



Call for Contributions

ERCIM/EWICS/ARTEMIS Workshop on Dependable Embedded and Cyber-physical Systems and Systems-of-Systems at SAFECOMP 2014 (DECSoS '14)

<http://www.safecomp2014.unifi.it/decsos/>

Florence, Italy, Tuesday, 9th Sept. 2014, 9:00 – 17:30

Dependable (Embedded) Cyber-physical Systems, Autonomous Systems, Systems-of-Systems: Challenges in Design, Development, Validation & Verification and Certification

Co-hosted by the ARTEMIS projects MBAT, SafeCer, ARROWHEAD, CRYSTAL and EMC²

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This workshop at SAFECOMP follows already its own tradition since 2006. In the past, it focussed on the conventional type of “embedded systems”, covering all dependability aspects (in the meaning of IFIP WG 10.4, defined by Avizienis, Lapries, Kopetz, Voges and others). To emphasize more the relationship to physics, mechatronics and the notion of interaction with a somehow unpredictable environment, the terminology changed to “cyber-physical systems”.

Last year the focus moved to “autonomous systems and robotics” where the interaction with the environment, collaboration and co-operation of these systems with each other and humans, and the interplay of safety and security are leading to new challenges in verification, validation and certification/qualification.

In a highly interconnected world, a finite number of independently operable and manageable systems are networked together for a period of time to achieve a certain higher goal as constituent systems of a so-called “system-of-systems”. Examples are the smart power grid with power plants and power distribution and control, smart transport systems (rail, traffic management with V2V and V2I facilities, air traffic control systems), advanced manufacturing systems, mobile co-operating autonomous robotic systems, smart buildings up to smart cities and the like). Contributors are particularly encouraged this year to submit papers on ongoing research work or already available initial experience in the area of “systems of cyber-physical systems”, but all other embedded systems areas are welcome as well.

The impact on society as a whole is considerable - thus dependability (safety, reliability, availability, security, maintainability, etc.) evaluated in a holistic manner becomes an important issue, including resilience, robustness, and sustainability. CPSs are a targeted research area in Horizon 2020 and public-private partnerships such as ECSEL (Electronic Components and Systems for European Leadership), which integrates the former ARTEMIS, ENIAC and EPoSS efforts.

Sessions are planned on

- Dependable and resilient embedded systems,
- Autonomous Systems and Robotics,
- Systems-of-Cyber-Physical Systems,

covering aspects from design, development, verification and validation, certification, maintenance, standardization and education & training. This is a workshop, and to be distinct from the SAFECOMP

conference mainstream, it allows reports on on-going work aiming at hopefully fruitful discussions and experience exchange.

Reports on European or national research projects (as part of the required dissemination) as well as industrial experience reports from work in progress are welcome.

You want to present your ideas and results? What do you have to provide?

Workshop proceedings will be provided as complementary booklet to the SAFECOMP Proceedings. Please keep your paper format according to SPRINGER LNCS style guidelines as for the main conference proceedings (Microsoft Word if possible) (please use appropriate template, which is at <http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0>). Papers (6-8+ pages) will be reviewed by at least three reviewers. Deadlines are:

- **May 31, 2014:** Full papers submission via EasyChair
<https://www.easychair.org/conferences/?conf=decsos14>
- **June 20, 2014:** Notification of authors
- **July 1, 2014:** Final camera-ready papers

The International Programme Committee is composed of selected EWICS and ERCIM members, led by the workshop organizers.

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