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Preface

Formal methods for the development of computer systems have been extensively researched and studied. A range of semantic theories, specification languages, design techniques, and verification methods and tools have been developed and applied to the construction of programs of moderate size that are used in critical applications. The challenge now is to scale up formal methods and integrate them into engineering development processes for the correct construction and maintenance of computer systems. This requires us to improve the state of the art by researching the integration of methods and their theories, and merging them into industrial engineering practice, including new and emerging practice.

ICFEM, the *International Conference on Formal Engineering Methods*, aims to bring together those interested in the application of formal engineering methods to computer systems. Researchers and practitioners, from industry, academia, and government, are encouraged to attend, and to help advance the state of the art. The conference particularly encourages research that aims at a combination of conceptual and methodological aspects with their formal foundation and tool support, and work that has been incorporated into the production of real systems.

This volume contains the proceedings of ICFEM 2006, which was the 8th ICFEM and held in Macao SAR, China on 1-3 November 2006. The Program Committee received 108 submissions from over 30 countries and regions. Each paper was reviewed, mostly by at least three referees working in relevant fields, but by two in a few cases. Borderline papers were further discussed during an online meeting of the Program Committee. A total of 38 papers were accepted based on originality, technical soundness, presentation and relevance to formal engineering and verification methods. We sincerely thank all the authors who submitted their work for consideration. We thank the Program Committee members and the other referees for their effort and professional work in the reviewing and selecting process. In addition to the regular papers, the proceedings also include contributions from the keynote speakers: Zhou Chaochen, Gary T. Leavens and John McDermid.

Three associated events were held: an Asian Working Conference on Verified Software (AWCVS06, 29-31 October), a Refinement Workshop (REFINE06, 31 October) and a Workshop on Formal Methods for Interactive Systems (FMIS06, 31 October). We thank the organizers for bringing their events to ICFEM 2006.

ICFEM 2006 was jointly organized and sponsored by the International Institute for Software Technology of the United Nations University (UNU-IIST), the University of Macau, and Macao Polytechnic Institute. We would like to thank all the members of staff and students who helped in the organization, in particular Pun Chong Iu, Pun Ka, Sandy Lee, Ho Sut Meng, Chan Iok Sam, Hoi Iok Wa, and Lu Yang. Acknowledgement also goes to Formal Method Europe for its support to the FME Keynote Speaker.

August 2006 Zhiming Liu and He Jifeng

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