

## Call for Papers

### Scope

Computer aided modeling and simulation of complex systems, using components from multiple application domains, such as electrical, mechanical, hydraulic, control, etc., have in recent years witnessed a significant growth of interest. In the last decade, novel modeling and simulation languages, (e.g. Modelica, gPROMS, Chi, Verilog-AMS, and VHDL-AMS) based on acausal modeling using differential algebraic equations (DAEs) have appeared. Using such languages, it has become possible to model complex systems covering multiple application domains at a high level of abstraction through reusable model components. In the last couple of years the name equation-based object-oriented (EEO) language has been introduced to denote modeling languages within this category.

The EOOLT Workshop addresses the current state of the art of EEO modeling languages as well as open issues that currently still limit the expression power, correctness, and usefulness of such languages through a set of full-length presentations and forum discussions.

The workshop is concerned with, but not limited to, the following themes:

- Acausality and its role in model reusability.
- Component systems for EEO languages.
- Database lookup and knowledge invocation.
- Discrete-event and hybrid modeling using EEO languages.
- Embedded systems.
- EEO language constructs in support of simulation, optimization, diagnostics, and system identification.
- EEO mathematical modeling vs. UML modeling.
- Equation-based languages supporting DAEs and/or PDEs.
- Formal semantics of EEO related languages.
- Multi-resolution / multi-scale modeling using EEO languages.
- Numerical coupling of EEO simulators and other simulation tools.
- Parallel execution of EEO models.
- Performance issues.
- Programming / modeling environments.
- Real-time simulation using EEO languages.
- Reflection and meta-programming.
- Reuse of models in EEO languages.
- Table lookup and interpolation.
- Type systems and early static checking.
- Verification.

### 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. The aim is also to augment the computer science perspective within this community; making contributes from this area particular welcome.

### Important Dates

- Submission deadline: **April 30**
- Author notification: **May 26**
- Camera-ready: **June 9**
- Workshop: **July 8**

### 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. The best of these papers will be selected and the authors will be asked to resubmit an extended version for review and to be possibly published in the SIMPRA journal.

### Organizing Committee

- **Peter Fritzson** (Chair), Linköping University
- **François Cellier** (Co-Chair), ETH Zurich
- **David Broman** (Co-Chair), Linköping University
- **Loucas Louca** (Local Organizer), University of Cyprus

### Program Committee

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**Henrik Nilsson** - University of Nottingham, United Kingdom  
**Martin Otter** - DLR Oberpfaffenhofen, Germany  
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