

# 2013 Workshop on Embedded Self-Organizing Systems (ESOS '13)

Sponsored by USENIX, the Advanced Computing Systems Association

[www.usenix.org/conference/esos13](http://www.usenix.org/conference/esos13)

June 25, 2013

San Jose, CA

ESOS '13 will take place in conjunction with the 10th International Conference on Autonomic Computing (ICAC '13) during USENIX Federated Conferences Week.

## Important Dates

Paper submissions due: *March 11, 2013, 11:59 p.m. PST*

Notification to authors: *April 8, 2013*

Final paper files due: *May 22, 2013*

## Conference Organizers

### Program Co-Chairs

Uwe Brinkschulte, *University of Frankfurt*

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## Overview

Self-organizing computing systems have become a major research area in recent years as self-organization promises to deal with the increasing complexity of future computing systems. Therefore, substantial effort has been spent in different research initiatives to address self-X features such as self-configuration, self-optimization, self-healing, and self-protection.

Embedded systems are a key technology in many areas of today's life like in cell phones, cars, and avionics. Such systems have to cope with numerous challenges such as limited power supply, limited space, limited heat dissipation, and real-time conditions. Moreover, embedded controllers have to be highly redundant for safety reasons, which increases the costs.

The use of self-organizing principles for embedded systems can help to reduce the effort and cost for developing and maintaining future embedded systems. At the same time, SO will be able to adapt and optimize these systems at runtime. Not only will embedded self-organizing systems (ESOS) be more power-efficient and space-saving, they will also be easier to program and simpler to use for non-experts. However, self-organization for embedded systems faces severe challenges, among them restricted resources, time limitations, and zero tolerance for faulty control signal outputs.

The workshop will be a forum for leading researchers to exchange ideas, presenting advances in the state of the art and brain-storming

on promising directions for future research in embedded self-organizing systems.

## Topics

Papers are solicited from all areas of embedded self-organizing systems, including (but not limited to):

- Design principles, architectures, and frameworks for embedded SO systems
- Human interfaces for monitoring and controlling
- Modeling and analyzing
- Dependability and reliability
- Safety and security
- Highly available systems
- Costs for hardware and software
- Complexity and controllability
- Self-organization in redundant systems
- Self-organization in automotive, avionics, space, communication, robotics, traffic, energy systems
- Self-optimization and optimization at run-time
- Run-time verification and validation
- Benchmarking
- Overview and comparisons

## Paper Submissions

Papers (a maximum of 10 pages) are invited on a wide variety of topics relating to embedded self-organizing systems. They should be typeset in two-column format in 10 point type on 12 point (single-spaced) leading, with the text block being no more than 6.5" wide by 9" deep. Papers should be submitted via HotCRP, the link for which appears on the Call for Papers Web site, [www.usenix.org/conference/esos13/call-for-papers](http://www.usenix.org/conference/esos13/call-for-papers). Complete formatting and submission instructions can be found on the ICAC '13 Call for Papers Web site, [www.usenix.org/conference/icac13/requirements-icac-13-authors](http://www.usenix.org/conference/icac13/requirements-icac-13-authors).

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At least one author of an accepted paper is expected to present the paper in person at the workshop. The accepted papers will be available online to registered attendees before the conference and will also appear in proceedings distributed via USB drives at the workshop. If your accepted paper should not be published prior to the event, please notify [production@usenix.org](mailto:production@usenix.org). The papers will be available online to everyone beginning on June 25, 2013. Accepted submissions will be treated as confidential prior to publication on the USENIX ESOS '13 Web site; rejected submissions will be permanently treated as confidential.

