

STOCHASTIK UND ANWENDUNGEN (§ 99 Abs.4 UG)

Freitag, den 22. März 2024 – 13:00 Uhr

Ecaterina Sava-Huss

Hörsaal
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Forschungsvortrag und Diskussion:

“Walking on sandpiles”

The main focus of my research is on "walks" in a very broad sense. More precisely, I am investigating particles that walk randomly, deterministically, or quasi-randomly on state spaces such as lattices, fractal graphs or infinite groups. One of the fundamental questions is to understand the interplay between structural and geometric properties of the underlying state spaces and the long term behavior of random walks on them, with the aim of obtaining synergy effects. After understanding what happens with a single particle "walking", I will consider systems of interacting particles that walk and aggregate to a cluster, and models of mass distribution such as sandpiles, which in the term of walks, can be again viewed as random walks on groups. These models have been subject to intense study in the last four decades and they give rise to many beautiful problems and conjectures in discrete probability, and they also have applications in biology (epidemic models), computer science (rotor models), and quantum physics (quantum random walks). In this talk, I will give a general overview on my research, and I will mention several recent results and future directions of work.

*) Die Veröffentlichung von Namen und Titel erfolgt nur auf Zustimmung der Vortragenden.

Stellungnahmen zum Vortrag richten Sie bitte bis längstens 14:00 Uhr an Fakultaet-MIP@uibk.ac.at.