

Veranstaltungen im Wintersemester 2016/17

Das achtundzwanzigste Treffen des Rhein-Main Arbeitskreises findet

Freitag, den 20. Januar 2017, 15:00 Uhr

an der

Philipps-Universität Marburg, Fachbereich Mathematik und Informatik,
Hans-Meerwein-Straße,
D-35032 Marburg,

im HS IV (Ebene A4) statt.

Programm

15:00 Uhr: [Dr. Daniel Rudolf \(Friedrich-Schiller-Universität Jena\)](#)

Perturbation theory for Markov chains

By using perturbation theory for Markov chains we derive explicit estimates of the bias of an approximate version of a geometrically ergodic Markov chain. We apply this result to a noisy Metropolis-Hastings algorithm and discuss also some consequences for the integration error of such Markov chain Monte Carlo methods.

15:45 Uhr: Tee/Kaffee

16:15 Uhr: [Kerstin Lux \(Universität Mannheim\)](#)

Simulation studies on stochastic differential equations with discontinuous drift coefficient

The Euler-Maruyama scheme (EMS) is one of the standard schemes to obtain numerical approximations of stochastic differential equations (SDEs). Its convergence properties are well-known in the case of Lipschitz-continuous coefficients. However, in many situations, relevant systems do not show a smooth behavior which results in discontinuous coefficients of the corresponding SDE. In this talk, we will analyze numerical convergence properties of the EMS as well as of an explicit order 1.5 strong scheme due to Platen for SDEs with a piecewise constant drift coefficient and a constant diffusion coefficient. This type of SDEs arises in some rank-based stock market models. Therefore, as an application of our numerical analysis, we will give numerical results on the long-term ranking behavior within a stock market.

This is joint work together with Simone Göttlich and Andreas Neuenkirch.

17:00 Uhr: [Prof. Dr. Oleg Davydov \(Justus-Liebig-Universität Gießen\)](#)

Meshless Finite Difference Methods

After a brief discussion of the motivations and some history of the generalized finite difference methods, we concentrate on their recent meshless versions relying on kernel based numerical differentiation on irregular centers. In particular, recent consistency estimates and adaptive algorithms for elliptic equations will be discussed.

anschließend: Nachsitzung (voraussichtlich im [Colosseo](#))

Informationen zur Anreise finden Sie [auf dieser Seite](#).