



universität
wien

Fakultät für Mathematik

Mathematisches Kolloquium

Mittwoch, 18. April 2018

Sky Lounge

EINLADUNG

Martin Burger

(Universität Münster)

**"Propagation of gradient flow structures from
microscopic to macroscopic models"**

"Propagation of gradient flow structures from microscopic to macroscopic models"

Abstract:

In this talk we will discuss the propagation of gradient flow structures from microscopic models in statistical mechanics such as overdamped particle dynamics or interacting particle systems on lattices to macroscopic partial differential equations. The key insight is that microscopic models can be formulated as linear Markov chains in high-dimensional spaces, e.g. via Liouville equations, for which recent work by Maas, Mielke and others has provided a rather complete picture. The propagation to macroscopic models is then carried out - at least formally - by constructing a metric structure on an associated infinite hierarchy of equations, resembling the BBGKY hierarchy in kinetic theory, and studying mean-field or other limits in this setup.

15.45 Uhr: Kaffeejause

16.15 Uhr: Vortrag

vinum cum pane im Anschluss

Ulisse Stefanelli
Christian Krattenthaler