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FB Physik, Mathematik und Informatik
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Schwerpunkt Stochastik

F. Aurzada, V. Betz

M. Birkner, L. Hartung, R. Höpfner, A. Klenke

G. Kersting, N. Kistler, Ch. Kühn,
R. Neininger, G. Schneider,
A. Wakolbinger

Rhein-Main-Kolloquium Stochastik

TU Darmstadt, Goethe-Universität Frankfurt und Gutenberg-Universität Mainz

Freitag, 14. Juni 2019

15:15 Uhr: Sebastian Andres (University of Cambridge):
Local Limit Theorems for the Random Conductance Model

Abstract:
The random conductance model is a well-established model for a random walk in random environment. In recent years, quenched functional central limit theorems and quenched local limit theorems for such random walks have been intensively studied, and such results have meanwhile been established also in the case of general ergodic, degenerate environments only satisfying a moment condition.
In this talk we will review those results and also discuss an annealed local limit theorem in the case of time-dependent conductances which can be used to prove a scaling limit result for the space-time covariances in the Ginzburg-Landau $\nabla\varphi$ model. This result applies to convex potentials for which the second derivative may be unbounded.
This talk is based on a joint work with Peter Taylor (Cambridge).

16:15 – 16:45 Uhr: Kaffee und Tee

16:45 Uhr: Martin Slowik (TU Berlin)
Random walks among random conductances as rough paths

Abstract:
The random conductances model is a class of random walks in a reversible random environment. Depending on the assumptions on the law of the environment, invariance principles à la Donsker (in uniform topology) are fairly well understood for such random walks. However, if the random walk acts as a noise term in a differential equation, scaling limits in a finer topology (rough path topology) has to be established in order to understand the convergence properties of the solution. After reviewing the results and methods that has been used to prove annealed and quenched invariance principles, I will discuss an annealed invariance principle in the rough path topology.

Im Anschluss gemeinsame Nachsitzung.
Wegbeschreibung und Abstracts siehe die Homepage des Rhein-Main-Kolloquiums:
https://www.stochastik.mathematik.uni-mainz.de/rhein-main-kolloquium-stochastik/

Ort: **Johannes Gutenberg-Universität Mainz**
     Gebäude 2413 | Raum 03-428, Staudingerweg 9, 55128 Mainz

Interessenten sind herzlich eingeladen.   gez. Lisa Hartung