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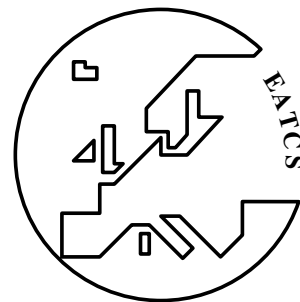
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■ Preface

This volume contains the papers presented at ICALP 2019, the 46th edition of the International Colloquium on Automata, Languages and Programming, held in Patras, Greece during July 8–12, 2019. ICALP is a series of annual conferences of the European Association for Theoretical Computer Science (EATCS), which first took place in 1972. This year, the ICALP program consisted of three tracks:

- Track A: Algorithms, Complexity, and Games,
- Track B: Logic, Semantics, Automata and Theory of Programming,
- Track C: Foundations of Networked Computation: Models, Algorithms, and Information Management.

In response to the call for papers, a total 490 submissions were received: 316 for track A, 103 for track B, and 71 for track C. Each submission was assigned to at least three Program Committee members, aided by many subreviewers. Out of these, the committee decided to accept 146 papers for inclusion in the scientific program: 94 papers for Track A, 31 for Track B, and 21 for Track C. The selection was made by the Program Committees based on originality, quality, and relevance to theoretical computer science. The quality of the manuscripts was very high, and many deserving papers could not be selected.

The EATCS sponsored awards for both a best paper and a best student paper for each of the three tracks, selected by the Program Committees.

The best paper awards were given to the following papers:

- Track A: Bingkai Lin. “A Simple Gap-producing Reduction for the Parameterized Set Cover Problem”.
- Track B: Christof Löding and Anton Pirogov. “Determinization of Büchi Automata: Unifying the Approaches of Safra and Muller-Schupp”.
- Track C: Keren Censor-Hillel and Mikael Rabie. “Distributed Reconfiguration of Maximal Independent Sets”.

The best student paper awards, for papers that are solely authored by students, were given to the following papers:

- Track A: Joran van Apeldoorn & András Gilyén. “Improvements in Quantum SDP-Solving with Applications”.
- Track B: Marie Fortin. “FO = FO3 for linear orders with monotone binary relations”.

Apart from the contributed talks, ICALP 2019 included invited presentations by Michal Feldman, Martin Grohe, Ola Svensson, Frits Vaandrager and Mihalis Yannakakis. This volume of the proceedings contains all contributed papers presented at the conference together with the abstracts of the invited speakers.

The program of ICALP 2019 also included presentation of the EATCS Award 2019 to Thomas Henzinger, the Alonzo Church Award 2019 to Murdoch J. Gabbay and Andrew M. Pitts, the Presburger Award 2019 to Karl Bringmann and Kasper Green Larsen, and the EATCS Distinguished Dissertation Awards.

Four satellite events of ICALP were held on July 8th, 2019:

- Workshop on Theoretical Aspects of Fairness (WTAF)
- Parameterized Approximation Algorithms Workshop (PAAW)

46th International Colloquium on Automata, Languages, and Programming (ICALP 2019).

Editors: Christel Baier, Ioannis Chatzigiannakis, Paola Flocchini, and Stefano Leonardi

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- Workshop on Algorithmic Aspects of Temporal Graphs II
- Logic and Computational Complexity Workshop (LCC 2019)

We wish to thank all authors who submitted extended abstracts for consideration, the Program Committees for their scholarly effort, and all referees who assisted the Program Committees in the evaluation process. We are also grateful to the Conference Co-Chairs Sotiris Nikolettseas and Christos Zaroliagis and all the support staff of the Organizing Committee from the University of Patras and the Computer Technology Institute & Press “Diophantus” for organizing ICALP 2019.

We are grateful for generous support from University of Patras and the Department of Computer Engineering & Informatics for their support for the conference. We also thank the Center for Pervasive Computing CPEC (supported by CPEC - TRR 248) for their support for the travelling costs of the invited speakers.

We would like to thank Anca Muscholl for her continuous support and Paul Spirakis, the president of EATCS, for his generous advice on the organization of the conference.

July 2019

Christel Baier
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