MATH+ Spotlight Talk
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Maximilian Engel (MATH+ Junior Research Group Leader)

Synchronization and Chaos for Random Systems: General insights and application to chemical reaction models

Abstract:
Maximilian Engel will discuss random phenomena within the framework of random dynamical systems, i.e. systems whose evolution in time is governed by dynamical laws exhibiting randomness. Supplementing the theory of stochastic processes which is mainly concerned with the statistics of trajectories for different noise realizations, random dynamical systems theory considers the dynamical aspects of the system, such as attractors, synchronization, chaos, bifurcations or ergodic properties. He will make sense of these terms at the hand of insightful toy models and discuss current work on Markov processes describing the dynamics of chemical reaction networks.