

Preface

This volume contains the papers presented at the inaugural conference of SETTA — The Symposium on Dependable Software Engineering: Theories, Tools and Applications — held during November 4–6, 2015 in Nanjing, China.

Formal methods emerged as an discipline area of computer science and software engineering half a century ago. An international community has been formed researching, developing, and teaching formal theories, techniques, and tools for software modeling, specification, design, and verification. However, its impact upon commonly used software systems is still far from convincing to software engineering practitioners. The gap between the development of formal methods and the advances in software technologies is not getting narrower. More precisely, the relation between formal methods and software technologies is not well understood. This is clearly reflected by the challenges in their applications in engineering large-scale systems, including cyber-physical systems (CPS), networks of things, and cloud-based systems, which have multi-dimensional complexities. This background is the motivation for this new symposium series on the foundations, practice, and trends in formal software engineering methods, with the mission and vision to build a high-quality forum for computer scientists from the Chinese and international communities to exchange academic ideas, and to strengthen collaboration between the formal methods communities inside and outside China. SETTA has been established with a long-term view in expectation that younger scientists will play an ever greater role.

SETTA 2015 received over 70 submissions of abstracts, and among them 60 materialized as full-paper submissions with authors from 22 countries. Each full-paper submission was reviewed by at least three Program Committee members. After two weeks of online discussions, the committee decided to accept 20 papers for presentation at the conference.

We would like to express our gratitude to all the researchers who submitted their work to the symposium. We are particular thankful to all colleagues who served on the Program Committee, as well as the external reviewers, whose professional and hard work in the review process helped us to prepare a high-quality conference program. Special thanks go to the invited speakers, Sanjoy Baruah from the University of North Carolina at Chapel Hill, David Harel from the Weizmann Institute of Science, and Huimin Lin from the Software Institute of Chinese Academy of Sciences, for their willingness to talk about their research to and share their perspective about formal methods in software engineering. The abstracts of the invited talks are included in this volume.

The inaugural edition of a conference series is always more challenging, thus it received more support. Martin Fränzle and Cliff Jones made a great start to the organization of the event in 2013 and put in a lot of work ever since. Organizing Chair Xin Chen, Publication Chair Martin Fränzle, and Publicity Chairs Jonathan Bowen and Lijun Zhang worked very hard to make the conference possible. We are very

grateful for their support. The Steering Committee, led by Naijun Zhan, and the Advisory Board gave their enthusiastic support and advice on all aspects of the conference. Finally, we enjoyed great support from Nanjing University, with the support of General Chair Professor Jian Lv and the local organisers in particular, without which the conference could not have happened

In addition to the main conference program of the presentations included in this volume, the first Young Researchers Workshop on Formal Methods (YR-SETTA 2015) organized by Xinyu Feng and Zhilin Wu was held on November 3, 2015. We would like to offer our thanks to all the organizers for their work, which led to a successful workshop.

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