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Oberseminar im Institut für Angewandte Analysis

Wintersemester 26-27

Im Rahmen des Oberseminars spricht am Montag, den **16. November 2026**:

Giovanni Brigati

Kinetic Gradient Flows

In this talk, I will give an account of a recent work of Guillaume Carlier, Jean Dolbeault, Filippo Quattrocchi, and myself. Our contribution consists in recasting non-linear kinetic Fokker–Planck equations as gradient flows of Tsallis' free energies, in a suitable geometry. The latter is the geometry of kinetic optimal transport (see B.–Maas and Quattrocchi, 2025), namely, a second-order version of the classical optimal transport between probability measures. The peculiarity of this geometry is that it captures the hierarchy between position and velocity of particles, as well as the different nature of conservative and dissipative phenomena acting on them. Starting from a finite-dimensional setting, I will introduce the key ideas behind our framework. Then, I will move to the case of probability measures, state our main results, and provide a few elements for their proofs. I will in particular focus on the "chain rule" and the "JKO scheme" in the kinetic context.

Der Vortrag findet in **Raum E.20, Helmholtzstr. 18** statt.
Beginn: 16 Uhr (c.t.). Alle Interessierten sind herzlich eingeladen.

W. Arendt, A. Dall'Acqua, A. Schlichting, R. Zacher.