

Calculus of Variations in Probability and Geometry

Monday February 7, 2022

- 8:00 *SESSION CHAIR: Alina Stancu (Concordia University)*
- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome & Opening Remarks: Dean Miguel García-Garibay (Dean of Physical Sciences, UCLA) and Dima Shlyakhtenko (Director, IPAM)*
- 9:15–9:40 **Bo'az Klartag** (Weizmann Institute of Science)
Virtual Talk: Size of line intersections in high dimensional L_p -balls and product measures
- 9:50–10:15 **Karoly Boroczky** (Renyi Institute of Mathematics)
Virtual Talk: Equality in the Reverse Brascamp Lieb Inequality
- 10:25–10:40 *Break*
- 10:40–11:05 **Guofang Wei** (University of California, Santa Barbara (UCSB))
Virtual Talk: Fundamental Gap Estimate for Convex Domains
- 11:15–11:40 **Grigorios Paouris** (Texas A&M University - College Station)
Virtual Talk: Empirical Isoperimetric Inequalities outside convexity
- 11:50–12:05 *Break*
- 12:05–12:30 **Orli Herscovici** (Georgia Institute of Technology)
Adaptation of Kohler-Jobin rearrangement technique with fixed torsional rigidity to the Gaussian space
- 12:40–12:55 *Lightning Poster Presentations*
- 12:55–1:15 *In-Person Poster Session*
- 1:00–3:00 *Lunch (hosted by IPAM)*
- 3:00–4:30 *In-Person Collaborative Discussions*



Tuesday February 8, 2022

- 8:00 *SESSION CHAIR: Elisabeth Werner (Case Western Reserve University)*
- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:25 **Liran Rotem** (Technion - Israel Institute of Technology)
Virtual Talk: Spectral inequalities for rotation invariant measures
- 9:35–10:00 **Shay Sadovsky** (Tel Aviv University)
Virtual Talk: Involutions and costs: A zoo of dualities
- 10:10–10:25 *Break*
- 10:25–10:50 **Alessio Figalli** (ETH Zurich)
Virtual Talk: Quantitative Stability in Geometric and Functional Inequalities
- 11:00–11:25 **Galyna Livshyts** (Georgia Institute of Technology)
Virtual Talk: On a conjectural symmetric version of the Ehrhard inequality
- 11:35–11:50 *Break*
- 11:50–12:15 **Dima Ryabogin** (Kent State University)
On Ulam's Problem 19 and related problems
- 12:25–12:50 **Tobias Colding** (Massachusetts Institute of Technology)
Virtual Talk: "Singularities and diffeomorphism"
- 1:15–3:00 *Lunch (hosted by IPAM)*
- 3:00–4:30 *In-Person Collaborative Discussions*

Wednesday February 9, 2022

- 8:00 *SESSION CHAIR: Orli Herscovici (Georgia Institute of Technology)*
- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:25 **Emanuel Milman** (Technion - Israel Institute of Technology)
Virtual Talk: The log-Minkowski Problem
- 9:35–10:00 **Barbara Brandolini** (Università degli Studi di Palermo)
Virtual Talk: Eigenvalue estimates for p -Laplace problems on domains expressed in Fermi Coordinates
- 10:10–10:25 *Break*

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- 10:25–10:50 **Han Huang** (Georgia Institute of Technology)
Virtual Talk: When can we recover an Erdos-Renyi graph from its local structure?
- 11:00–11:25 **Lu Wang** (Yale University)
Virtual Talk: Topological properties of hypersurfaces with low entropy
- 11:35–11:50 *Break*
- 11:50–12:15 **Yair Shenfeld** (Massachusetts Institute of Technology)
Virtual Talk: The Brownian transport map
- 12:25–12:50 **Jacob Bernstein** (Johns Hopkins University)
Virtual Talk: Entropy and C^0 stability of hypersurfaces
- 1:00–3:00 *Lunch (hosted by IPAM)*
- 3:00–4:30 *In-Person Open Problems Session*

Thursday February 10, 2022

- 8:00 *SESSION CHAIR: Umut Caglar (Florida International University)*
- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:25 **Eugenia Saorín Gómez** (Universität Bremen)
Virtual Talk: Inner parallel bodies & the Isoperimetric Quotient
- 9:35–10:00 **Matthieu Fradelizi** (Université Gustave Eiffel)
Virtual Talk: Volume of p -zonoids and inequalities for determinants
- 10:10–10:25 *Break*
- 10:25–10:50 **Santosh Vempala** (Georgia Institute of Technology)
Virtual Talk: Gibbs Sampling for Convex Bodies and an L_0 Isoperimetric Inequality
- 11:00–11:25 **Paata Ivanisvili** (University of California, Irvine (UCI))
Virtual Talk: Learning low degree functions in logarithmic number of random queries.
- 11:35–11:50 *Break*
- 11:50–12:15 **Joe Neeman** (University of Texas at Austin)
Virtual Talk: Large deviations for triangle densities
- 12:25–12:50 **Jonathan J. Zhu** (Princeton University)
Waists, widths and symplectic embeddings
- 1:00–3:00 *Lunch (hosted by IPAM)*
- 3:00–4:30 *In-Person Collaborative Discussions*

Friday February 11, 2022

- 8:00 *SESSION CHAIR: Dima Ryabogin (Kent State University)*
- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:25 **Francesco Chiacchio** (Università di Napoli “Federico II”)
Virtual Talk: A class of isoperimetric problems with double density and applications
- 9:35–10:00 **Maria Gordina** (University of Connecticut)
Virtual Talk: Large deviations principle for sub-Riemannian random walks on Carnot groups
- 10:10–10:25 *Break*
- 10:25–10:50 **Assaf Naor** (Princeton University)
Virtual Talk: Extension, separation and isomorphic reverse isoperimetry
- 11:00–11:25 **Steven Heilman** (University of Southern California (USC))
Variational Proofs of Isoperimetric Inequalities
- 11:35–12:45 *Lunch (hosted by IPAM)*

