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Aims and Scope

Systems we build are ultimately evaluated based on the value they deliver to their users and stakeholders. To increase the value, systems are subject to fast-paced evolution of the systems, due to unpredictable markets, complex and changing customer requirements, pressures of shorter time-to-market, and rapidly advancing information technologies.

To address this situation, agile practices advocate flexibility, efficiency and speed. **Continuous software engineering** refers to the organizational capability to develop, release and learn from software in **rapid parallel cycles**, typically hours, days or very small numbers of weeks. This includes to determine new functionality to build, evolving and refactoring the architecture, developing the functionality, validating it, and releasing it to customers. One needs to relate the changes performed on the system with their effect on the metrics of interest, keep the changes with positive effects, and discard the rest. In case of complex systems involving humans in the loop, such a relation is difficult to infer a priori; a solution is then to observe and **experiment** with systems in **production environments**, e.g. with **continuous experimentation**.

Reaching this goal requires crosscutting research which spans from the area of **process and organizational aspects** in software engineering to the individual phases of the software engineering lifecycle and finally to live experimentation to evaluate different system alternatives by users feedback. With the proliferation of **data analysis** and **machine learning** techniques and flexible approaches to rapid deployment, experimentation can be used in different domains (e.g. embedded systems); it can also be **automated** and used for runtime adaptation. These new concepts call for synergy between software engineers and data scientists.

Consequently, the workshop aims to bring the research communities of the aforementioned areas together to exchange challenges, ideas, and solutions to bring software engineering a step further to being a holistic continuous process. The joint workshop RCoSE/DDrEE 2019 is co-located with ICSE 2019, the International Conference on Software Engineering (see <https://2019.icse-conferences.org/>), in Montréal, Canada. It will be a highly interactive workshop with a strong emphasis on discussions.

Workshop Structure and Planned Outcomes

The full-day workshop will open with a keynote talk. The presenter of each accepted paper will then have approx. 20 mins for presentation and Q&A. We will try to stimulate discussions on the identified challenges and proposed solutions. Breakout groups will discuss the general topics of the workshop's contributions.

Topics of Interest

As a summary, topics relevant to the scope of the workshop include the following:

- Continuous integration/deployment/delivery
- Agile practices and relations to software engineering phases or continuous experimentation
- Usability / human computer interaction
- Rapid Software Evolution and Maintenance
- Application / system monitoring
- Platforms and abstractions for runtime feedback
- Automated experimentation practices
- Live and automatic experimentation and quick feedback of experimental results
- Translating data into insights for software development or operation
- DevOps practices and cloud-native applications for automated experimentation
- Case studies on automated continuous experimentation practices in industry
- Data-driven decision-making at runtime
- Data-driven engineering

Paper Submission Details

We are soliciting **full research papers and experience reports** (up to 7 pages), which present original, evaluated research, **position papers** (up to 4 pages), with initial results or research challenges, experiences, or roadmaps, and **industrial abstracts** (up to 2 pages) which describe challenges or success stories from practice. Submissions have to follow ICSE 2019 formatting and submission instructions.

Submitted papers will be reviewed by at least 3 members of the PC and judged based on their relevance to the workshop scope, quality, and originality of their results. Accepted papers will be published at the ICSE 2019 Companion volume by IEEE.

The official publication date of the workshop proceedings is the date the proceedings are made available by IEEE. This date may be up to two weeks prior to the first day of ICSE 2019. The official publication date affects the deadline for any patent filings related to published work.

Organization

PC Chairs

- Ilias Gerostathopoulos, Technical University Munich, Germany
- Marco Konersmann, University of Duisburg-Essen, Germany
- Stephan Krusche, Technical University Munich, Germany
- David Issa Mattos, Chalmers University of Technology, Sweden

Steering Committee

- Jan Bosch, Chalmers University of Technology, Sweden
- Tomas Bures, Charles University in Prague, Czech Republic
- Brian Fitzgerald, University of Limerick, Ireland
- Michael Goedicke, University of Duisburg-Essen, Germany
- Henry Muccini, University of L'Aquila, Italy
- Helena H. Olsson, Malmö University, Sweden

Program Committee

- Please see <http://continuous-se.org/>

Important Dates

- **Paper Submission:** Feb 08, 2019
- Notification: Mar 01, 2019
- Camera ready: Mar 15, 2019
- Workshop: May 27, 2019

Twitter: [@RCoSE_DDrEE](https://twitter.com/RCoSE_DDrEE),
[#RCoSE_DDrEE](https://twitter.com/RCoSE_DDrEE)

Email: rcose_ddree2019@easychair.org

Homepage: <http://continuous-se.org/>