

Welcome Message from the RE'19 Chairs

Welcome to RE'19! The 27th edition of the premier IEEE International Requirements Engineering Conference takes place between September 23 and 27, 2019, in Jeju island, South Korea. RE'19 is held at the Ramada Plaza Jeju Ocean Front, in Jeju island. Jeju island was recognized by UNESCO World Natural Heritage Sites as the New 7 Wonders of Nature for its natural beauty and geographical value, and offers a variety of exciting experiences to its visitors.

RE'19 brings together around 250 researchers, practitioners, educators, and students to present and discuss the most recent research results, innovations, experiences, and concerns in the discipline of requirements engineering (RE). This year's RE theme is "RE and Collective Intelligence in the Days of AI". In the era of Artificial Intelligence, the past decade has seen an explosion in both the capabilities and adoption of artificial intelligence technologies. Although AI largely focuses on developing theories and systems pertaining to intelligent behavior, it is not only limited to numerous advancement of technical capabilities. One aspect of AI that is less highlighted is *the design and control of AI systems*. The big picture of AI should include ethical thought concerning the design, use and misuse of intelligent systems. In order to design an intelligent system with the understanding of social and ethical values, stakeholders from multi-disciplinary need to be involved. This introduces a new concept of *collective intelligence* where interconnected groups of people and computers work hand-in-hand to produce desirable result. This paradigm shift that includes human and society in the design of AI systems opens up new scope for requirements engineering. Application of RE in the days of AI can be twofold. Firstly, RE techniques are important to explore the complex problem space so that we design an intelligent machine that understands the nature of real-world problems and behaves accordingly. Secondly, the developers need to have a clear idea about what people (or in a large scale 'society') expect from AI and articulate these expectations/values to machine. A thorough understanding of RE can help negotiating the values of various stakeholders affected by AI system.

Together with our organizing committee, we have developed a rich, diverse program. The 3-day conference offers over 58 talks about RE-related scientific contributions to research and industrial innovation. Complementing three keynote talks, there is an Industrial talk, panel presentations, the REcares event and journal-first presentations, as well as the now traditional contributions in the tracks of RE@Next and Posters and Tool demos. The pre-conference program consists of 8 workshops, 8 tutorials, and a doctoral symposium. We are excited to have three distinguished and inspiring keynote speakers with talks related to this year's theme:

- On Wednesday, Bashar Nuseibeh, (The Open University, UK and Lero, Ireland) on "Requirements We Live by",
- On Thursday, Marsha Chechik (University of Toronto, Canada) on "Uncertain Requirements, Assurance and Machine-Learning", and
- On Friday, Jon Whittle (Monash University, Australia) on "Human Values in Software: A New Paradigm for Requirements Engineering?"
- On Friday, Hazel Woodcock (IBM Watson IoT, USA) on "The next step in Requirements Management: Artificial Intelligence", proposing an industrial perspective.

In total, the RE'19 main conference attracted 152 submissions: 77 in the Research track, 23 in the Industry Research and Innovation track, 36 in the RE@Next! track, 9 for the Doctoral Symposium, and 7 Posters & Demos. Each paper was independently reviewed by members of the track's program committee (PC) and was the subject of an online discussion by its reviewers and other members of the PC. In an effort to promote open data and science in the RE community, a new track entitled Artifacts, aimed at assessing the functional, reusable and available properties of the research artifacts produced in the submitted RE'19 research papers.

For Research papers, this year we adopted a six-week online paper discussion process. Three Reviewers and two additional Discussants were assigned to each paper; each paper was discussed based on its merits and scientific soundness, as well as the potential to contribute to a high quality RE'19 research program. To facilitate the paper decisions, each paper had an assigned Discussion Leader in charge of moderating the discussion and ensuring that the paper and its reviews were thoroughly considered. In total, 22 research papers (28%) were accepted.

This year's RE conference called for industry papers in the relabelled Industrial Research and Innovation track. The new label underlines the importance of innovations that result from industrial applications of RE research for the benefit of our economy and society. Papers and presentation-only submissions were called for, evaluated by three PC members, and selected in an online discussion. A total of 9 papers and 1 presentation-only submission were accepted, reflecting a 42% acceptance rate.

The Artifact track chairs and their committee accepted 9 submissions, the Doctoral Symposium Chairs accepted 9 submissions, and the Posters & Demo Chairs and their committee accepted 6 contributions. We received submissions from 468 authors located in 39 countries: 54% from Europe, 20% from Asia, 13% from North-America, 7% from South-America, 5% from Oceania, and 2% from Africa. Overall, 28 countries are represented in the main program, and many other countries are represented in the workshops and other events. As last year, we also invited authors of papers published in highly recognized journals, but not previously presented at conferences, to come present their work during the RE conference. These papers are identified as "Journal-First" in the program, and are presented in the blended sessions alongside Research, Industry and RE@Next! papers. This year, the "Journal-First" track was organized by a committee of 5 senior researchers, who selected candidate papers from 39 papers published recently in renowned related journals (Springer's REJ, Elsevier's IST and JSS, and IEEE TSE) with a relevant topic to RE. These papers are already published and are thus not included in these proceedings. Participants are however invited to read them online. Since 2003, each RE conference has given a Most Influential Paper (MIP) Award for a paper published at RE ten years earlier. The MIP from RE09 Selection Committee was co-chaired by Kevin Ryan (RE09 Program Chair) and Martin Glinz. Two RE19 MIP awards have been assigned to a Research paper and to an Industry paper respectively. Finally, REcares is a new multi-day opportunity for conference participants to integrate top notch research and address problems of societal interest from the Jeju island local community.

We are very thankful to the entire RE'19 organizing committee and other volunteers. We also express our sincere appreciation to our hard working Program Committees (and awards committees) who spent many hours reviewing and discussing papers. Finally, we are thankful to all authors and attendants who contributed to the program sharing their work, findings, and feedback with the community to continue to advance the field of requirements engineering and related fields. Last but not least we highly acknowledge

the contributions of our conference sponsors. In particular, we would like to thank Ajou University, IEEE Computer Society, IBM, Intel, ESG, Dahan Tech, TmaxData, Solutionlink, NSE Technology, IREB, SCK and Springer for their generous sponsorships, and Jeju CVB, Korea Tourism Organization and Genicom for their support. Enjoy RE'19!



Seok-Won Lee, General Chair



Anna Perini and Daniela Damian, Program Chairs