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## Preliminary Call for Papers

# Software & Compilers for Embedded Systems (SCOPES)

June 27-28, 2011, Schloss Rheinfels, St. Goar, Germany

### About SCOPES

The influence of embedded systems is constantly growing. Increasingly powerful and versatile devices are developed and put on the market at a fast pace. The number of features is increasing, and so are the constraints on the systems concerning size, performance, energy dissipation and timing predictability. Since most systems today use a processor to execute an application program rather than using dedicated hardware, the requirements can not be fulfilled by hardware architects alone: Hardware and software have to work together to meet the tight constraints put on modern devices.

One of the key characteristics of embedded software is that it heavily depends on the underlying hardware. The reason of the dependency is that embedded software needs to be designed in an application specific way. To reduce the system design cost, e.g. code size, energy consumption etc., embedded software needs to be optimized exploiting the characteristics of the underlying hardware.

SCOPES focuses on the software generation process for modern embedded systems. Topics of interest include all aspects of the compilation process, starting with suitable modeling and specification techniques and programming languages for embedded systems. The emphasis of the workshop lies on code generation techniques for embedded processors. The exploitation of specialized instruction set characteristics is as

important as the development of new optimizations for embedded application domains. Cost criteria for the entire code generation and optimization process include runtime, timing predictability, energy dissipation, code size and others. Since today's embedded devices increasingly consist of a multi-processor system-on-chip, the scope of this workshop particularly covers compilation techniques for MPSoC architectures.

In addition, this workshop intends to put a spotlight on the interactions between compilers and other components in the embedded system design process. This includes compiler support for e.g. architecture exploration during HW/SW codesign or interactions between operating systems and compilation techniques. Finally, techniques for compiler aided profiling, measurement, debugging and validation of embedded software are also covered by this workshop, because stability of embedded software is mandatory.

SCOPES 2011 is the 14th workshop in a series of workshops initially called "International Workshop on Code Generation for Embedded Processors". The name SCOPES has been used since the 4th workshop. The scope of the workshop remains software for embedded systems with emphasis on code generation (compilers) for embedded processors. SCOPES will be held in cooperation with ACM SIGBED and EDAA and is sponsored by ArtistDesign European NoE. SCOPES 2011 is co-located with the Map2MPSoC workshop.

### IMPORTANT DATES

Full paper submission: February 18, 2011  
Notification of acceptance: March 31, 2011  
Final paper submission: April 23, 2011

### Further Information

Website: <http://www.scopesconf.org>  
Mailing list: <http://www.scopesconf.org/list>

### SUBMISSION INSTRUCTIONS

Papers should present original research results not published or submitted for publication in other forums. Papers should not exceed 10 pages in ACM format (single-spaced, 2 columns, 9pt font; for formatting instructions and templates visit the ACM website: <http://www.acm.org/sigs/publications/proceedings-templates>). Papers must be submitted in PDF format using the SCOPES paper submission website. To permit blind review, submissions should not include the author names. Accepted papers will be published via the ACM digital library.