Lecture Notes in Computer Science 1254
Edited by G. Goos, J. Hartmanis and J. van Leeuwen

Advisory Board: W. Brauer D. Gries J. Stoer

Orna Grumberg (Ed.)

Computer Aided Verification

9th International Conference, CAV'97
Haifa, Israel, June 22-25, 1997
Proceedings

Springer

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Volume Editor

Orna Grumberg
The Technion, Department of Computer Science
Haifa 32000, Israel
E-mail: orna@cs.technion.ac.il

Cataloging-in-Publication data applied for

Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Computer aided verification : 9th international conference ; proceedings / CAV '97, Haifa, Israel, June 22 - 25, 1997. Orna Grumberg (ed.). - Berlin ; Heidelberg ; New York ; Barcelona ; Budapest ; Hong Kong ; London ; Milan ; Paris ; Santa Clara ; Singapore ; Tokyo : Springer, 1997
(Lecture notes in computer science ; Vol. 1254)
ISBN 3-540-63166-6

CR Subject Classification (1991): F.3, D.2.4, D.2.2, F.4.1, B.7.2, C.3, I.2.3

ISSN 0302-9743
ISBN 3-540-63166-6 Springer-Verlag Berlin Heidelberg New York

Typesetting: Camera-ready by author
SPIN 10550007 06/3142 – 5 4 3 2 1 0 Printed on acid-free paper

Preface

This volume contains the proceedings of the Ninth International Conference on Computer-Aided Verification (CAV'97), held in Haifa, Israel, June 22-25, 1997.

The CAV conferences are dedicated to the advancement of theory and practice of computer-aided formal methods for software and hardware verification. The conference covers the spectrum from theoretical results to concrete applications, with an emphasis on verification tools and the algorithms and techniques that are needed for their implementation.

Of the 84 regular papers submitted this year, 34 were accepted for presentation at the conference. In addition, 12 short papers on tool descriptions were accepted.

The conference will include three invited lectures, given by Gary J. Powers (Carnegie Mellon University, USA) on *Formal Verification of a Thermal Oxidation Pollution Control System*, by David Harel (Weizmann Institute, Israel) on *Some Thoughts on Statecharts, 13 Years Later*, and by Gerard Berry (Ecole des Mines de Paris, France) on *Boolean and 2-adic Numbers Based Techniques for Verifying Synchronous Designs.*

A morning session will be dedicated to invited talks by representatives from industry. The talks will be given by F. Erich Marschner (COMPASS Design Automation) on *Practical Challenges for Industrial Formal Verification Tools*, by Roger B. Hughes (Abstract Hardware) on *Formal Verification of Digital Systems, from ASICs to HW/SW Codesign – a Pragmatic Approach*, by Arne Borälv (Logikkonsult NP) on *The Industrial Success of Verification Tools Based on Staalmarck's Method*, and by Martin Rowe (Chrysalis Symbolic Design) on *Formal Verification – Applications and Case Studies.* The industrial session will be concluded with a panel on *Future Trends in Industrial Computer-Aided Verification* with the following participants: Bob Brennan (Intel, USA), E. Allen Emerson (Moderator; The University of Texas at Austin, USA), Thomas A. Henzinger (UC Berkeley, USA), Robert P. Kurshan (Bell Labs, USA), Carol Logan (IBM, USA), Natarajan Shankar (SRI International, USA), and Yaron Wolfstal (IBM, Israel).

It is our pleasure to congratulate Amir Pnueli for receipt of the Turing Award. The dinner speech in honor of this occasion will be given by David Harel (Weizmann Institute, Israel) on *Amir Pnueli: A Man for all (the Right) Reasons.*

