



# LCTES 2009



## ACM SIGPLAN/SIGBED Conference on Languages, Compilers, and Tools for Embedded Systems (In conjunction with PLDI 2009) Dublin, Ireland, June 19~20 2009 <http://www.cse.psu.edu/lctes09/>

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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 built from multicores.

LCTES 2009 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 2009 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 autonomous vehicles and embedded supercomputing.

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, inter-processor synchronization mechanisms, concurrency, memory management techniques

#### Compiler issues in embedded systems, including

- Interaction between embedded computer architectures, operating systems and compilers
- 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, WCET analysis and real-time scheduling analysis
- Performance monitoring and tuning
- Runtime system support for embedded systems

#### 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 9, 2009~~ February 16, 2009 (extended)**

(Please see the web site for details about paper submission.)