

Call for Papers

Bringing Theory to Practice: Predictability and Performance in Embedded Systems

Workshop co-located with DATE 2011

<http://ppes2011.cs.uni-saarland.de>

General Information

The PPES workshop is concerned with critical hard real-time systems that have to satisfy both *efficiency* and *predictability* requirements. For example, an electronic controller for a safety-critical system in an automobile needs to react not only correctly to external inputs such as rapid deceleration or loss of grip, but also provably within a given time-span. Although there exist techniques to accurately predict the worst-case execution time of critical embedded systems for complex microprocessors, the current approaches will not scale to future systems. The trend of integrating multiple functions on a single control unit or to use multi-core systems with shared resources saves costs, but introduces lots of interferences between tasks and components.

A unified approach which focuses on *performance and predictability* of Embedded Systems is needed to permit analysability of future systems. The workshop will discuss approaches to achieve improvements of worst-case predictability and of average-case performance on all system layers, including hardware architecture, operating systems, code generation, software architecture and program analysis. It will also discuss the problems arising in industrial practice in trying to achieve one or both of these goals and address proposed tools or standardisation efforts.

We especially solicit contributions from industry, both from tool providers and from end users, on any of the workshop's topics.

Organisation Committee

Philipp Lucas (Saarland University, Germany)

Lothar Thiele (ETH Zürich, Switzerland)

Benoît Triquet (Airbus Operations, France)

Theo Ungerer (University of Augsburg, Germany)

Reinhard Wilhelm (Saarland University, Germany) (*Chair*)

Important Dates

- Submission Deadline: 2010-11-12
- Notification: 2010-11-30
- Camera-ready copies: 2010-12-14
- DATE conference: 2011-03-14–18
- PPES workshop: 2011-03-18

Topics

Worst-case predictability and average-case performance will be considered in all areas along the whole life cycle of embedded systems, including, but not restricted to:

- Timing Analysis
- Hardware Design
- Scheduling
- Operating Systems
- Software Architecture
- Compilation
- Program Analysis
- Standards
- Interoperability

Venue and Format

The workshop is co-located with the Conference on Design, Automation & Test in Europe (DATE), which takes place in the French city of Grenoble during the week of 2011-03-14–18. For more information, see <http://www.date-conference.org>.

The workshop program will feature an invited presentation by **Ottmar Bender** (EADS) on *Predictability and Performance Requirements in Avionics Systems*. Furthermore, a panel discussion will contrast the industrial needs and challenges for predictability in practice with the academical ideas to tackle these challenges.

Accepted papers will be presented by talks of about 30 minutes each, including discussion.

Submission Info

Submissions should represent original work, not published or submitted for publication in other forums. Papers must be in PDF and should not exceed 10 pages in the format specified in <http://drops.dagstuhl.de/styles/oasics/oasics-authors.tgz>. Papers must be submitted via the workshop homepage <http://ppes2011.cs.uni-saarland.de>. Accepted papers will be published in the OASICS series of Dagstuhl publishing.

Supporting Projects

The workshop is sponsored by the European Network of Excellence ArtistDesign and the European FP7 Projects MERASA and PREDATOR.

