

INVITATION TO A TALK

Dr. Eleonora Ficola

Universität Hamburg

“Existence and duality theory for linear-growth variational problems with measures”

📍 N.2.01

📅 Wednesday, 23 April 2025

🕒 10:00 a.m.

Abstract

In this talk we consider functionals with linear growth in the gradient variable, along with an integral term with respect to a (possibly signed) Radon measure on bounded subsets of $\mathbb{R}^n$. Relying on a generalized parametric lower-semicontinuity result, we provide necessary and sufficient conditions for the existence of BV-minimizers, and discuss typical examples as well as limit cases. Moreover, we link functional minima to divergence-measure vector fields employing a refined version of the Anzellotti pairing between measures and functions. Further advantages of the dual approach include the introduction of a formal definition of solutions to the Euler-Lagrange equation corresponding to the original functional.

The topics presented are result of joint work with Thomas Schmidt (Universität Hamburg).

Barbara Kaltenbacher and the Department of Mathematics look forward to seeing you at the talk!