
Subspace Langevin Monte Carlo
- 12:30–12:45 *Group Photo*
- 12:45–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Giulia Luise*
- 2:30–3:20 **Didier Henrion** (Centre National de la Recherche Scientifique (CNRS))
Solving moment and polynomial optimization problems on Sobolev spaces
- 3:30–3:45 *Break*
- 3:45–4:00 *Lightning Poster Round*
- 4:00–5:30 *Poster Session & Reception (Hosted by IPAM)*

Thursday May 22, 2025

- 8:00 *SESSION CHAIR: Tyler Maunu*
- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Jason Altschuler** (Massachusetts Institute of Technology)
Near-Linear Runtime for a Classical Matrix Preconditioning Algorithm
- 10:00–10:15 *Break*
- 10:15–11:05 **Sivaraman Balakrishnan** (Carnegie Mellon University)
Stability Bounds for Smooth Optimal Transport Maps and their Statistical Implications
- 11:15–11:30 *Break*
- 11:30–12:20 *Discussions*
- 12:30–2:30 *Lunch (on your own)*
- 2:30 *SESSION CHAIR: Fanch Coudreuse*
- 2:30–3:20 **Anna Korba** (École Nationale de la Statistique et de l'Administration Économique)
Some novel kernel-based divergences between probability distributions
- 3:30–4:00 *Break*
- 4:00–4:50 **Promit Ghosal** (University of Chicago)
Convergence, Geometry, and Selection Principles in Entropic Optimal Transport

Friday May 23, 2025

- 8:00 *SESSION CHAIR: Rolando De Santiago*
- 8:00–8:55 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Shmuel Friedland** (University of Illinois at Chicago)
Barrier relaxations of the classical and quantum optimal transport problems
- 10:00–10:15 *Break*
- 10:15–11:05 **Therese Landry** (University of California, Santa Barbara (UCSB))
Quantum Wasserstein Distance on the Quantum Permutation Group
- 11:15–11:30 *Break*
- 11:30–12:20 *Discussions*

