Technical Track on Cyber-Physical Systems (CPS)

For more than 25 years extensive software/hardware research and development efforts had been devoted to problems in real-time, safety-critical, and embedded systems. Security and safety issues were considered crucial in mission-critical systems. While all such constraints had been derived as design problems in software control systems for real-world applications, they were treated as separate aspects since each of them proved even difficult enough even when studied separately. While this resulted gradually in nearly different scientific disciplines it turned out to be increasingly inadequate for the construction of large control systems, in particular for applications with (partially) autonomous entities and decision-making: As a well-known example, optimal real-time performance may well be adverse to optimal overall throughput, and vice versa.

For all such questions and problems, hardware and software aspects need to be jointly considered and studied. The proposed track addresses the following domains and methods:

Application domain for cyber-physical systems:
- Automotive, ground transportation including railway, interconnected mobility
- Smart and interconnected logistics
- Next generation manufacturing in factories
- Aerospace
- Healthcare, medical research, (artificial) immune systems
- Energy production, distribution, storage, coordination, and supply
- Consumer electronics, interconnected society
- Robotics

Design and engineering for these cyber-physical systems:
- Models, architecture, and design for CPS
- Design patterns for CPS
- Simulations for “context-aware” and interconnected CPS for experimentation, testing, validation, and verification
- Metrics to investigate, observe, and improve CPS
- Industrial best practices, experience reports, and tool demonstrations

SUBMISSIONS & PUBLISHING
SEAA 2015 encourages the submission of full and short research papers and experience reports. Full research papers must contain original unpublished work, describe significant novel contributions, and provide evidence on the validation of results. In particular, reports on industrial applications are welcome.

CPS, Conference Publishing Services, publishes the SEAA Proceedings (submitted for ISI indexing), submitted to the IEEE Xplore Digital Library.

The SEAA conference will also provide best papers awards.

Authors of best papers will be invited to revise and re-submit an extended version of the papers for publication in the Special Section on “Advanced Applications in IT” in the Springer Software Quality Journal.

All information about the various calls can be found at http://euromicro.org/seaa/

Submissions will be handled via EasyChair: https://easychair.org/conferences/?conf=seaa2015

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