Message from the Workshop Chairs

CESI 2017

The CESI series of workshops was born out of the need to shift the focus away from simply conducting empirical studies (be them case studies, experiments, surveys, etc.), and reporting their results, to putting them firmly in the context of the software industry. In other words, the aim was to better understand the challenges and opportunities brought about by the organisational context in the conduct of empirical studies.

There were several reasons for this shift. Simply knowing empirical procedures (from the literature or by conducting studies in, often tamed, academic environments) did not seem to prepare one for how to plan and conduct empirical studies in industry. There are just too many hurdles in the way of conducting successful studies in industry. Examples are: (i) understanding specific problems in practice such that conducting relevant studies would give some insight into solving observed problems; (ii) ploughing through organisational politics to zero down to key investigative questions and associated measurable variables; (iii) balancing between scientific purity in empirical procedures and being practical enough to yield usable results for making business decisions within short cycle-times; (iv) taking the results of studies and putting them into practice, in retrospect, to validate the conduct and the outcome of the studies; and more.

As is evident from these examples, there is much void on this topic in the literature today. Thus, a key objective of the CESI series of workshops is to help precipitate research in this area so as to fill the void. The wheel was set in motion at CESI 2013 in San Francisco, followed by further push at CESI 2014 in Hyderabad, CESI 2015 in Florence, and CESI 2016 in Austin, Texas, US.

With this as a backdrop, it is our pleasure in welcoming the reader to the (pre-workshop) proceedings of CESI 2017, the 5th International Workshop on Conducting Empirical Studies in Industry, held at Buenos Aires, Argentina, May 23, 2017, held in conjunction with the 39th International Conference on Software Engineering (ICSE 2017)

In CESI 2017, beyond previous workshops’ focus on research methodology; we gave a special emphasis on building and managing big data systems and the use and benefit of empirical studies in this context. Big data systems bring new types of software engineering challenges such as test optimization, planning for new requirements and/or enhancements, optimization of code/algorithm, decentralization of development tasks, the role of software analytics. In addition, we seek for research contributions highlighting how research results are put into action in industrial settings and how much cross company learning takes place through replication of empirical studies in different contexts. We are also interested in the impact of empirical studies conducted in industry, including successes and failures in the form of ‘lessons learned’. We believe that this move will: (i) further precipitate empirical research in the software engineering community, and (ii) engage industry participants from the point of view of the utility of results emanating from empirical studies.

The reader will have an opportunity to observe this widened scope in a subset of papers in these proceedings.

Among the goals of CESI 2017 are:

- to discuss big data systems and the use and benefit of empirical studies
- to discuss the impact empirical studies have generated in industry;
• to deliberate on challenges, experiences, and lessons learned in conducting empirical studies in industrial settings;

• to discuss on the limitations and strategies for overcoming impediments;

In our continued effort to make the workshop experience increasingly fulfilling to all participants, we have introduced the concept of a discussant for each accepted paper. The role of a discussant is to read the assigned paper prior to the workshop and to generate at least two interesting questions that could constructively comment on or make suggestions towards further revisions. The resultant discussions/revision plans would be incorporated in the future research by the authors. We believe this would help us have a very interactive, meaningful, and lively CESI’2017 workshop session!

In addition, points and arguments will be sought from both industry and academic participants to have an improved understanding of the subject matter. Participants will post their thoughts and ideas asynchronously on “The Wall of Ideas” – a structured wall to capture information – which will then be analysed collectively in an interactive manner. Such contributions and analysis will be summarised in a post-workshop report.

A major part of the “iceberg” under the water enabling CESI 2017 is 20 Program Committee (PC) members and two external reviewers invited globally. The review process included the following:

• We received nine submissions.

• Each paper was reviewed by at least three PC members.

• We used EasyChair to manage the process.

• After deliberation, seven papers were accepted for publication.

Besides the accepted papers, at the workshop, we have one keynote and one invited speaker to share their long-term experience on collaborations with industry, and in particular to conduct empirical studies. Prof. Magne Jørgensen (Simula, Norway) will talk on “Working with industry to conduct empirical software engineering research: Patterns of successful and failed collaborations”. In his talk, Magne will present stories and lessons learned from failed and successful research-industry collaborations. He has a focus on experience with the use of non-traditional collaboration types, such as payment to get industry participation in experiments, trade-based collaboration, lightweight collaborations at industry venues, and network-based collaborations. He will further discuss whether empirical software engineering research should more often consider the use of alternative types of research–industry collaborations than those, which are chosen traditionally.

Prof. Markku Oivo (Univ. of Oulu, Finland) will give an invited talk on the scientific perspective. In particular, he will address the question of how to commit companies in collaborative empirical research.

Overall, we anticipate the participants to have a stimulating time with a variety of presentations, discussions, brain dumping, and analysis. Last, but not least, we are most grateful to all the authors for their submissions to CESI 2017, and to the PC members and external reviewer for their valuable time, expertise, and effort in reviewing the submitted papers in the midst of their busy work schedules. Sincerely thanking you all.

Andreas. Jedlitschka, Ayse Bener, Fabio Q.B. da Silva and He Zhang
CESI 2017 Co-chairs