Speaker: **Martin Mörsch, University of Freiburg**

Title: **Analysis of positively divisible non-Markovian processes**

Date: **Wednesday, April 10th, 13 o‘clock (s.t.)**

Place: **Seminar room 915**

Title: **Analysis of positively divisible non-Markovian processes**

Abstract:

In the publication by Cantürk and Breuer, a new class of stochastic processes is analysed. Using the Chapman-Kolmogorov equation together with the Kolmogorov consistency condition they derive a ”necessary consistency condition”, allowing for a well defined description of non-Markovian, positively divisible stochastic processes, previously believed to be pathological. A few examples are presented, to motivate the validity of the newly established formalism. To do this, a physical model is proposed, but not resolved. In this thesis I introduce the necessary concepts of probability and random variables to introduce stochastic processes. I then spend some time describing the different concepts and classifications of stochastic processes, relevant to sufficiently identify the key aspects of non-Markovian positively divisible processes. Lastly I repeat the already solved examples of the paper. I add to them by solving, analysing and comparing the proposed, physical model, utilising the same parameters of evaluation being the mean value, variance and Shannon information entropy.