The program of CAV'97 has been selected by the program committee consisting of Rajeev Alur (Bell Labs and UC Berkeley, USA), Edmund Clarke (Carnegie Mellon University, USA), Rance Cleaveland (North Carolina State University, USA), Werner Damm (Oldenburg University, Germany), E. Allen Emerson (The University of Texas at Austin, USA), Limor Fix (Intel, Israel), Susanne Graf (VERIMAG, France), Orna Grumberg (Chair; the Technion, Israel), Nicolas Halbwachs (VERIMAG, France), Thomas A. Henzinger (UC Berkeley, USA), Bengt Jonsson (Uppsala University, Sweden), Robert Kurshan (Bell Labs, USA), Kim Larsen (Aalborg University, Denmark), Ken McMillan (Cadence Berkeley Labs, USA), Carl Pixley (Motorola, USA), Mandayam Srivas (SRI International, USA), Frits Vaandrager (University of Nijmegen, The Netherlands), Antti Val-

mari (Tampere University of Technology, Finland), Moshe Vardi (Rice University, USA), and Pierre Wolper (University of Liège, Belgium).

The program committee chair and the general chair of the conference is Orna Grumberg of the Technion–Israel Institute of Technology, Haifa. The steering committee consists of the conference founders Edmund Clarke (Carnegie Mellon University, USA), Robert Kurshan (Bell Labs, USA), Amir Pnueli (Weizmann Institute, Israel), and Joseph Sifakis (VERIMAG, France).

CAV'97 is financially supported by DSP Group Inc., Galileo Technology, Intel Israel, the Haifa Tourist Board, Israel, the Ministry of Science, Israel, the Ministry of Tourism, Israel, and the Technion–Israel Institute of Technology. The workstations and the communication equipment at the conference site are donated by E & M Computing and by ADANET-IIS Communications Ltd. We thank all sponsors for their generosity.

Last year's chairs, Rajeev Alur and Thomas A. Henzinger, are thanked for valuable advice on the organization of the conference. E. Allen Emerson is thanked for his assistance in organizing the panel, and Robert P. Kurshan for his help in establishing the connection with the industrial speakers.

Special thanks go to Yvonne Sagi, who helped with the secretarial work involved in the submission, selection and publication of the scientific program. We are grateful to Yael Dubinski for organizing the hardware and software needed for the demonstrations. Anat Reshef of Unitours is thanked for her assistance with the local organization.

Finally, the following people helped in the evaluation of the submissions and we are grateful for their efforts: P. Abdulla, L. Aceto, J. Adair, N. Amla, H. R. Andersen, J. H. Andersen, A. Aziz, I. Beer, S. Ben-david, S. Bensalem, S. Berezin, Z. Binyanimi, R. Bol, A. Bouajjani, D. Cyrluk, D. Dams, E. Dantsin, G. Doehmen, C. Eisner, A. Ermedahl, J.-C. Fernandez, J. Geldenhuys, D. Giest, E. Gukovsky, P. Habermehl, V. Hartonas-Garmhausen, K. Havelund, H. Hungar, H. Huttel, A. Ingolfsdottir, A. Iron, A. Isles, S.P. Iyer, B. Josko, R. Kaivola, T. Kam, G. Kamhi, K. Karsisto, T. Karvi, S. Katz, O. Kedem, P. Kellomäki, A. Kerbrat, M. Kindah, I. Kokkarinen, S. Krishnamurthi, L. M. Kristensen, K. K. Kristoffersen, O. Kupferman, Y. Lakhnech, K. Laster, D. Lesens, Y. Levy, J. Lilius, S. Ma, O. Maler, P. Manolios, H. Miller, M. Minea, L. Mounier, K. Namjoshi, M. Nielsen, I. Niemelä, J. Nyström, D. Peled, P. Pettersson, A. Pnueli, A. Puri, S. Qadeer, S. Rajamani, A. Rauzy, Y. Rodeh, R. Rosner, J. Rushby, H. Saidi, D. Sangiorgi, R. Schloer, T. Shiple, I. Shitsevalov, Z. Shtadler, S. Shukla, A. Skou, F. Somenzi, J. Springintveld, S. Tasiran, A. Tiemeyer, M. Tienari, M. Tiusanen, R. Trefler, Y.-K. Tsay, K. Varpaaniemi, B. Victor, A. Voronkov, P. Weidmann, W. Yi, J. Yuan, L. Yuan.

Haifa, April 1997 Orna Grumberg

Table of Contents

Tool Papers