

PDE SESSION (THU 8/1/26)

ROOM C5 (14-15.50)

Theo Elenius (Aalto University)

Carleson-type removability for p -parabolic equations (14-14.20)

We characterize removable sets for Hölder continuous solutions to degenerate p -parabolic equations. Sufficient and necessary conditions for a set to be removable are given in terms of an intrinsic parabolic Hausdorff measure, which depends on the considered Hölder exponent. Our method to show the sufficient condition simplifies previous approaches, by using only fundamental properties of the obstacle problem and supersolutions. For the necessary condition, we establish the Hölder continuity of solutions with measure data, provided the measure satisfies a certain decay property.

Petri Laarne (University of Helsinki)

Metastable dynamics of SPDEs: a short overview (14.30-14.50)

Take a heat equation and a potential with multiple minima. Add some noise to make the dynamics jump between those stable solutions. How often will that happen then? I will review how this question relates to potential theory and outline some challenges, recent developments, and open questions.

Leah Schätzler (Aalto University)

Global higher integrability for systems of parabolic p -Laplace type in noncylindrical domains (15-15.20)

In this talk, we discuss higher integrability for Cauchy-Dirichlet problems for systems of parabolic p -Laplace type in noncylindrical domains $E \subset \mathbb{R}^n \times \mathbb{R}$. Under suitable assumptions on E , the gradient of a weak solution is integrable up to the lateral and initial boundaries beyond the natural exponent p .

The talk is based on joint work with Kristian Moring and Christoph Scheven.

Jarkko Siltakoski (University of Jyväskylä)

On the regularity of positive solutions to Trudinger's equation (15.30-15.50)

Trudinger's equation is a doubly nonlinear equation that was originally suggested as an example of an equation that may have a simpler Harnack's inequality than the standard p -parabolic equation. In this talk, we discuss a recent result on the Lipschitz continuity of positive solutions. We also present an equivalence result between viscosity and weak solutions.