Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 24 November 2022, 16:30
Lipschitz-Saal (LWK 1.016)

Zachary Adams

Max Planck Leipzig

Quasi-ergodicity and Q-processes of parabolic SPDE

We study the dynamics of a parabolic SPDE in a bounded region E of its phase space, under the assumption that the solution hits the boundary of E at some almost surely finite time. In particular, we discuss the existence and uniqueness of quasi-ergodic distributions (QED), which characterize the long time behaviour of the SPDE conditioned on remaining in E for all time. Following this, we present applications to the study of stochastic travelling waves in reaction-diffusion systems. Time permitting, we discuss functional inequalities for QED, and their consequences for the solution of an SPDE.