

7th Workshop on Adaptive and Reconfigurable Embedded Systems (APRES 2015)

Seattle, USA, April 13, 2015

<http://apres2015.di.fc.ul.pt/>
in conjunction with CPSweek 2015
<http://www.cpsweek.org/>

IMPORTANT DATES

Submission deadline: January 30, 2015
Author notification: March 6, 2015
Camera ready: March 13, 2015
Workshop: April 13, 2015

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CALL FOR PAPERS

A system is said to be adaptive if it responds to environmental changes such as hardware/software defects, resource changes, and non-continual feature usage, in ways that extend the area of operation and improve the efficiency in the use of system resources. Adaptivity often incurs overhead in terms of system complexity and resource requirements, but unfortunately the resulting tradeoffs are usually ignored until a very late stage of the system development process. Retrofitting existing prototypes, architectures, middleware, operating systems, and protocols with concepts and means for flexibility such as run-time system reconfiguration or reflexive diagnostics and steering methods, typically leads to disproportionate overhead, unusual tradeoffs, and less satisfactory results. There is a strong need for adaptivity-centered research.

This workshop brings together experts in the development and use of adaptive and reconfigurable embedded systems and researchers from the embedded systems community at large. Of particular interest are new concepts and ideas for modeling and analyzing tradeoffs of embedded and real-time systems, novel algorithms and mechanisms to realize adaptation and reconfigurability, and experience reports with practical case studies.

Accepted papers will be published in the SIGBED Review newsletter. **By submitting to the workshop the authors are granting permission for ACM to publish in print and digital formats for the newsletter and the ACM archive.** Note that the copyright remains with authors.

PAPER SUBMISSION DETAILS

Prospective participants should submit a 4 page paper in PDF format through the submissions page referred below. The submissions should conform to the proceedings publication format (IEEE Conference style). They should explain the intention of the work, the prospective results, and make clear the current status of the work. The submissions will be reviewed by at least three members of the Program Committee.

The papers will be published in a Proceedings volume that will be available for download and print on the Internet, after the event. A draft printout will be distributed at the workshop to all participants.

Submit your paper on: <https://www.easychair.org/conferences/?conf=apres2015>

TOPICS

- Capturing and modeling of flexible application and reconfiguration requirements
- Tradeoff analysis and modeling
- Programming-language support for adaptivity
- Middleware support for adaptivity
- Operating system support for adaptivity
- Adaptive fault tolerance mechanisms
- Computation and communication models for adaptivity
- Policies and algorithms for single and multi-resource reconfiguration
- Verification and certification of reconfigurable systems
- Case studies and success stories
- Taxonomies and comparative studies
- Diagnostic and steering of embedded systems
- System architecture and design patterns for adaptivity
- Probabilistic reconfiguration techniques
- Scalability, reusability, and modularity of reconfiguration mechanisms
- Dependability and adaptivity across the architectural levels
- Quality of service management
- Application frameworks for reconfigurable embedded systems