

Preface

This volume contains the proceedings of the Eleventh International Conference on Computer-Aided Verification (CAV'99), held at Trento, Italy on July 6–10. The CAV conferences are 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 and tools and has traditionally drawn contributions from both researchers and practitioners in both academia and industry. This year we received 107 submissions, out of which we accepted 34. We also accepted five short tool presentations.

CAV included a tutorial day this year, with four invited tutorials by Edmund M. Clarke (CMU) on *Symbolic Model Checking*, David Dill (Stanford) on *Alternative Approaches to Hardware Verification*, Joseph Sifakis (VERIMAG) on *The Compositional Specification of Timed Systems*, and Rajeev Alur (UPenn) on *Timed Automata*. The conference also included four invited talks by Gunnar Stålmarck (Prover Technology) on *Stålmarck's Method and QBF Solving*, Zohar Manna (Stanford University) on *Visual Verification of Parameterized Programs (joint with CADE)*, Ed Brinksma (University of Twente) on *Formal Methods for Conformance Testing: Theory Can Be Practical!* and Alain Deutsch (INRIA) on *Abstract Interpretation Applied to the Verification of Ariane 5 Software*.

The conference program included papers on a wide variety of topics, including microprocessor verification, verification and testing of protocols, methods for verification of systems with infinite state spaces, the theory of verification, verification of temporal logic properties, modeling of systems, symbolic model checking, theorem proving, combining theorem proving with model-checking, model-checking techniques based on automata theory and abstraction methods.

Many industrial companies have shown wide interest in CAV, ranging from using the presented technologies to developing and marketing their own techniques and tools. We would like to thank the following generous and forward-looking companies for their sponsorship of CAV'99:

- Intel
- The John von Neumann Minerva Center for Verification of Reactive Systems at the Weizmann Institute
- Lucent Technologies
- Siemens
- ST Microelectronics
- SUN Microsystems

The Steering Committee consists of the conference founders:

Edmund M. Clarke (Carnegie Mellon University), Robert P. Kurshan (Bell Laboratories), Amir Pnueli (The Weizmann Institute of Technology) and Joseph Sifakis (VERIMAG)

The conference program was selected by the program committee, which included this year:

Gerard Berry (Ecole des Mines, France), Ahmed Bouajjani (VERIMAG, France), Ching-Tsun Chou (Intel, USA), Edmund M. Clarke (CMU, USA), Werner Damm (Oldenburg U., Germany), David Dill (Stanford U., USA), Allen Emerson (Austin U., USA), Javier Esparza (Munich U., Germany), Limor Fix (Intel, Israel), Mike Gordon (Cambridge U., UK), Nicolas Halbwachs (co-chair, VERIMAG, France), Tom Henzinger (Berkeley, USA), Alan Hu (UBC, Canada), Bengt Jonsson (Uppsala U., Sweden), Robert P. Kurshan (Bell Labs, USA), Gavin Lowe (Leicester U., UK), Ken McMillan (Cadence, USA), Doron Peled (co-chair, Bell Labs, USA and Technion, Israel), Carl Pixley (Motorola, USA), A. Prasad Sistla (Chicago U., USA), Fabio Somenzi (Colorado U., USA), Mandayam Srivas (SRI, USA), Antti Valmari (Tampere U. Techn., Finland), Yaron Wolfsthal (IBM, Israel) and Pierre Wolper (Liege U., Belgium).

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This year, CAV was part of the **Federated Logic Conference (FLoC'99)**, and was organized jointly with CADE (Conference on Automated Deduction), LICS (Logic in Computer Science) and RTA (Rewriting Techniques and Applications). In addition, FLoC included 15 workshops associated with the different conferences, panels and tutorials. We would like to acknowledge the help of the FLoC'99 steering committee: Moshe Y. Vardi (General Chair), Fausto Giunchiglia (Conference Chair), Leonid Libkin (Publicity Chair), Paolo Traverso (CADE), Joseph Sifakis (CAV), Eugenio Moggi (LICS), Simona Ronchi della Rocca (LICS), Andrea Asperti (RTA), Morena Carli, Nadia Oss Papot (Secretariat), Alessandro Tuccio (Treasurer) and Adolfo Villafiorita (National Publicity Chair and Workshops Coordinator).

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