

## Preface

This volume contains the papers presented at ICTAC 2016, the 13th International Colloquium on Theoretical Aspects of Computing, held during October 24–31, 2016, in Taipei, Taiwan, ROC.

The International Colloquium on Theoretical Aspects of Computing (ICTAC) is a series of annual events founded in 2004 by the United Nations International Institute for Software Technology. Its purpose is to bring together practitioners and researchers from academia, industry, and government to present research results and exchange experiences and ideas. Beyond these scholarly goals, another main purpose is to promote cooperation in research and education between participants and their institutions from developing and industrial regions.

The city of Taipei, where this edition of ICTAC took place, is the capital and the largest city of Taiwan, ROC (Republic of China). The National Taiwan University (NTU), host of the colloquium, is the top university in Taiwan with 17,000 undergraduate students and 15,000 graduate students. The Department of Electrical Engineering of NTU, where most ICTAC 2016 sessions have been held, is the leading research group in Taiwan and has technical contributions to Taiwan's world-renowned giants, including TSMC, MediaTek, Quanta Computers, etc. ICTAC 2016 was sponsored by Microsoft Research, Springer, EasyChair, the Ministry of Science and Technology (ROC), the Ministry of Education (ROC), the Ministry of Economical Affairs (ROC), the Taipei Municipal Government, and the National Taiwan University.

In this edition of ICTAC, we had four invited speakers: Hsu-Chun Yen, from the National Taiwan University; Leonardo de Moura, from Microsoft Research, USA; Heike Wehrheim, from Universität Paderborn, Germany; and Wen-Lian Hsu, from Academia Sinica, Taiwan. They delivered keynote speeches as well as tutorials.

ICTAC 2016 received 60 submissions from 26 different countries. Each submission was reviewed by at least three members of the Program Committee, along with help from external reviewers. Out of these 60 submissions, 23 regular papers were accepted. The committee also accepted one short paper and one tool paper. Apart from the paper presentations and invited talks, ICTAC 2016 continued the tradition of previous ICTAC conferences in holding a five-course school on important topics in theoretical aspects of computing.

We thank all the authors for submitting their papers to the conference, and the Program Committee members and external reviewers for their excellent work in the review, discussion, and selection process. We are indebted to all the members of the Organizing Committee, including Dr. Churn-Jung Liao (Academia Sinica), Prof. Jonathan Lee (NTU), Dr. Yu-Fang Chen (Academia Sinica), and Prof. Fang Yu (National Cheng-Chi University), for their hard work in all phases of the conference, as well as to Filipe Arruda and Gustavo Carvalho, who helped enormously with managing EasyChair and several other operational aspects of the reviewing and proceedings

creation process. We also acknowledge our gratitude to the Steering Committee for their constant support.

We are also indebted to EasyChair that greatly simplified the assignment and reviewing of the submissions as well as the production of the material for the proceedings. Finally, we thank Springer for their cooperation in publishing the proceedings, and for the sponsorship of the two best paper awards.

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