3rd International Workshop on Equation-Based Object-Oriented Modeling Languages and Tools

Oslo, Norway, One of the days October 3-5, 2010, together with MODELS'2010

EO OLT
2010

Call for Papers

Scope

During the last decade, integrated model-based design of complex cyber-physical systems (which mix physical dynamics with software and networks) has gained significant attention. Hybrid modeling languages based on equations, supporting both continuous-time and event-based aspects (e.g. Modelica, SysML, VHDL-AMS, and Simulink/ Simscape) enable high level reuse and integrated modeling capabilities of both the physically surrounding system and software for embedded systems. The EOOLT workshop addresses the current state of the art of such equation-based object-oriented (EOO) modeling languages, as well as open issues that currently still limit their expressiveness, correctness, and usefulness. Moreover, integration of and comparison with related approaches and languages, such as actor oriented, synchronous, and domain specific languages, are of particular interest. The workshop is concerned with, but not limited to, the following EOO related themes:

- Acausality and its role in model reusability.
- Component systems for EOO languages.
- Discrete-event and hybrid modeling.
- Embedded systems and efficient code generation.
- Modeling language constructs in support of simulation, optimization, diagnostics, and system identification.
- EOO mathematical modeling vs. UML software modeling.
- Integrated hardware-software modeling of cyberphysical systems.
- Requirement to model traceability, translation, and integration.
- Formal semantics of EOO related languages.
- Multi-resolution / multi-scale modeling using EOO languages.
- Model-driven development related to EOO languages.
- Numerical coupling of EOO simulators and other simulation tools.
- Parallel execution of EOO models.
- Programming / modeling environments.
- Real-time simulation using EOO languages.
- Reflection and meta-programming.
- Verification, type systems, and early static checking.
- Relation to functional reactive programming (FRP) and synchronous languages.
- Comparison with related causal or hybrid formalisms.

Submission

Researchers and practitioners are invited to submit full-length papers (up to 10 pages) for consideration by the program committee. Papers are welcome that offer presentations and discussions of existing languages and tools, their capabilities and limitations; reports on practical experience; demonstrations of languages, tools, ideas, and concepts; positions related to relevant questions; and discussion topics.

Important Dates

- Submission deadline: **June 10**
- Author notification: **July 1**
- Camera-ready: **September 10**
- Workshop: **October 3, 4, or 5 (one day)**

Publication

If a paper has been accepted, the authors should present the paper at the workshop and also have the paper published in electronic proceedings (and a local conference paper version) at Linköping University Electronic Press.

Organizing Committee

- **Peter Fritzson** (Chair), Linköping University
- **Edward A. Lee** (Co-Chair), U.C. Berkeley
- **François E. Cellier** (Co-Chair), ETH Zurich
- **David Broman** (Co-Chair), Linköping University

Program Committee (Preliminary)

Bernhard Bachmann - University of Applied Sciences, Bielefeld, Germany
Bert van Beek - Eindhoven University of Technology, Netherlands
Felix Breitenecker – TU Vienna, Vienna, Austria
Jan Broenink - University of Twente, Netherlands
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Hilding Elmqvist – Dassault Systèmes, Lund, Sweden
Peter Fritzson - Linköping University, Sweden
Petter Krus - Linköping University, Sweden
Edward A. Lee - U.C. Berkeley, California, USA
Jakob Mauss - QTronic GmbH, Berlin, Germany
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Pieter Mosterman - MathWorks, Inc., Natick, MA, USA
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Martin Otter - DLR Oberpfaffenhofen, Germany
Chris Paredis - Georgia Institute of Technology, Atlanta, USA
Peter Pepper - TU Berlin, Berlin, Germany
Adrian Pop - Linköping University, Linköping, Sweden
Nicolas Rouquette - NASA Jet Propulsion Laboratory, USA
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