Message from the Workshop Chairs

SESoS 2016

These are the proceedings of the Fourth International Workshop on Software Engineering for Systems-of-Systems (SESoS 2016). After three successful previous editions, two of them co-located with ECSA, the European Conference of Software Architecture, we are now proud to present the second edition co-located with ICSE, the International Conference on Software Engineering, which is currently in its 38th edition as the premier worldwide conference for software engineering research.

This is also the first edition to leave Europe, after the first edition in Montpellier, France (July 2013, co-located with ECOOP and ECMFA alongside with ECSA), the second in Vienna, Austria (August 2014), and the third in Florence, Italy (May 2015, the first ICSE edition). This edition, as ICSE itself, will be held in Austin, Texas, United States, on May 16, 2016.

Systems-of-Systems (SoS) have become increasingly complex and are frequently used in highly distributed, dynamic, and open environments. SoS have emerged as a new class of evolving software systems, where their constituents (systems themselves in their own right) work cooperatively in order to fulfill specific missions. It has already been established that SoS are characterized by managerial and operational independence, geographic distribution, evolutionary development, and the creation of emergent behavior. These characteristics have raised substantial challenges to software engineering researchers and practitioners.

Therefore, SoS are becoming ever more important both for industry and academia. SoS are increasingly involved in applications that address societal needs such as environmental monitoring, distributed energy grids management, emergency coordination and crisis management, global traffic control, and smart cities. Software engineering theories and tools are needed to adequately design, implement, operate, and even evolve such dynamic, complex software-intensive SoS.

This workshop series has been the first one to address this new perspective specifically. The main goal of SESoS is to provide a forum for software engineering researchers and practitioners to exchange ideas and experiences, analyze research and development issues, discuss promising solutions, and propose visions for the future. The fourth edition of the workshop focuses on discussing and establishing the foundations (models and architecture) for the SoS Software Engineering domain, to pave the way for a more structured community effort.

The scientific program for SESoS 2016 has been possible due to the invaluable help of 25 reviewers, from many countries worldwide. The whole reviewing process can be summarized as follows:

- We received nine original submissions at the end of the deadline.
- Each submission was assigned to three members of the Program Committee for reviewing. We would like to recognize their commitment by saying that all of them submitted their reviews personally, without the need to assign any additional reviewer to meet the ICSE deadline.
- After deliberation, several papers were discussed, and several of them were rejected. Ultimately, we reached the final decision to accept just six submissions. All of them were included as full papers in the workshop Proceedings.

We are very grateful to all the authors who submitted their work for consideration by SESoS 2016; the workshop would not be possible without them. We would also like to thank the Program Committee members for their effort on the paper review and selection process. Their efforts made possible for us to elaborate a high quality technical program for SESoS 2016.
Last, but not least, we would like to thank the ICSE organization, and particularly both the Workshop Chairs and Proceedings Chairs, namely Marija Mikic, Mauro Pèzze, Charles Zhang and Xiangyu Zhang, for their help during the whole process.

Sincerely thanking you all, we look forward to meeting you at the workshop and participating with us in insightful discussions to come about Software Engineering for Systems-of-Systems.

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SESoS 2016 Workshop Co-chairs