



SCHOOL OF COMPUTING SEMINAR

DR. ANDRZEJ WASOWSKI
ASSOCIATE PROFESSOR
IT UNIVERSITY OF COPENHAGEN

WEDNESDAY, APR 17, 2013
2:00PM TO 3:00 PM
DUPUIS HALL 215

Host: Juergen Dingel
Light Refreshments

NECSIS CREATE Seminar

COMPOSITIONAL BEHAVIORAL MODELING WITH REAL TIME GAMES

I will introduce the concept of specification theory (or interface) theory for automata-like models, including the main motivation and ingredient operators. I show how we instantiated this paradigm in the tool ECDAR, which aims at step-wise design and verification of real-time embedded controllers. The tool is based on the semantic model of Timed Games, and its associated symbolic solving algorithms. I will present the main objects of ECDAR's specification theory (implementations, specifications, properties), its transformation operators (conjunction, parallel composition, quotient) and its verification operator (satisfaction, refinement).

Time permitting, I will show patterns for verification proofs, including Assume/Guarantee style of verification.

Andrzej Wasowski is Associate Professor at IT University of Copenhagen. He holds an MSc Eng degree from Warsaw University of Technology and Phd from IT University.

His research interests are in model driven software development, ranging from practical projects with concrete industrial problems to theoretical semantic foundations of modeling languages and tools. He currently runs two large projects on variability in safety critical systems, and is a co-investigator in MT-LAB, The VKR Centre of Excellence on Modeling IT.