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Verified Software: Theories, Tools, Experiments

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Preface

This volume contains the papers presented at the 4th International Conference on Verified Software: Theories, Tool and Experiments (VSTTE), which was held in Philadelphia, USA, during January 28–29, 2012. Historically, the conference originated from the Verified Software Initiative (VSI), a cooperative, international initiative directed at the scientific challenges of large-scale software verification. The inaugral VSTTE conference was held at ETH Zurich in October 2005. Starting in 2008, the conference became a biennial event: VSTTE 2008 was held in Toronto, and VSTTE 2010 was held in Edinburgh.

The goal of the VSTTE conference is to advance the state of the art through the interaction of theory development, tool evolution, and experimental validation. Topics of interest include:

- Specification and verification techniques
- Tool support for specification languages
- Tool for various design methodologies
- Tool integration and plug-ins
- Automation in formal verification
- Tool comparisons and benchmark repositories
- Combination of tools and techniques (e.g., formal vs. semiformal, software specification vs. engineering techniques)
- Customizing tools for particular applications
- Challenge problems
- Refinement methodologies
- Requirements modeling
- Specification languages
- Specification/verification case studies
- Software design methods
- Program logic

The conference received 54 submissions, of which 20 were accepted after a rigorous review process, for an acceptance rate of 37%.

The conference included two invited talks, by Rupak Majumdar (Max Planck Institute for Software Systems) and Wolfgang Paul (Saarland University), and two tutorials, by Rustan Leino (Microsoft Research) and Francesco Logozzo (Microsoft Research).

A software verification competition was also held in advance of the main conference. This competition consisted of five independent programs, which had to be verified using automated verification tools. The competition was held online, November 8–10, 2011, and was a great success, with 29 participating teams, comprising 79 individuals, and 22 verification tools. Competition results were announced on December 5, 2011.

We would like to thank the invited speakers, all submitting authors, the organizers of the verification competition, the Steering Committee, the General Chair, the external reviewers, and especially the Program Committee, who put in a lot of hard work into reviewing and selecting the papers that appear in this volume.

November 2011

Rajeev Joshi
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