

# Call for Papers

## 4<sup>th</sup> International Workshop on Emerging Ideas and Trends in Engineering of Cyber-Physical Systems (EITEC' 18)

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Cyber-physical systems are based on networked embedded software systems which connect computational entities in a collaborative manner with physical entities of the real world to achieve an overall purpose of its users. Together with available content and services on the World Wide Web, they build networks of systems that integrate with the physical environment. This will lead to radical changes in many application fields (e.g. energy, mobility, healthcare) and will have an impact on our daily lives. Many technology leaders are already in the midst of a global race of repositioning and reinventing themselves by developing new dynamic CPS inspired business models. However, mastering the engineering of complex and trustworthy CPS faces serious challenges, which have to be addressed by the engineering methodologies of the future.

The EITEC workshop series aims at bringing together researchers and practitioners from various domains relevant to CPS dedicated to mastering the challenges in engineering of CPS today and in the future. The workshop will be a venue to share results and new ideas, discuss upcoming research directions, and to catalyze a joint industry-academia platform that bridges the gap between scientific results and transfer into practice.

The organizers invite contributions with a strong focus towards CPS that describe problem statements, trends, and emerging ideas in the engineering of CPS. The workshop defines 4 categories of submissions, targeted to address dedicated topics.

### *Paper Categories*

#### *Category 1: Problem Statements and emerging ideas*

Submissions for this category shall describe open issues in the engineering of CPS of theoretical or practical nature and discuss / present corresponding solution ideas or describe industrial and academic challenges for the engineering of CPS.

#### *Category 2: Demonstration papers*

Submissions in this category will present and demonstrate prototypical features of development tools that address the specific challenges in engineering of CPS.

#### *Category 3: Roadmap Papers*

Submissions in this category will present and demonstrate prototypical features of development tools that address the specific challenges in engineering of CPS.

#### *Category 4: Empirical Evaluation*

Submissions in this category shall discuss contributions that address empirical evaluation work, case studies and analysis related to research in the engineering of CPS.

### *Topics*

Topics for contributions in the aforementioned categories may include:

- *Engineering Paradigms:* Model-based engineering, engineering methodologies, quality assurance techniques, engineering for adaptation, self\* CPS, heterogeneous applications and platforms.
- *Modeling and Analysis:* Multidisciplinary modeling and analysis, context-analysis and context-awareness, specification of requirements, functional analysis, verification and validation of safety, security, and timing properties.

- *Architectures*: Scalable and evolvable system and software architectures, architectural design and languages.
- *Design Space Exploration (DSE)*: (Multi-) objective analysis support for DSE of CPS.
- *Variability*: Management, modelling and analysis for CPS.
- *Processes*: Integrated processes based on the design-operation life-cycle continuum of CPS.
- *Industrial Practice*: Experiences from efforts in the industry addressing the technological challenges that come with the introduction of CPS.
- *Empirical Evaluations*: Results from empirical evaluations addressing the technological challenges that come with the introduction of CPS.
- *Verification and Validation*: Verification and validation of safety, security, and timing properties, efficient verification of CPS.
- *Data Quality*: Description of challenges and proposed solutions/roadmap/evaluations for the collection and integration of heterogeneous data and sources for their usage in CPS.

### *Workshop format:*

The workshop will be held as part of CPS Week 2018 to take place in Porto, Portugal on April 10-13, 2018. It will feature peer-reviewed paper presentations organized according to the 4 categories defined above. Papers not exceeding 16 pages must be submitted electronically through EasyChair (see: <https://easychair.org/conferences/?conf=eitec18>) in .pdf format and conform to the LNCS publishing guidelines (see: <http://www.springer.com/de/it-informatik/lncs/conference-proceedings-guidelines>). Each submission will be reviewed by at least two members of the Program Committee and will be evaluated on the basis of originality, importance of contribution, soundness, evaluation, quality of presentation and appropriate comparison to related work. The program committee as a whole will make final decisions about which submissions to accept for presentation at the conference.

### *Important Dates (tbc):*

Paper Submission deadline	Feb 11 <sup>th</sup> , 2016
Notification of acceptance/rejection	Mar 12 <sup>th</sup> , 2016
Camera ready paper	Mar 20 <sup>th</sup> , 2016
Workshop	Apr 10 <sup>th</sup> , 2016

### *Organization Team:*

Wolfgang Böhm (Technical University of Munich)  
Ingo Stierand, (Carl von Ossietzky University Oldenburg)  
Andreas Vogelsang (Technical University of Berlin)  
Thorsten Weyer (University of Duisburg-Essen)

### *Workshop Web Page:*

<http://EITEC.informatik.tu-muenchen.de>

### *Contact:*

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