



Call for Contributions

13th ERCIM/EWICS/ARTEMIS Workshop on “Dependable Smart Cyber-Physical Systems and Systems-of-Systems” at SAFECOMP 2018 (DECSoS '18)

Västerås, Sweden, Sept. 18, 2018, <http://www.es.mdh.se/safecomp2018/workshops.php#workshops>

Co-hosted by the ARTEMIS/ECSEL projects AMASS, ENABLE-S3, IoSENSE, Semi40, AutoDrive, Productive4.0, AQUAS, AfarCloud, iDev40 and SECREDAS

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The already well-established **ERCIM/EWICS/ARTEMIS Workshop on Dependable Cyber-Physical Systems and Systems-of-Systems** of the ERCIM DES-Working Group is again taking place!

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, Laprie, Kopetz, Voges and others). To emphasize more the relationship to physics, mechatronics and the interaction with a somehow unpredictable environment, the terminology changed to “cyber-physical systems”. A new focus is on “Digitalization”, particularly performing extensive V&V on “Digital Twins” to achieve confidence in dependability of these systems.

In a highly interconnected world, a finite number of independently operable and manageable systems are networked together for some time to achieve a certain higher goal as constituent parts of a so-called “system-of-systems”. Examples are the smart power grid with power plants, power distribution and control, smart transport systems and autonomous vehicles (rail, automotive, traffic management with V2V and V2I facilities, air traffic control systems, construction engines), advanced manufacturing systems, mobile co-operating autonomous robotic systems, smart buildings and smart cities, in short all “Smart Anything Everywhere”, often summarized under IoT – Internet of Things.

Contributors to the workshop are particularly encouraged this year to submit papers on ongoing research work (“work in progress”) or already available initial experience in the fields of “cyber-physical systems”, “digital twins”, IoT and “systems-of-systems”, but all other related topics 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, systems of cyber-physical systems,
- Highly automated (autonomous) Systems and Robotics,
- Smart Anything Everywhere, IoT Internet of Things
- Digitalization of our world (Industry 4.0, Farming 4.0, Transportation 4.0, ...),

particularly addressing thematic topics such as

- Multi-core platforms and mixed criticality systems,
- Safety and security co-engineering,
- Validation and Verification
- Domain-specific critical applications (industrial demonstrators)
- Standardization (interoperability, cyber-security aware safety) and certification,

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 book to the SAFECOMP Proceedings in Springer LNCS. Please keep your paper format according to SPRINGER LNCS style guidelines (<http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0>) (use Microsoft Word if possible).

Papers (8 - 12 pages) will be reviewed by at least three reviewers.

Submission is via EasyChair: <https://easychair.org/conferences/?conf=decsos18>

Deadlines:

- **Full paper submission:** 29 May 2018 (extended deadline)
- **Notification of acceptance:** 11 June 2018
- **Camera-ready submission:** 21 June 2018
- **Workshop:** 18 September 2018

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

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