6th International Workshop on Equation-Based Object-Oriented Modeling Languages and Tools

EOOLT 2014

in cooperation with ACM SIGPLAN

Berlin, Germany, 10 October, 2014

SIGPLAN

acm In-Cooperation

Call for Papers

SCOPE

During the past 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 capabilities of both the physically surrounding system and the software for embedded systems. The EOOLT workshop addresses the current state of the art of 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 cyber-physical systems.
- Requirements for modeling 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.
- Functional Mock-up Interface (FMI)

SUBMISSION

Researchers and practitioners are invited to submit the following contributions:

1. Full length research 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.
2. Work-in-progress papers: up to 4 pages for consideration by the program committee. Papers are welcome that offer presentations and discussions of work-in-progress and problem statements that can be thoroughly discussed during the workshop.

All submissions must describe original research work, not previously published or submitted for publication elsewhere. The program committee will evaluate the papers' technical contributions, relevance, originality, correctness, and clarity.

IMPORTANT DATES

- Submission deadline: July 6 (extended)
- Author notification: August 10
- Camera-ready: September 7
- Workshop: October 10

PUBLICATION

If a paper has been accepted, the authors should present the paper at the workshop. All accepted papers will be published in the ACM digital library within the ACM international conference proceedings series (ICPS).

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