

ASYMPTOTIC PROPERTIES OF STOCHASTIC PROCESSES AND RELATED SEMIGROUPS: THEORY AND APPLICATIONS

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In this winter school we give a basic formation of methods to analyze stochastic stability properties of stochastic processes in finite and infinite dimension obtained from S(P)DEs. Although these methods will be provided in full generality, we also discuss applications in finance (e.g. term-structure models or the HJMM-equation). We want young researchers to become confident with well-known, but more importantly, also new methods for the study of (stochastic) stability properties coming from Stochastic Analysis and Functional Analysis. In this regard we have planed to following courses:

- Stefano Bonaccorsi, Trento University,
Malliavin Calculus and regularity properties of transition densities.
- Balint Farkas, University of Wuppertal,
Asymptotics of semigroups.
- Martin Friesen, University of Wuppertal,
Regularity of heat kernels for stochastic processes with rough coefficients.
- Barbara Rüdiger, University of Wuppertal,
Wasserstein metrics and ergodic properties of stochastic processes.
- Baris Ugurcan, University of Wuppertal,
Singular stochastic partial differential equations.

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