

## EINLADUNG

Zeit: Dienstag, 22.01.2013, 16 Uhr

Ort: AH I, Ahornstr. 55

Referent: Prof. Dr. Jähnichen, TU Berlin

Titel: Modelica - Modeling and Simulation of  
Technical Systems

### Abstract:

The talk introduces the simulation language Modelica and its concepts for the modeling and simulation of continuous system behavior. The language is competitive to Matlab/Simulink and in addition, supports an object-oriented style of modeling which leads to a high degree of component reuse. System behavior is expressed in an equation oriented style and algebraic and differential equations are directly encoded in the program text based on its modular structure. The talk gives an overview on the language concepts and on the mathematics as the interface to the solvers needed for experimentation, and introduces the advanced concept of structure dynamics. As a nice and novel feature, simulation results can be presented through a sophisticated graphical backend attached to the simulation system. Emphasis is also put on the concept of acausality as a comfortable way to describe problems not only for the simulation of technical systems.

Professor Stefan Jähnichen, born in 1947, received his Ph.D. (Dr.-Ing.) in electrical engineering from the Technical University Berlin in 1974. From 1998 to 2012 he was managing and scientific director of the Fraunhofer Institute for Computer Architecture and Software Technology FIRST (former GMD FIRST), currently he is one of the directors of the Research Center Informatics (FZI) in Karlsruhe and leading its research center in Berlin. As a full professor he is furthermore leading the research group on Software Engineering at the Department of Electrical Engineering and Computer Science of the Technical University of Berlin. Stefan Jähnichen has a solid experience in software engineering especially in languages, methods, and modeling which he contributes to many national and international committees such as the IFIP Working Group 2.4 in System Programming Languages, the Scientific Advisory Board (Fachkolleg) for Informatics of the German Research Foundation (DFG), and the panel on computer science of the European Research Council (ERC). Stefan Jähnichen is author of several books and approximately 50 papers in refereed conference proceedings and journals. From 2008 to 2011 he acted as President of the German Computer Society.

Es laden ein: Die Dozenten der Informatik