

Workshop I: Analysis on Metric Spaces

Monday March 18, 2013

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Peter Petersen** (University of California, Los Angeles (UCLA))
Generalized Doubling and Poincare/Sobolev Inequalities
- 10:00–10:15 *Break*
- 10:15–11:05 **Luigi Ambrosio** (Scuola Normale Superiore)
Sobolev and BV functions on metric measure spaces and weak gradients
- 11:15–11:30 *Break*
- 11:30–12:20 **Estibalitz Durand Cartagena** (UNED)
Geometric implications of Poincaré inequalities
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Tapio Rajala** (University of Jyväskylä)
Branching geodesics in metric spaces with Ricci curvature lower bounds
- 3:30–4:00 *Break*
- 4:00–4:50 **Hui-Chun Zhang** (Sun Yat-Sen University)
Ricci curvature and Bochner formula on Alexandrov spaces
- 5:00–6:30 *Reception (Location: IPAM Lobby)*

Tuesday March 19, 2013

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Karl Sturm** (Universität Bonn)
On Curvature-Dimension Condition and Bochners Inequality for Metric Measure Spaces
- 10:00–10:15 *Break*
- 10:15–11:05 **Tatiana Toro** (University of Washington)
Regularity for almost minimizers with free boundary
- 11:15–11:30 *Break*

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- 11:30–12:20 **Fabio Cavalletti** (RWTH Aachen)
Decomposition of Wasserstein Geodesics in spaces with lower curvature bound
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Nicola Gigli** (Université de Nice Sophia Antipolis)
Analytic tools for the study of spaces with Ricci curvature bounded from below
- 3:30–4:00 *Break*
- 4:00–4:50 **Rafe Mazzeo** (Stanford University)
Critical exponent semilinear elliptic problems on certain metric-measure spaces

Wednesday March 20, 2013

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Jun Kigami** (Kyoto University)
Analysis on Metric-Measure spaces – Cheeger energy and measurable Riemannian structure
- 10:00–10:15 *Break*
- 10:15–11:05 **Yuan Zhou** (Beijing University of Aeronautics and Astronautics (Beihang University))
Geometry and Analysis of Dirichlet forms.
- 11:15–11:30 *Break*
- 11:30–12:20 **Andrea Mondino** (Scuola Normale Superiore)
Some relations between $CD^(K,N)$, the dimensional Bakry-Emery condition and the EVI property of gradient flows*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Nicola Garofalo** (Purdue University)
Frequency of harmonic functions in Carnot groups and for operators of Baouendi type
- 3:30–4:00 *Break*
- 4:00–4:50 **Assaf Naor** (New York University)
Calculus for nonlinear spectral gaps and super-expanders

Thursday March 21, 2013

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Richard Bass** (University of Connecticut)
A stability theorem for the elliptic Harnack inequality
- 10:00–10:15 *Break*

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- 10:15–11:05 **Jana Bjorn** (Linköping University)
Fine topology by means of potential theory on metric spaces
- 11:15–11:30 *Break*
- 11:30–12:20 **Martin Huesmann** (Rheinische Friedrich-Wilhelms-Universität Bonn)
Existence and uniqueness of optimal transport maps
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Enrico Le Donne** (University of Jyväskylä)
Metric spaces with unique and uniformly close tangents and their metric dimensions
- 3:30–4:00 *Break*
- 4:00–4:50 **Riikka Korte** (University of Helsinki)
Quasiconformality and uniform density property in metric spaces

Friday March 22, 2013

- 8:00–9:00 *Continental Breakfast*
- 9:00 *Junior Participant Presentations*
- 9:00–9:30 **Hrant Hakobyan** (Kansas State University)
Frequency of dimension distortion under quasisymmetric mappings
- 9:30–9:45 *Break*
- 9:45–10:15 **Lizaveta Ihnatsyeva** (University of Jyväskylä)
Traces of smooth functions on regular subsets
- 10:15–10:30 *Break*
- 10:30–11:00 **Naotaka Kajino** (Kobe University)
Weyl's Laplacian eigenvalue asymptotics for the measurable Riemannian structure on the Sierpinski gasket
- 11:15–11:30 *Break*
- 11:30–12:00 **Yi Wang** (Stanford University)
Isoperimetric inequality, Q -curvature and A_p -weights
- 12:00 *Conclusion*

