

Lecture: Branching processes / Verzweigungsprozesse (2h)

Prof. Dr. Noemi Kurt

Winter semester 2015/16

Topic: The lecture deals with topics from branching processes: Galton-Watson-Processes, generating functions, extinction probabilities, limit theorems, branching processes in continuous time, biological applications.

Prerequisites: Probability theory I and II (BMS course stochastic processes I), need to know Markov chains as taught for example in the lecture "Stochastische Modelle".

Literature:

- A. Depperschmidt: Lecture notes on branching processes (in German), <http://www.stochastik.uni-freiburg.de/mitarbeiter/depperschmidt/inhalte/bgw-anw.pdf>
- R. Lyons, Y. Peres: Probability on trees and networks, chapter 5 and 12, online <http://mypage.iu.edu/~rdlyons/prbtree/book.pdf>
- P. Haccou, P. Jagers, V. A. Vatutin: Branching processes. Cambridge University Press (2005)
- K. B. Athreya, P. E. Ney: Branching processes. Dover Publishing (2004) (auch Springer 1972)
- Th. E. Harris: The theory of branching processes. Springer (1969)
- M. Kimmel, D. E. Axelrod: Branching Processes in Biology. Springer (2002)

Time and place: Monday 14–16 Uhr, MA 551

Note: On monday 26 of October there will be no lecture, instead there will be an additional lecture on Monday 9. November, 12-14 (room to be announced)

Seminar: In conjunction with the lecture, a seminar will be offered. Registration until November 2 (in the lecture).

Exam: Oral exams will be offered.