Message from the Chairs

It is our great pleasure to welcome you to the 30th IEEE/ACM International Conference on Automated Software Engineering (ASE 2015). This conference publication contains the proceedings of ASE 2015, held in Lincoln, Nebraska, on November 9th-13th, 2015. The ASE Conference series is the premier research forum for automated software engineering. Each year it brings together researchers and practitioners from academia and industry to discuss foundations, techniques and tools for automated analysis, design, implementation, testing, and maintenance of large software systems.

This year we are excited to be celebrating 30 years of ASE. Our software systems today have become orders of magnitude more complex, are of greater mobility, and run on devices with much smaller physical footprints than those of the first ASE conference. Software is also now prevalent in all aspects of our daily lives. Together, this means that the need for novel, automated software engineering techniques, the driving force behind ASE, is exploding and that our community of automated software engineering researchers is rapidly expanding. The ASE conference began in 1986 as the Knowledge-Based Software Assistant (KBSA) meeting. KBSA was a response to the call for a need to radically improve software engineering through the formalization of knowledge across all phases of the software engineering lifecycle. Today we see this trend in formalization continue with paper sessions dedicated to formal verification, program analysis and transformations. In its early years, ASE was also heavily influenced by ideas from artificial intelligence, and this influence continues as well with research papers appearing in the proceedings on topics such as data mining, search-based software engineering, and software repair and synthesis.

ASE 2015 was located in Lincoln, Nebraska. Lincoln is the State capital and the second largest city in Nebraska with a population of close to 300,000. It has witnessed a rapid growth in its tech industry in the past ten years that shows no signs of slowing down. It is home to dozens of small to medium sized tech companies, and embodies a strong start-up culture. Lincoln is known locally as the Silicon Prairie.

The program of this year’s ASE conference consisted of high quality contributions in this vibrant research area that were chosen after a careful, thorough and selective reviewing process. This year, for the main track of the ASE conference, we invited three categories of submissions: (1) Technical Research Papers that describe innovative research in automating software development activities or automated support to users engaged in such activities; (2) Experience Papers that describe a significant experience in applying automated software engineering technologies and identify and discuss important lessons learned so that other researchers and/or practitioners can benefit from the experience; and (3) New Ideas Papers that describe novel research directions in automated software engineering that are in an early stage of investigation.

We received 326 paper submissions this year. Nine submissions were desk rejected without review since they failed to follow the instructions given in the call for papers or were clearly out of scope of the conference. The remaining 317 submissions – 289 full papers (an ASE conference record!) and 28 new idea papers – were reviewed by the members of the Program Committee and the Expert Review Panel, with each paper receiving at least 3 reviews. We also had a very active online discussion phase, with many long and detailed discussions among the members of the Program Committee and the Expert Review Panel. During a two-day physical PC meeting held in Baltimore, MD on July 13-14, 2015, the members of the Program Committee compiled the final selection of papers to be presented at ASE 2015. This careful and thorough reviewing process resulted in selection of 55 technical research papers, 5 experience papers, and 16 new ideas papers (many of these were re-categorized full papers).
In addition to the papers presented in the main track, the ASE conference program also included 18 tool demonstration papers selected by the Tools Program Committee, and 6 doctoral symposium papers, selected by the Doctoral Symposium Committee. Five workshops and six tutorials were selected by the Tutorials and Workshops Chairs and were co-located with the conference.

The ASE conference program was enriched by two keynote talks. Ron Weiss of MIT gave a keynote on synthetic biology and Thomas W. Reps of the University of Wisconsin-Madison and GrammaTech, Inc. gave keynote on automating abstract interpretation. ASE also featured two panels: ASE and Industry: a Match made in Heaven, and 30 Years of ASE.

We would like to thank the ASE Program Committee and the Expert Review Panel for the huge amount of work and care that they put into reviewing. Their efforts not only resulted in the selection of papers that you see in these proceedings, but also provided valuable feedback to authors of all submitted papers. We would also like to thank the Tool Demonstration and Doctoral Symposium Chairs and Committees and all members of the ASE Organizing Committee for their amazing efforts. We also thank the members of the ASE Steering Committee for their support.

Finally, we would like to thank our sponsors at the IEEE Computer Society and ACM, as well as all of our supporters for their generosity.

Myra Cohen  
General Chair

Lars Grunske  
Co-Program Chair

Mike Whalen  
Co-Program Chair