

Preface

This volume contains the proceedings of the 5th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI 2004), held in Venice, January 11–13, 2004, in conjunction with POPL 2004, the 31st Annual Symposium on Principles of Programming Languages, January 14–16, 2004. The purpose of VMCAI is to provide a forum for researchers from three communities—verification, model checking, and abstract interpretation—which will facilitate interaction, cross-fertilization, and the advance of hybrid methods that combine the three areas. With the growing need for formal tools to reason about complex, infinite-state, and embedded systems, such hybrid methods are bound to be of great importance.

Topics covered by VMCAI include program verification, static analysis techniques, model checking, program certification, type systems, abstract domains, debugging techniques, compiler optimization, embedded systems, and formal analysis of security protocols.

This year's meeting follows the four previous events in Port Jefferson (1997), Pisa (1998), Venice (2002), LNCS 2294 and New York (2003), LNCS 2575. In particular, we thank VMCAI 2003's sponsor, the Courant Institute at New York University, for allowing us to apply a monetary surplus from the 2003 meeting to this one.

The program committee selected 22 papers out of 68 on the basis of three reviews. The principal criteria were relevance and quality. The program of VMCAI 2004 included, in addition to the research papers,

- a keynote speech by David Harel (Weizmann Institute, Israel) on *A Grand Challenge for Computing: Full Reactive Modeling of a Multicellular Animal*,
- an invited talk by Dawson Engler (Stanford University, USA) on *Static Analysis Versus Software Model Checking for Bug Finding*,
- an invited talk by Mooly Sagiv (Tel Aviv University, Israel) called *On the Expressive Power of Canonical Abstraction*, and
- a tutorial by Joshua D. Guttman (Mitre, USA) on *Security, Protocols, and Trust*.

We would like to thank the Program Committee members and the reviewers, without whose dedicated effort the conference would not have been possible. Our thanks go also to the Steering Committee members for helpful advice, to Agostino Cortesi, the Local Arrangements Chair, who also handled the conference's Web site, and to David Schmidt, whose expertise and support was invaluable for the budgeting. Special thanks are due to Martin Karusseit for installing, managing, and taking care of the METAFrames Online Conference Service, and to Claudia Herbers, who, together with Alfred Hofmann and his team at Springer-Verlag, collected the final versions and prepared the proceedings.

Special thanks are due to the institution that helped sponsor this event, the Department of Computer Science of Ca' Foscari University, and to the professional organizations that support the event: VMCAI 2004 is held in cooperation with ACM and is sponsored by EAPLS.

January 2004

Bernhard Steffen

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