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Formal Approaches to Software Testing

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Revised Selected Papers

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Foreword

Software testing is one of the most cost-intensive tasks in the modern software production process. The application of formal approaches to the testing process has gained steady attention in recent years. Effective and efficient test cases may be generated automatically from formal system models and specifications or be developed based on a formal analysis of the system. Formal approaches to testing use techniques from areas like theorem proving, model checking, constraint resolution, program analysis, abstract interpretation, Markov chains, and various others. These techniques are combined with traditional approaches to testing.

The workshop on Formal Approaches to Testing of Software (FATES) selected a number of high-quality submissions out of these fields for presentation at the workshop as well as inclusion in the workshop proceedings. The contributions show the state of the art in the application of formal methods in the testing process. The workshop had 38 submissions, of which 14 were accepted (13 full papers and 1 work-in-progress). In all, this proceedings volume collects the work of 38 authors from 12 countries. Each paper underwent 3 reviews, done by 36 reviewers.

This has been the fifth successful workshop in the history of the FATES workshops. Previous workshops were held in Aalborg (Denmark) in 2001 and in Brno (Czech Republic) in 2002 as satellites of CONCUR, and in Montréal (Canada) in 2003 and Linz (Austria) in 2004 as satellites of the IEEE/ACM Conference on Automated Software Engineering (ASE).

We would like to express our gratitude to all authors for their valuable contributions and to the Workshop Organizing Committee of the CAV 2005 conference. In addition, we would like to thank all members of the FATES Program Committee and the additional reviewers, who were given the important and tedious task of reviewing many papers. The individuals who contributed to this effort are listed on the following pages.

Redmond and Aachen
March 2005

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