

Message from the Chairs

We are delighted to welcome you to the ACM SIGSOFT International Symposium on Software Testing and Analysis, the 2020 edition (ISSTA 2020). ISSTA 2020 will be held as a virtual conference on July 18-22, 2020, and will be accompanied by two workshops, a doctoral symposium, a tool demo track, and a summer school.

ISSTA 2020 attracted a record number of submissions, ranging over a variety of topics related to software testing and analysis, with a noticeable increase in papers related to machine learning. In particular, ISSTA 2020 received 162 papers, out of which the program committee selected 43 high quality papers to appear in the conference. Each submission received at least three reviews. We thank our program committee members for their help in producing high quality reviews. ISSTA 2020 was the first ISSTA to use full double-blind reviewing where the author identities were not revealed until the decisions were final. Moreover, the identities for rejected papers were not revealed. Four of these papers have been selected for the ACM Distinguished Paper Award.

We are honored to have the ISSTA 2020 keynote by Barbara Liskov (MIT). Prof. Liskov is one of the first women to receive a doctorate in computer science in the United States. She is a winner of the 2008 Turing Award for her work on “programming language and system design, especially related to data abstraction, fault tolerance, and distributed computing”.

ISSTA 2020 also presents two “test-of-time” awards. The ISSTA 2020 Impact Paper Award goes to the ISSTA 2010 paper entitled “Mutation-driven generation of unit tests and oracles” co-authored by Gordon Fraser and Andreas Zeller. The ISSTA 2020 Retrospective Impact Paper Award goes to the ISSTA 1994 paper entitled “Selecting tests and identifying test coverage requirements for modified software” co-authored by Gregg Rothermel and Mary Jean Harrold.

Like previous years, ISSTA 2020 had an artifact evaluation process, which assists authors of accepted papers provide more substantial supplements to their papers so that future researchers can more effectively build on and compare with previous work. A total of 20 artifacts were submitted. Each submission received three reviews from the artifact evaluation committee. 14 (out of the 20) submissions received the “Artifacts Evaluated - Functional” badge. Of these, 9 submissions also received the “Artifacts Evaluated - Reusable” badge.

The ISSTA 2020 tool demo track received 27 submissions. Each submission was reviewed by 3 members of the tool demo committee. 9 tool demo submissions were accepted to appear in the conference.

The doctoral symposium track received 5 submissions. Of these, 3 submissions were accepted by the doctoral symposium committee for presentation at the symposium.

ISSTA 2020 has two co-located workshops: the International Workshop on Smart Contract Analysis (WoSCA 2020), and the Workshop on Testing, Analysis, and Verification of Cyber-Physical Systems and Internet of Things (TAV-CPS/IoT). These workshops bring together researchers looking at cutting edge testing and analysis technologies in emerging domains of high importance.

The ISSTA 2020 summer school features a strong group of speakers from academia and industry. The summer school aims to encourage students to participate in research opportunities in the broad areas of testing and analysis.

We look forward to an interesting program at ISSTA 2020, and we extend our warmest thanks to all the authors, program committee members, attendees, and organizers whose contributions and engagement make this conference possible.

Sarfraz Khurshid (General Chair)

Corina Păsăreanu (Program Chair)