

Workshop on
“Degenerate and Singular PDEs”
February 24 - 28, 2025

organized by

Verena Bögelein (PLUS, Salzburg), Ugo Gianazza (U of Pavia), Juha Kinnunen (Aalto U),
Naian Liao (PLUS, Salzburg)

• **Monday, February 24th, 2025**

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

09:30 – 10:20 **Cristiana De Filippis (U of Parma)**

μ -ellipticity and nonautonomous integrals

10:20 – 11:00 **Coffee Break**

11:00 – 11:50 **Hongjie Dong (Brown U, Providence)**

Sobolev estimates for parabolic and elliptic equations with uniformly degenerate coefficients

11:50 – 14:00 **Lunch Break**

14:00 – 14:50 **Olli Saari (UPC, Barcelona)**

Sparse Calderón-Zygmund estimates for divergence form equations

14:50 – 15:30 **Coffee Break**

15:30 – 16:20 **Pêdra Andrade (PLUS, Salzburg)**

Interior regularity estimates for fully nonlinear equations with arbitrary nonhomogeneous degeneracy laws

19:00 – **Welcome evening**

• **Tuesday, February 25th, 2025**

09:30 – 10:20 **Yoshikazu Giga (U Tokyo)**

On a sharp interface limit of the Kobayashi-Warren-Carter energy

10:20 – 11:00 **Coffee Break**

11:00 – 11:50 **Wojciech Gorny (U of Vienna)**

Characterisation of weak solutions to gradient flows of general linear growth functionals

11:50 – 13:30 **Lunch Break**

13:30 – 14:00 **Shuntaro Tsubouchi (U Tokyo)**

Gradient continuity for the parabolic $(1, p)$ -Laplace system with an external force term

14:00 – 14:30 **Michael Strunk (PLUS, Salzburg)**

Gradient regularity for a class of widely degenerate parabolic equations

14:30 – 15:00 **Filomena De Filippis (U of Parma)**

Regularity for multi-phase problems at nearly linear growth

15:00 – 15:15 **Coffee Break**

15:15 – 15:45 **Anna Zatorska-Goldstein (U Warsaw)**

Optimization problems related to the heat equation on lower dimensional structures

15:45 – 16:15 **Chao Zhang (HIT, Harbin)**

Some recent results on the mixed local and nonlocal problems

16:15 – 16:45 **Linhan Li (U of Edinburgh)**

Solvability of L^p Regularity problem for parabolic operators with rough coefficients

- **Wednesday, February 26th, 2025**

09:30 – 10:20 **Benjamin Gess (Bielefeld U)**

Optimal regularity for nonlocal porous media equations

10:20 – 11:00 **Coffee Break**

11:00 – 11:50 **Stefanie Sonner (Radboud U)**

Well-posedness and longtime behavior for singular-degenerate porous medium type equations

11:50 – 14:00 **Lunch Break**

14:00 – 14:50 **Marvin Weidner (U of Barcelona)**

Harnack inequalities for parabolic nonlocal equations

14:50 – 15:30 **Coffee Break**

15:30 – 16:20 **Anna Balci (Charles U, Prague)**

Local and Nonlocal Zaremba Problems with Degenerate Weights

18:30 – 22:00 **Conference Dinner**

- **Thursday, February 27th, 2025**

09:30 – 10:20 **Jose Mazon (U of Valencia)**

Evolution problems with perturbed 1-Laplacian type operators on random walk spaces

10:20 – 11:00 **Coffee Break**

11:00 – 11:50 **Tianling Jin (HKUST, Hong Kong)**

Regularity and dynamics for some nonlinear diffusion equations on bounded domains

11:50 – 13:45 **Lunch Break**

13:45 – 14:15 **Samuele Riccò (TU Vienna)**

Global higher integrability and Hardy inequality for double-phase functionals

14:15 – 14:45 **Simon Blatt**

TBA

14:45 – 15:15 **Calvin Stanko (PLUS, Salzburg)**

Existence of variational solutions to doubly nonlinear systems in noncylindrical domains

15:15 – 15:45 **Coffee Break**

15:45 – 16:15 **Wontae Kim (Uppsala U)**

Complex valued nonlinear PDEs

16:15 – 16:45 **Kenta Nakamura (Nichidai, Tokyo)**

Local boundedness and concentration phenomenon for the p -Sobolev flow

- **Friday, February 28th, 2025**

09:30 – 10:20 **Giuseppe Mingione (U of Parma)**

Partial regularity in nonlocal problems

10:20 – 11:00 **Coffee Break**

11:00 – 11:50 **Iwona Chlebicka (U Warsaw)**

Discarding Lavrentiev's Gap in Non-autonomous and Non-Convex Variational Problems

All talks take place at ESI Boltzmann Lecture Hall!