The 12th IEEE Conference on Automated Software Engineering.

The conference has made several changes, including a change in name from “Knowledge-Based Software Engineering” to “Automated Software Engineering”. The change in name reflects a broadening of the research disciplines represented at the conference. The common focus is computer-based construction, representation, semantic analysis, reasoning, and understanding, of software artifacts and processes. The scope includes fully automatic techniques, or techniques that support and cooperate with people. The change in name also reflects a closer alignment with the Journal of Automated Software Engineering, published by Kluwer. The journal will have a special issue devoted to expanded versions of the best papers presented at this conference.

This conference has previously grown from its inception as an exclusive workshop for the USAF Rome Laboratory (then RADC) Knowledge-Based Software Assistant project to an open conference emphasizing the application of artificial intelligence technologies to software engineering. This year the conference has become fully international, with more papers submitted and accepted from outside the United States than from within the United States. The program committee, to whom the success of the conference is largely due, comes from all continents of the world except Africa (and of course Antarctica), and includes leaders from a number of cutting-edge software engineering disciplines. The conference has also expanded this year from its previous focus of artificial intelligence applications of software engineering. The program committee and the selected papers now also represent scientific communities concerned with software engineering applications of formal methods, partial evaluation, process support, requirements engineering, reverse engineering, software testing, and verification and validation. In these proceedings you will find papers describing basic research, novel applications, and experience reports.

This year the number of submitted papers more than doubled from previous years. Out of the 108 submitted papers, 32 were accepted as long papers for individual presentation at the conference. The long papers were broken into the following sessions: synthesis, requirements and process, reverse engineering, verification, refinement, program understanding, maintenance, reuse, and architecture. This topical partitioning was not uniquely determined, and was chosen in part for scheduling convenience. The topics of synthesis, reverse engineering, and verification were the most popular, and accordingly have two sessions each. Even with double paper sessions we were not able to accept all the papers that deserved presentation. Thus you will find in these proceedings fifteen well-written short papers that will be presented at the poster session.
We are fortunate in having Richard Newton of UC Berkeley give a keynote address bridging electronic design automation and software design automation. Hopefully his talk will lead to further discussions between the two communities. Our other invited speaker is Paul Clements of the Software Engineering Institute at Carnegie Mellon University. He is an author of a forthcoming book on software architecture. His talk will discuss how this emerging field brings progress to the software engineering discipline and opens new areas for the ASE community.

Rounding out the technical program are three panels. The first panel addresses lessons learned from the year 2000 problem. The second panel will debate the past and future impact of the mathematical framework of category theory on automated software engineering. The technical program culminates with the third panel addressing educational needs for practitioners of automated software engineering.

Our thanks to the many individuals and organizations that have worked so hard to make this a successful conference. The organizing committee, steering committee, and program committee all worked long hours and put in much creative effort. In addition, many other individuals made significant efforts, including but not limited to Mary-Kate Rada and Bob Werner of IEEE Computer Society, and Thomas Pressburger and Randy Paquette of NASA Ames Research Center. We gratefully acknowledge financial sponsorship provided to the conference by NASA Ames Research Center, Microsoft, and continued support from Rome Laboratories. The conference is also sponsored by the following societies: IEEE Computer Society, in cooperation with AAAI, ACM, SIGART and SIGSOFT.

Finally, our thanks to you, the participants of this conference. It is due to your keen interest that this field is expanding and exploring new frontiers. We hope you enjoy the conference and that your participation contributes to your professional development and relationships.

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