Gregor Pasemann
gregor.pasemann@math.hu-berlin.de

Humboldt–Universität zu Berlin
Department of Mathematics

Lecture Announcement

Winter semester 2022/2023

Statistics of Stochastic Processes

Lecture:	Thu 13:00 - 15:00 (c.t.)	RUD25, 1.012	(weekly)
Exercise:	Thu 15:00 - 17:00 (c.t.)	RUD25, 1.012	(bi-weekly)

First date: 20.10.2022

This lecture will be given in English.

Contents: Stochastic processes in discrete and continuous time. Stationarity. Models for time series. Long-term behaviour and limit theorems for dependent random variables. Diffusion processes. Drift and volatility estimation. Stochastic filtering.

Requirements: Probability Theory I and II, Mathematical Statistics

Literature (selection):

- Brockwell, Davis. *Time Series: Theory and Methods.* Springer, 1991
- Øksendal. *Stochastic Differential Equations.* Springer, 2013
- Kutoyants. *Statistical Inference for Ergodic Diffusion Processes.* Springer, 2004.