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Michael Kirkedal Thomsen ·
Mathias Soeken (Eds.)

Reversible Computation

11th International Conference, RC 2019
Lausanne, Switzerland, June 24–25, 2019
Proceedings

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Preface

This volume contains the proceedings of RC 2019, the 11th International Conference on Reversible Computation, held in Lausanne, Switzerland, during June 24–25, 2019. RC 2019 was the 11th event in a series of annual meetings designed to gather researchers from different scientific disciplines for the discussion and dissemination of recent developments in all aspects of reversible computation. Previous RC events took place in York, UK (2009), Bremen, Germany (2010), Ghent, Belgium (2011), Copenhagen, Denmark (2012), Victoria, Canada (2013), Kyoto, Japan (2014), Grenoble, France (2015), Bologna, Italy (2016), Kolkata, India (2017), and Leicester, UK (2018). Reversible computation concerns models of computation where programs or processes are logically reversible (as, for example, in undoing of program execution for reversible debugging), or physically reversible (as, for example, in quantum circuits and robotics). The main areas of research presented at the conference were reversible formal models for computation and physical systems, reversible programming languages, and reversible circuits.

The conference received 22 submissions, and we would like to thank everyone who submitted. Each submission was reviewed by at least three reviewers, who provided detailed evaluations as well as constructive comments and recommendations. After careful reviewing and extensive discussions, the Program Committee (PC) accepted 13 full papers, and two short papers for presentation at the conference. We would like to thank the PC members and all the additional reviewers for their truly professional work and strong commitment to the success of RC 2019. We are also grateful to the authors for taking into account the comments and suggestions provided by the referees during the preparation of the final versions of their papers.

This year the conference program included two invited talks: Glynn Winskel spoke on concurrent strategies and his work relating to quantum computation and Renato Renner discussed his research on quantum information theory. The papers that accompany the invited talks are included in these proceedings. Furthermore, the program included a tutorial by Ali Javadi-Abhari's groups at IBM research on Qiskit and IBMQ. Finally, the program also included a poster session, which was the first time for an RC conference.

We would like to thank everyone who contributed to the organization of RC 2019, especially Giulia Meuli, Bruno Schmitt, Fereshte Mozafari, Carole Burget, Chantal Demont, and Giovanni De Micheli. We thank the EPFL, École Polytechnique Fédérale de Lausanne for their support. Finally, we acknowledge EasyChair for facilitating PC discussions and the production of the proceedings.

June 2019

Michael Kirkedal Thomsen
Mathias Soeken

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