Welcome from the Chairs

It is our great pleasure to welcome you to Beijing, China for ISSTA 2019, the 28th ACM International Symposium on Software Testing and Analysis, to be held on July 15–19, 2019. ISSTA is the leading research symposium on software testing and analysis, bringing together academics, industrial researchers, and practitioners to exchange new ideas, problems, and experience on how to analyze and test software systems.

This year, ISSTA is co-located with three events. First, the 24th International SPIN Symposium on Model Checking of Software (SPIN 2019), a conference that is focused on automated tool-based techniques for the analysis of software as well as models of software, for the purpose of verification and validation. Second, a Tool Competition for Students that aims to bring real-world testing and tool-using experience to the participants and provide them with excellent opportunities to overcome industry testing challenges. Third, Diversity @ ISSTA — the Ada Workshop with the goal to strengthen the pipeline of women and underrepresented minority students in the area of software testing and analysis, providing them with advice and networking opportunities that they might not otherwise receive. It is the first time in the history of ISSTA for the conference to co-locate with events on diversity and software testing competition. We sincerely thank SPIN 2019 Chairs Axel Legay and Fabrizio Biondi, the Testing Competition Chair Zhenyu Chen, and the Ada Workshop Chairs Xin Ma, Lily Sun, and Tingting Yu, for organizing these successful events.

The ISSTA 2019 program includes technical papers, tool demonstrations, and keynotes. Furthermore, ISSTA 2019 features a workshop, a doctoral symposium, a poster session, and a summer school.

ISSTA 2019 received 142 submissions for the main research track, including 10 experience reports. Each submission was evaluated by at least three members of the Program Committee and discussed online. The Program Committee accepted 32 papers (22.5% acceptance rate) including three experience reports. Three of the accepted papers have been selected for the ACM SIGSOFT Distinguished Paper Award.

Similar to previous years, a light-weight double-blind reviewing process was adopted in which the authors did not reveal their name, identity, or affiliation in their submissions. Author identities were revealed once all reviews for all papers were completed. Papers were reviewed in two phases, and authors were given an opportunity to provide an author response in each phase. We thank our 30 Program Committee members for the help in reviewing and discussing the papers.

In addition to the technical papers, authors could submit artifacts which were evaluated by a separate Artifact Evaluation Committee. These artifacts were evaluated separately, and only for the accepted papers. ISSTA 2019 received 17 submissions for Artifact Evaluation, of which two were selected to receive the ISSTA Distinguished Artifact Award. We thank our Artifact Evaluation Chairs Dan Hao and Michael Pradel for overseeing the review, and the Artifact Evaluation Committee members who conducted the evaluations.

The Tool Demonstration track received 16 submissions, of which 9 were accepted. One of these tool demonstrations was selected to receive the ISSTA Best Tool Demonstration Award. We thank our Tool Demonstration Chairs Alessandra Gorla and Hongyu Zhang for overseeing the review, and the Tool Demonstration Committee members who conducted the reviews.

The ISSTA 2019 program includes a keynote "Some Challenges for Software Testing Research" by Mark Harman (University College London and Facebook). In addition, Vijay Ganesh (University of Waterloo) presents a keynote "Theory and Practice of String Solvers" that is associated with the ISSTA 2009 paper "HAMPI: A Solver for String Constraints" by Adam Kiezun, Vijay Ganesh, Philip J. Guo, Pieter Hooimeijer, and Michael D. Ernst for which the authors receive the *ISSTA 2019 Impact Paper Award*. Furthermore, Eran Yahav (Technion) presents a keynote "From Typestate Verification to Interpretable Deep Models" that is associated with the ISSTA 2006 paper "Effective Typestate Verification in the Presence of Aliasing" by Stephen J. Fink, Eran Yahav, Nurit Dor, G. Ramalingam, and Emmanuel Geay for which the authors receive the *ISSTA 2019 Retrospective Impact Paper Award*. The goal of the Impact Paper Award is to recognize research papers that were published at ISSTA a decade ago, and had a significant impact on research and/or practice of software testing and analysis. The same criteria apply to the selection of the Retrospective Impact Paper Award, except that the paper must have been published more than a decade ago.

The Doctoral Symposium at ISSTA 2019 received 17 submissions, of which 9 were accepted. We thank our Doctoral Symposium Chairs James Clause and Charles Zhang for overseeing the review, and the Doctoral Symposium members who conducted the reviews.

The ISSTA 2019 summer school is a one-day event with invited lectures by Abhik Roychoudhury, Yingfei Xiong, Qingwei Lin, and Andreas Zeller. The summer school, which was organized by Anders Møller, aims at encouraging students to pursue careers in research on topics related to software testing and analysis.

ISSTA 2019 has one co-located workshop TAV-CPS/IoT that focuses on Testing, Analysis, and Verification of Cyber-Physical Systems and Internet of Things. We thank our Workshop Chairs Alex Groce and Moonzoo Kim for putting this together.

Many other people contributed to various aspects of the program: Fei He served as the Finance Chair and the Local Arrangement Chair, Xin Peng managed the conference website and served as the Publicity Chair, Zhenyu Chen served as Sponsorship Chair, and Jiajun Jiang and Yingfei Xiong served as the Student Volunteer Chairs.

We gratefully acknowledge our sponsor (ACM SIGSOFT), and corporate supporters (Microsoft Research, DiDi, Google, Huawei, MoocTest, Facebook, Fujitsu, Sourcebrella, UCLouvain and NSF) for their generous support.

Finally, we want to thank all the authors for submitting their work and the attendees for contributing to making the conference a success.

We hope that you will find the ISSTA 2019 program inspiring and valuable, and that the conference in Beijing will give you opportunities to meet with researchers and practitioners in our community, and exchange exciting ideas on software testing and analysis.

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