

Proceedings

**2017 IEEE/ACM 39th International
Conference on Software Engineering**

ICSE 2017

**20–28 May 2017
Buenos Aires, Argentina**

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Foreword

Welcome to the International Conference on Software Engineering (ICSE). This year ICSE takes place in Buenos Aires, Argentina. For the first time in its 42 years of history, ICSE visits Latin America. From the rich set of events and activities that we have scheduled for this week, there is no doubt that ICSE 2017 will be as lively and as interesting as its host city.

As the ACM/IEEE flagship conference in the field, ICSE was met with its usual dose of enthusiasm by researchers, educators, and practitioners. Overall, we received over 1700 submissions for the different tracks, workshops, and co-located events. All tracks and events followed a rigorous evaluation procedure designed to ensure a high quality program for researchers and practitioners alike.

The Research Track received 415 submissions from over 1200 authors and 46 countries. To select the papers to be presented among these submissions, we used a Program Board (PB) model, in which a Program Committee (PC) of 93 members reviewed submissions in a first round, followed by a month-long discussion period overseen by the 33 PB members. This phase resulted in 217 submissions being rejected and 18 accepted. In the next phase, the PB members reviewed the 180 undecided submissions, which resulted in 49 additional rejections and 7 additional acceptances. Finally, the PB discussed the 97 remaining submissions during a two-day in-person meeting that took place on December 8-9, 2016 in Atlanta, GA, USA (see picture below). The discussion led to 38 additional acceptances, for a total of 68 accepted papers and an acceptance rate of 16%. Overall, the reviewing team submitted over 1300 reviews, and each submission received 3 (218 submissions), 4 (152 submissions), 5 (17 submissions), or 6 (1 submission) reviews. The PB members overseeing the discussions also wrote a summary of the decisions, which the authors received as feedback, together with their reviews. Based on the reviews of the PC and PB members, the program chairs selected 6 of the 68 accepted papers to receive an ACM SIGSOFT Distinguished Paper Award.



PB Members of ICSE 2017.

The ICSE 2017 Research Track will also feature the presentation of 28 Journal First articles. This relatively new initiative allows authors of articles first published in a journal to reach a broader audience, while enriching the conference program with presentations of articles that may not fit the standard conference format. The journal first presentations were invited from articles that appeared either in the ACM Transactions on Software Engineering and Methodology or in the IEEE Transactions on Software Engineering and that (1) were not journal versions of previously published conference papers, (2) were submitted no more than 18 months prior to the starting date of ICSE 2017, and (3) were accepted for publication by December 2016. All eligible articles were invited to be part of the ICSE program, and the authors of all but 4 articles accepted the invitation.

The acceptance rates for the other larger ICSE events are as follows: Software Engineering in Practice (31/106, 29%), Software Engineering Education and Training (20/85, 24%), Software Engineering in Society (9/34, 26%), New Ideas and Emerging Results (14/85, 16%), and Research Demonstrations (18/57, 32%).

For the first time, this year we invited the authors of submissions that did not make the final selection for their track, but received positive reviews, to present their work in the form of a poster during the conference. We invited the authors of 219 submissions (representing 27% of the total submissions to the Research, Software Engineering in Practice, Software Engineering Education and Training, Software Engineering in Society, and New Ideas and Emerging Results tracks), and the authors of 86 of those (39%) accepted to attend the conference and present their work. As a result, a total of 110 posters will be presented this year.

This year the conference will also include well established ICSE events such as the Doctoral Symposium, the New Faculty Symposium, and the ACM Student Research Competition. We selected 11 Technical Briefings, each of which consists of a 90-minute lecture introducing the state-of-the-art in an emerging topic. Finally, in addition to 21 workshops, there are 7 co-located events: CGSE: International Conference on Global Software Engineering; ICPC: International Conference on Program Comprehension; MobileSoft: International Conference on Mobile Software Engineering and Systems; MSR: International Conference on Mining Software Repositories; OSS: International Conference on Open Source Systems; SEAMS: International Symposium on Software Engineering for Adaptive and Self-Managing Systems; and CIBSE: Conferencia Iberoamericana de "Software Engineering".

We are fortunate to have some excellent keynote speakers this year. Mike Milinkovich will reflect on the 15 years since the Eclipse community was formed. He will tell us how open source is supporting new business models, open innovation, and collaboration between academia, research organizations, and industry, giving rise to new ways of organizing the development of technology. Mike has been the Executive Director of the Eclipse Foundation since 2004, was a vice president in Oracle's development group and has important roles in the Open Source Initiative (OSI), the Java Community Process (JCP), and OpenJDK.

Moshe Vardi will give a retrospective of the amazing developments that SAT and related automated reasoning techniques have had in the last 20 years. He will then provide a perspective on how what is now an incipient industrial reality will continue to evolve. Moshe is Karen Ostrum George Distinguished Service Professor in Computational Engineering and Director of the Ken Kennedy Institute for Information Technology at Rice University and Editor-in-Chief of Communications of the ACM. He is the recipient of the ACM SIGACT Goedel Prize, the ACM Kanellakis Award, the ACM SIGMOD Codd Award, the Blaise Pascal Medal, the IEEE Computer Society Goode Award, the EATCS Distinguished Achievements Award, amongst other prestigious recognitions.

The program also features two plenary awards talks. The first one is by the recipients of the Most Influential Paper from ICSE 2007, "Feedback-Directed Random Test Generation", by Carlos Pacheco, Shuvendu K. Lahiri, Michael D. Ernst, and Thomas Ball. The second talk is by the recipient of the 2017 IEEE CS Harlan D. Mills Award, Pamela Zave, from AT&T Labs, for groundbreaking use of formal methods in the development of telecommunication software and for enduring contributions to software engineering theory.

The organization of an ICSE meeting requires the dedicated effort of many volunteers who have spent countless hours reviewing, planning, designing, and coordinating with sponsors, benefactors and providers. We recognize all of those involved in making the conference a success in listings that appear in the pages to come, but we would also like to take this additional opportunity to profusely thank and congratulate them all for their efforts.

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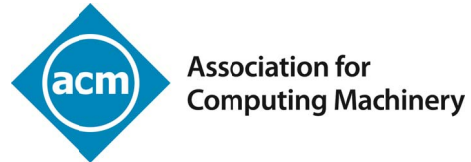
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