THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Geometric Functional Analysis and Probability Seminar

Room 261 ,Ziskind Building
on Thursday, Jan 29, 2015at 11:05

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Random walk in random environment: the operator theory approach

Abstract:

Examine random walk in a stationary, ergodic, random environment which is bistochastic i.e. the sum of probabilities to enter any fixed vertex is 1. Consider the drift as a function on the probability space on the environments, and assume it belongs to domain of definition of where D is the symmetrized generator of the walk (this is the famous H_{-1} condition). We show that under these conditions the walk satisfies a central limit theorem. The proof uses the "relaxed sector condition" which shows an unexpected connection to the spectral theory of unbounded operators.

All terms will be explained in the talk. This is joint work with Balint Toth.

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