

Preface

Theory and Applications of Models of Computation (TAMC) is a series of annual conferences that aims at bringing together a wide range of researchers with interest in computational theory and its applications. These conferences have a strong interdisciplinary character; they are distinguished by an appreciation of mathematical depth and scientific rather than heuristic approaches as well as the integration of theory and implementation.

Some of the most important theoretical aspects of a model of computation are its power, generality, simplicity, synthesizability, verifiability, and expressiveness. The TAMC series of conferences explores the algorithmic foundations, computational methods, and computing devices to meet the rapidly emerging challenges of complexity, scalability, sustainability, and interoperability, with wide-ranging impacts on virtually every aspect of human endeavor.

Due to a policy change in China, the 13th such conference had to be canceled. As a consequence, the Steering Committee of TAMC decided to give the authors of those articles that had been accepted for TAMC 2016 the option to present them at TAMC 2017. For TAMC 2016 a total of 24 papers was accepted out of 35 submissions. For TAMC 2017, which was held in Bern during April 20–22, we had 68 submissions and could accept 27. In both cases the reviewing process was rigorous and conducted by international Program Committees. The authors and reviewers for TAMC 2017 were from 29 countries. This volume contains 45 of the 51 accepted submissions of TAMC 2016 and TAMC 2017.

The main themes of TAMC 2017 were computability, computer science logic, complexity, algorithms, models of computation, and systems theory, as reflected also by the choice of the invited speakers.

This volume contains abstracts or full papers of the invited lectures of TAMC 2017 and the written versions of those contributions to TAMC 2016 and TAMC 2017 that were presented at Bern.

If indeed, as Hilbert asserted, mathematics is a meaningless game played with meaningless marks on paper, the only mathematical experience to which we can refer is the making of marks on paper.

Eric Temple Bell, *The Queen of the Sciences*, 1931

We are very grateful to the Program Committees of TAMC 2016 and TAMC 2017, and the many external reviewers they called on, for the hard work and expertise that they brought to the difficult selection process. We thank all those authors who submitted their work for our consideration. We thank the members of the Editorial Board of *Lecture Notes in Computer Science* and the editors at Springer for their encouragement and cooperation throughout the preparation of this conference.

Last but not least we thank our sponsors for providing the financial and structural basis to have TAMC 2017 in Bern:

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