Fachbereich 08 – Physik, Mathematik und Informatik

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

INSTITUT FÜR MATHEMATIK

M. Birkner / L. Hartung / A. Klenke

Oberseminar Stochastik

Am **Dienstag, 17. Februar 2026**, wird

Andreas Klippel (TU Darmstadt)

einen Vortrag halten mit dem Thema:

“Dimers, Double Dimers, and Random Permutations with Long-Range Interactions”

Abstract:

The dimer model and its associated double-dimer model are fundamental objects in probability theory, statistical mechanics, and combinatorics. While their planar behavior is by now well understood, much less is known beyond planarity.

We study these models on Z^d-like graphs (d≥1), allowing long-range edges whose weights decay with distance. For a large class of such interactions, we show that monomer correlations in the dimer model remain uniformly positive, and that loops in the double-dimer model are macroscopic.

In this talk, I will introduce the models, explain their connection to random permutations, and give an overview of the main proof ideas. In particular, we will take a closer look at the key methods, namely the connection to a spin system and the use of reflection positivity. The project presented in this talk is joint work with Lorenzo Taggi and Wei Wu.

Zeit: Dienstag, 17. Februar 2026, 14 Uhr c.t.

Ort: Raum 05-136, Institut für Mathematik, Staudingerweg 9, 55128 Mainz

Alle Interessierten sind herzlich eingeladen!

gez. Lisa Hartung