

Preface

This volume contains the proceedings of the conference on *Computer Aided Verification*, CAV 2004, held in Boston, Massachusetts, USA, July 13–17, 2004. CAV 2004 was the 16th 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. The conference has traditionally drawn participation from researchers as well as practitioners in both academia and industry.

CAV 2004 was colocated with the ACM International Symposium on Software Testing and Analysis (ISSTA 2004), and was partially sponsored by the ACM SIGSOFT. The colocation reflects the increasing synergy between research on verification and testing, and emerging applications of formal verification to software analysis. Joint CAV-ISSTA events included a distinguished plenary lecture by David Harel and a special session exploring various approaches to the specification and verification of concurrent software organized by Shaz Qadeer. The program of the conference consisted of 32 regular papers and 16 tool papers, selected from a total of 144 submissions. The conference was preceded by a tutorial on processor verification, on July 12, 2004, with three invited lectures by Randal E. Bryant, David L. Dill and Warren A. Hunt, Jr. The conference also included invited talks by Mary Jean Harrold and Thomas W. Reps. Two workshops were associated with CAV 2004:

- BMC 2004: Second International Workshop on Bounded Model Checking
- GDV 2004: Games in Design and Verification

We would like to thank all the program committee members and the sub-referees for their excellent work in evaluating the submissions and the selection of the program. Our thanks also go to the steering committee members and the organizers of CAV 2003 for their helpful advice. Special thanks go to George Avrunin, the ISSTA General Chair, and Erin Dolan of ACM, for their help with the local organization. We would like to acknowledge the generous sponsorship of Cadence Design Systems, IBM Research, Intel Research, Microsoft Research and the John Von Neumann Minerva Center for Verification of Reactive Systems. Their support helped us reduce the registration fee for the graduate students.

The CAV community is deeply saddened by the sudden demise of Dr. Rob T. Gerth. Rob was a highly regarded researcher with many notable contributions to the theory and practice of formal verification. For CAV 2004, we had invited Rob to join the program committee as well as to give a tutorial on processor verification. This LNCS volume containing the CAV 2004 proceedings is dedicated to Rob, and includes a special presentation, commemorating his scientific accomplishments and collaborations.

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