

EINLADUNG

Zeit: Montag, 12. Dez. 2005, 16.00 Uhr

Ort: AH VI, Ahornstr.55

Referent: Dr. Gerald Lüttgen,
The University of York

Titel: Structured Symbolic Model Checking of Asynchronous
Systems

Abstract:

Model checking is a popular technology for assessing the correctness of discrete-state systems. Its success, particularly in the hardware industry, has been made possible by the discovery of Binary Decision Diagrams (BDDs) as a suitable data structure for compactly storing the huge state spaces described by synchronous digital circuits. However, BDD-based model checking does not scale when analysing asynchronous systems, such as Petri nets, protocols and concurrent software.

This talk presents a novel algorithm for generating and analysing the state spaces of asynchronous systems, which employs Multi-valued Decision Diagrams and Kronecker-based data structures. These permit the systematic exploitation of structural information of asynchronous system models, such as taking into account the locality of effect for an event, and the use of a new strategy for computing fixed points. Experimental studies show huge improvements in both memory and time efficiency when compared to state-of-the-art model checkers.

Es laden ein: Die Dozenten der Informatik