

Workshop on
“Synthetic Curvature Bounds for Non-Smooth Spaces: Beyond Finite
Dimension”

May 21 - 24, 2024

organized by

Lorenzo Dello Schiavo (ISTA, Klosterneuburg), Christian Ketterer (ALU Freiburg),
Chiara Rigoni (U of Vienna)

• Tuesday, May 21st, 2024

09:00 – 09:30 **Registration & Welcome**

09:30 – 10:15 **Karl-Theodor Sturm (U Bonn)**

Wasserstein Diffusion on Multidimensional Spaces

10:20 – 10:50 **Coffee Break**

10:50 – 11:35 **Nageswari Shanmugalingam (U of Cincinnati)**

Discrete approximations of metric measure spaces and nonlocal energies

11:40 – 12:25 **Nicola Gigli (SISSA, Trieste)**

Trading linearity for ellipticity - a novel approach to global Lorentzian geometry

12:30 – 14:00 **Lunch Break**

14:00 – 14:45 **Shouhei Honda (Tohoku U)**

Gromov-Hausdorff stability of tori under Ricci and integral scalar curvature bounds

14:50 – 15:35 **Eva Kopfer (HCM, Bonn)**

Homogenisation of discrete dynamical optimal trans- port

15:40 – 16:10 **Coffee Break**

16:10 – 16:55 **Raquel Perales (CIMAT, Guanajuato)**

Rigidity of mass-preserving 1-Lipschitz maps from integral current spaces into Euclidean space

• Wednesday, May 22nd, 2024

09:00 – 09:45 **Andrea Pinamonti (U of Trento)**

The Bernstein problem in Sub-Riemannian Heisenberg groups: Origins and new developments

09:50 – 10:20 **Coffee Break**

10:20 – 11:05 **Davide Barilari (U of Padova)**

Unified synthetic Ricci curvature lower bounds for Riemannian and sub-Riemannian structures

11:10 – 11:55 **Maria (Masha) Gordina (U of Connecticut)**

Dimension-independent functional inequalities on sub-Riemannian manifolds

12:00 – 13:30 **Lunch Break**

13:30 – 14:15 **Shin-ichi Ohta (U Osaka)**

Integral Varadhan formula for nonlinear heat flow

14:20 – 15:05 **Andrea Mondino (U of Oxford)**
A sharp isoperimetric-type inequality for Lorentzian spaces satisfying time-like Ricci lower bounds

15:10 – 15:40 **Coffee Break**

15:40 – 16:25 **Clemens Sämann (U of Oxford)**
TBA

18:30 – 22:00 **Conference Dinner**

- **Thursday, May 23rd, 2024**

09:00 – 09:45 **Giuseppe Savaré (U Bocconi, Milano)**
Sobolev spaces in extended metric-topological measure spaces

09:50 – 10:20 **Coffee Break**

10:20 – 11:05 **Giorgio Stefani (SISSA, Trieste)**
Sub-Riemannian manifolds are not CD

11:10 – 11:55 **Kazuhiro Kuwae (Fukuoka U)**
Riesz transforms for Dirichlet spaces tamed by distributional curvature lower bounds

12:00 – 13:30 **Lunch Break**

13:30 – 14:15 **Fernando Galaz-García (Durham U)**
TBA

14:20 – 15:05 **David Tewodrose (Vrije U Brussels)**
Kato meets Bakry-Émery

15:10 – 15:40 **Coffee Break**

15:40 – 16:25 **Kohei Suzuki (Durham U)**
Dyson Brownian Motion as a Wasserstein Gradient Flow

- **Friday, May 24th, 2024**

09:00 – 09:45 **Patricia Alonso Ruiz (TAMU, College Station)**
Looking for p -energy forms in Cheeger spaces.

09:50 – 10:20 **Coffee Break**

10:20 – 11:05 **Elia Bruè (U Bocconi, Milano)**
TBA

11:10 – 11:55 **Daniele Semola (ETH Zurich)**
Sharp concavity of the isoperimetric profile under lower Ricci bounds: recent results and open questions

12:00 – 12:30 **Lunch Break**

13:30 – 14:15 **Qin Deng (MIT, Cambridge)**
TBA

14:20 – 15:05 **Danka Lučić (JYU, Jyväskylä)**
Plans, derivations, and currents in metric measure spaces

15:10 – 15:40 **Coffee Break**

15:40 – 16:25 **Mattia Magnabosco (U of Oxford)**
Failure of the curvature-dimension condition in sub-Finsler manifolds

All talks take place at ESI Boltzmann Lecture Hall!