

# **Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications**

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Mini-track URL: <http://www.cis.uab.edu/HICSS-AESS/>

Software's ability to adapt is typically performed at two different stages: modifiability during development, and adaptation during execution. The first type of adaptation is concerned with design-time, or compile-time, techniques that permit the modification of the structure and function of a software representation in order to address changing stakeholder requirements. The second type of adaptation occurs at run-time during the execution of the program. This type of adaptation refers to a system's ability to modify itself and to respond to changing conditions in its external environment.

The Adaptive and Evolvable Software Systems (AESS) mini-track contains papers that address both of these stages. The mini-track will appeal to those with interests in Generative Programming, Meta-programming and Reflection, Aspect-Oriented Software Development, Adaptive and Reflective Middleware, and Model-Driven approaches.

The first session of AESS contains papers that address topics related to adaptation in the context of configurable architectures, cosequential frameworks, and service evolution. More specifically, the first paper by Yan Zhang, Wei Qu (both from the University of Sydney) and Anna Liu (Microsoft Australia) deals with self-configurable architectures in J2EE systems. The second paper, by Conrad Cunningham and Pallavi Tadepalli (both from the University of Mississippi) explores function generalization in the design of cosequential processing frameworks. Finally, the last paper in this session, by Henry Detmold, Katrina Falkner and David Munro (the University of Adelaide) examines evolution of system services as dictated by application requirements.

The second session of this mini-track focuses on separation of concerns to support adaptation. The first paper in this session, nominated for best-paper in the mini-track, is by Wolfgang Schröder-Preikschat, Daniel Lohmann, Fabian Scheler, Wasif Gilani and Olaf Spinczyk (Friedrich-Alexander University, Erlangen-Nuremberg), and explores static and dynamic weaving using AspectC++. The second paper, by Mikhail Chalabine and Christoph Kessler (Linköping University), considers crosscutting concerns within parallelizable systems. This session will end with panel discussion where attendees will be encouraged to participate in all of the issues uncovered during the mini-track.

The AESS mini-track received 18 full submissions. The organizers would like to acknowledge the following individuals for their assistance in reviewing the submissions: Jean Bezin, Barrett Bryant, Fei Cao, Walter Cazzola, Eric Eide, Katrina Falkner, Marc Fiuczynski, Geri Georg, Celina Gibbs, Andy Gokhale, Robert Grimm, Marjan Mernik, Rajeev Raje, Raghuram Reddy, and Eric Wohlstadt.