

Course Announcement

In winter term 2023/24 I read

Stochastic Partial Differential Equations

Lecture:

Friday: 9h15-10h45, Room 3.011, RUD25 (JvNeumann-Haus)

First date: Friday, 20 October 2023

Exercise class:

Friday: 11h00-11h45, Room 3.011, RUD 25 (JvNeumann-Haus)

Content:

Gaussian measures in Banach/Hilbert space, semigroups, stochastic integrals in Hilbert spaces, strong, mild and weak solution theory for linear SPDEs, regularity, semi-linear SPDEs, statistics for SPDEs

Prerequisites: Strong background in stochastics and analysis, ideally lectures in stochastic analysis and functional analysis (otherwise a working knowledge must be acquired in parallel)

Literature:

- Hairer, M., *An Introduction to SPDEs*, Lecture Notes, 2023,
www.hairer.org/notes/SPDEs_Course.pdf
- Liu, W. and Röckner, M., *Stochastic Partial Differential Equations: An Introduction*, Springer, 2015
- Da Prato, G. and Zabczyk, J., *Stochastic Equations in Infinite Dimensions*, Cambridge University Press, 2008
- Rohde, A., *Vorlesungsskript SPDEs*, 2023,
www.stochastik.uni-freiburg.de/de/lehre/ss-2023/vorlesung-stochastische-partielle-differentialgleichungen-ss-2023/spde-skript