Christian-Albrechts-Universität zu Kiel, 24098 Kiel

Institut für Betriebswirtschaftslehre
– Professur für Service Analytics –
Prof. Dr. Catherine Cleophas

Simulation Modeling for Business Research

Objectives:

Business research increasingly considers wicked problems and complex dynamic systems. Analytical models of such problems and systems quickly become untraceable and unsolvable. Given increasing computational power, simulation models provide an alternative tool. They can fuel studies tracing the long-term evolution of systems and comparing the outcomes of alternative scenarios. However, successfully applying simulation modeling for business research requires expertise on applicable simulation paradigms, approaches to model validation and the analysis of stochastic results.

Lecturer: Prof. Dr. Catherine Cleophas

Content:

Participants gain theoretical background knowledge in

- System dynamic, discrete event-based and agent-based simulation paradigms
- Analysis of stochastic simulation results
- The role of simulation validation and calibration
- Challenges of computational efficiency

They also gain hands-on experience in applying these concepts to case scenarios in implementing simulation models in Python SimPy and NetLogo.

Prerequisites:

Basic knowledge of descriptive statistics. Programming experience is helpful, but not required

Own notebook with Python SimPy and NetLogo installed – see instructions at:
https://simpy.readthedocs.io/en/latest/simpy_intro/installation.html and
https://ccl.northwestern.edu/netlogo/download.shtml

Time and Place:

10.03.2020-12.03.2020, 9:00-16:00 with breaks and **13.03.2020** 9:00-13:00 with breaks

Room: **Gutenberg Seminarraum (WR425 - R.10)**

Credits:

5 credit points can be attained by giving a presentation during the course and a submitting short paper detailing the intended simulation project along the lines of the course. Taking part in the entire course is a prerequisite for attaining credits.

Registration:

Limited to 12 participants. Please register via email with horten@bwl.uni-kiel.de.