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Preface

This volume contains the proceedings of the International Conference on Computer Aided Verification (CAV), held in Seattle, Washington, USA, July 16–20, 2006. CAV 2006 was the 18th in a series of conferences dedicated to the advancement of the theory and practice of computer-assisted formal analysis methods for software and hardware systems. The conference covers the spectrum from theoretical results to concrete applications, with an emphasis on practical verification tools and the algorithms and techniques that are needed for their implementation.

We received 121 regular paper submissions and 23 tool paper submissions. Of these, the Program Committee selected 35 regular papers and 10 tool papers. Each submission was reviewed by three members of the Program Committee. In addition, each regular paper was reviewed by at least one expert external to the Program Committee.

The CAV 2006 program included five invited talks:

- Manuvir Das (Microsoft) on "Formal Specifications on Industrial-Strength Code—From Myth to Reality"
- David Dill (Stanford University) on "I Think I Voted: E-voting vs. Democracy"
- David Harel (Weizmann Institute) on "Playing with Verification, Planning and Aspects: Unusual Methods for Running Scenario-Based Programs"
- Tony Hoare (Microsoft) on "The Ideal of Verified Software"
- Joe Stoy (Bluespec) on "Verification? Getting it Right the First Time"

The traditional CAV tutorial was replaced by a special symposium, "25 Years of Model Checking," organized by Orna Grumberg (Technion) and Helmut Veith (Technical University of Munich). The symposium consisted of 12 invited lectures delivered by leading researchers in the field of model checking.

This year, CAV was part of the Federated Logic Conference (FLoC 2006), and was jointly organized with ICLP (International Conference on Logic Programming), IJCAR (International Joint Conference on Automated Reasoning), LICS (Logic in Computer Science), RTA (Rewriting Techniques and Applications), and SAT (Theory and Applications of Satisfiability Testing). In particular, the invited talk by David Dill was a FLoC plenary talk, and the invited talk by David Harel was a FLoC keynote talk.

CAV 2006 had nine affiliated workshops:

- ACL2: 6th International Workshop on the ACL2 Theorem Prover and Its Applications (joint with IJCAR)
- BMC: 4th International Workshop on Bounded Model Checking
- CFV: Workshop on Constraints in Formal Verification
- FATES/FV: Formal Approaches to Testing and Runtime Verification (joint with IJCAR)

- GDV: Third Workshop on Games in Design and Verification
- SMT-COMP: Second Satisfiability Modulo Theories Competition
- TV: First Workshop on Multithreading in Hardware and Software: Formal Approaches to Design and Verification
- V&D: First International Workshop on Verification and Debugging
- VSTTE: Workshop on Verified Software: Theory, Tools, and Experiments

We gratefully acknowledge financial support for CAV 2006 from Cadence Design Systems, IBM, Intel Corporation, Microsoft Research, and NEC.

We thank the Program Committee members and the sub-referees for their work in evaluating the submissions. We appreciate the efforts of the Program Committee to attend the first physical PC meeting in the history of CAV. We thank Rance Cleveland and the University of Maryland for hosting the CAV PC meeting. We also thank the Steering Committee and the Chairs of CAV 2005 for their help and advice. Finally, we thank Andrei Voronkov for creating and supporting the outstanding EasyChair conference management system.

June 2006

Thomas Ball
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