

Architectures for Cyber-Physical Systems

CPS Week Pre-Conference Workshop

Chicago, Illinois

April 11, 2011

<http://www.cs.cmu.edu/~able/acps2011/>

It is often observed that the complexity of cyber-physical systems needs to be dealt with at the architectural level. Architecture has typically referred to the cyber elements of a system, e.g., software or processor architectures. This workshop will explore concepts and tools for comprehensive architectural frameworks that include both the physical and cyber elements of cyber-physical systems. Such CPS Architectures will support the complete development process, including the evaluation of interactions and design tradeoffs across cyber-physical boundaries.

Full papers are solicited describing current research on architectures for cyber-physical systems. Briefer position papers identifying directions for future research and development are also solicited.

Topics of Interest

- architectural approaches to system-level specification, analysis and design
- architecture description languages for cyber-physical systems
- the use of architectures in model-based development
- formal methods for architectures of cyber-physical systems
- architectural approaches to heterogeneous modeling and analysis
- applications of architectures in current cyber-physical systems
- case studies on the impact of architecture on cyber-physical system development
- novel architectural concepts and tools for cyber-physical systems
- position papers identifying critical needs and research directions

Instructions for Authors

Two types of contributions are solicited: (i) full papers describing existing tools, methods and applications of architectures for CPS; and (ii) brief position papers on needs and research directions for the future. In keeping with the goal of bringing together people interested in exchanging ideas about the state of the research and the potential role of architectures for CPS, papers of type (i) can summarize previously published work.

All papers should be two-column, conference-style format, with no smaller than 11 pt font. Full papers should be no more than 8 pages; position papers should be no more than 4 pages. Please indicate the name, affiliations and email addresses of all authors below the paper title.

Submission instructions are posted on the workshop website, <http://www.cs.cmu.edu/~able/acps2011/>.

Accepted papers will be made available publically on the workshop website. Authors will retain the copyrights to their papers.

Important dates (2011)

February 21—*deadline for submission of draft papers*

March 4—*authors notified*

April 4—*final papers due*

Organizers

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