LCTES 2008

ACM SIGPLAN/SIGBED Conference on Languages, Compilers, and Tools for Embedded Systems
(In conjunction with PLDI 2008)
Tucson, AZ, USA, June 12-13 2008
http://lctes08.flux.utah.edu/

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krisztian.flautner@arm.com

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regehr@cs.utah.edu

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Call for Papers:

As embedded systems increase in number, complexity, and diversity, new research challenges are encountered in areas such as verification, validation, meeting performance goals and resource constraints, creating and exploiting new hardware architectures, and scaling up to multicores and distributed systems.

LCTES 2008 solicits papers presenting original work on programming languages, compilers, tools, and architectures that help meet these challenges. Research papers (which propose innovative techniques) and experience papers (which report experimentation with and lessons learned from real-world systems and applications) are both welcome.

In addition to its regular sessions, LCTES 2008 will feature special events such as an industrial panel, keynotes, tutorials and demonstrations to bring out the latest and more interesting aspects of embedded systems. Examples include tools for multi-cores, emerging platforms such as smart phones multi-player game machines and real-time multi-media players.

Papers are solicited on, but not limited to, the following aspects of embedded and cyber physical systems design:

Programming language issues in embedded systems, including
- Language features to exploit multi-core, single-chip SIMD, reconfigurable architecture and other emerging architectures
- Language features for distributed real-time control, media players, and other complex embedded systems
- Language features to enhance reliability and security
- Virtual machines, concurrency, memory management

Compiler issues in embedded systems, including
- Interaction between embedded computer architecture, operating system and compiler
- Interpreters, binary translation and just-in-time compilation
- Support for debugging, profiling, exception and interrupt handling, for reliability and security
- Optimization for low power, low energy, low code and data size, and high (real-time) performance

Tools for analysis, specification, design and implementation of embedded systems, including
- Hardware, system software, and application, and their interface
- Distributed real-time control, media players, reconfigurable architectures and other complex systems
- Validation and verification, system integration and testing
- Timing analysis, timing predictability, and real-time scheduling analysis
- Performance monitoring and tuning

Novel embedded architectures
- Design and implementation of novel embedded architectures
- Workload analysis and performance evaluation
- Architecture support for new language features, new compiler techniques and debugging tools

Submission deadline: February 4, 2008
(Please see the web site for details about paper submission.)