SASO 2007

First International Conference on

Self-Adaptive and Self-Organizing Systems

Boston, Mass., USA, July 9-11, 2007
http://projects.csail.mit.edu/saso2007/

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The complexity of current computer systems has led the software engineering, distributed systems and integrated management communities to look for inspiration in diverse fields (e.g., robotics, artificial intelligence or biology) to find new ways of designing and managing networks, systems and services. In this endeavor, self-organization and self-adaptation have emerged as two promising facets of a paradigm shift.

Self-adaptive systems work in a top-down manner. They evaluate their own global behavior and change it when the evaluation indicates that they are not accomplishing what they were intended to do, or when better functionality or performance is possible. Such systems typically operate with an explicit internal representation of themselves and their global goals.

Self-organizing systems work bottom-up. They are composed of a large number of components that interact locally according to simple and local rules. The global behavior of the system emerges from these local interactions, and it is difficult to deduce properties of the global system by studying only the local properties of its parts. Such systems do not use internal representations of global properties or goals; they are often inspired by biological or sociological phenomena.

The aim of this conference series is to provide a forum for laying the foundations of a new principled approach to engineering systems, networks and services based on self-adaptation and self-organization. Achieving this requires the development of theories, frameworks, methodologies, tools, middleware, testbeds, best practices, etc. SASO will gather participants with different backgrounds to foster cross-pollination between different research fields and encourage technology transfers.

Keynote 1	Keynote 2
Michael G. Hinchey, NASA, USA *99% (Biological) Inspiration*	Gerald Jay Sussman, MIT, USA *Designing for Applications Unanticipated by the Designer*

July 9, 2007	July 10, 2007	July 11, 2007
Research Track	*Research Track*	*Research Track*
Session 1: Design Methodology, Foundations	Session 4: P2P Systems	Session 8: Security
Session 2: Provocative Ideas	Session 5: Data Collection and Aggregation	Panel 3: Self-Organizing and Self-Adaptive Networks
Session 3: Synchronization, Desynchronization	Panel 2: Engineering Emergence	*Work-in-Progress Track*
Panel 1: An Industrial Perspective on Self-Adaptive and self-Organizing Systems	Session 6: Combinatorial Optimization	Session 1: Software Engineering and Multiagent Systems
	Session 7: Management and Control	Session 2: Self-Adaptation
		Session 3: Self-Organization
		Applications Track

The proceedings of this conference are published by the IEEE Computer Society Press.