Universität
Konstanz

Fachbereich Mathematik und Statistik

Prof. Dr. R. Denk, Prof. Dr. R. Racke, Prof. Dr. O. Schnürer

Im

Oberseminar Partielle Differentialgleichungen

gibt es am

Montag, dem 10. Juli 2017,

einen Vortrag von Herrn

Prof. Dr. Georg Menz

(University of California at Los Angeles)

" A quantitative theory of the hydrodynamic limit "

Beginn: **17.00 Uhr**
Raum: **G 227**

Interessenten sind herzlich willkommen!

R. Denk, R. Racke, O. Schnürer

Abstract:The hydrodynamic limit states that a certain stochastic evolution of a lattice system converges macroscopically to a deterministic non-linear heat equation. We will discuss how the statement of the hydrodynamic limit can be made quantitative with an error term that should scale optimally in the system size. The key step is to introduce an additional evolution on a mesoscopic scale that emerges from projecting the microscopic observables onto splines. The hydrodynamic limit is then deduced in two steps. In the first step one shows the convergence of the microscopic to the mesoscopic evolution and in the second step one deduces the convergence of the mesoscopic to the macroscopic evolution. The talk is about a joint work with Deniz Dizdar and Felix Otto.

(invited by Prof. Dr. Reinhard Racke)