Announcement

HS Ökonophysik: Advanced Interdisciplinary Statistical Methods

Description
Stochastic methods offer a theoretical approach to the behaviour of complex systems with a good balance between reducing complexity and gaining predictive power. We consider techniques beyond the scope of our regular course work as well as examples in economics and physics.

Content
The following topics are planned:

• Introduction to stochastic processes and models
• Non-Markovian processes and “fat tails”
• Lévy processes
• Statistical distribution of income and wealth
• Network theory
• Correlations and clustering
• Agent-based modelling
• Stochastic modelling in quantum dynamics

Prerequisites
Formal prerequisites: none
Recommended prerequisite: working knowledge of mathematical stochastics (Wahrscheinlichkeitsrechnung)

Literature

• textbook chapters
• review articles
• original research articles

Additional Information
This seminar is mainly aimed at master students; the first two topics are accessible to bachelor students as well.

Lecturer
PD Dr. Jürgen Stockburger