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This volume contains the papers presented at ICALP 2017, the 44th edition of the International Colloquium on Automata, Languages and Programming, held in Warsaw, Poland during July 10–14, 2017. 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,

In response to the call for papers, a total 459 submissions were received: 296 for track A, 108 for track B, and 55 for track C. Each submission was reviewed by at least three Program Committee members, aided by many subreviewers. Out of these, the committee decided to accept 137 papers for inclusion in the scientific program: 88 papers for Track A, 32 for Track B, and 17 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 B: Michael Benedikt, Pierre Bourhis and Michael Vanden Boom. “Characterizing Definability in Decidable Fixpoint Logics”.
- Track C: Eyjólfur Ingi Ásgeirsson, Magnus M. Halldorsson and Tigran Tonoyan. “Universal Framework for Wireless Scheduling Problems”.

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

- Track B: Fabian Reiter. “Asynchronous Distributed Automata: A Characterization of the Modal Mu-Fragment”.

Apart from the contributed talks, ICALP 2017 included invited presentations by Mikołaj Bojańczyk, Monika Henzinger, Ronitt Rubinfeld and Mikkel Thorup. This volume of the proceedings contains all contributed papers presented at the conference together with the papers and abstracts of the invited speakers.

The program of ICALP 2017 also included presentation of the EATCS Award 2017 to Eva Tardos, the Presburger Award 2017 to Alexandra Silva and the EATCS Distinguished Dissertation Award to Vincent Cohen-Addad, Mika Göös and Steen Vester.

Three satellite events of ICALP were held on 14 July, 2017:

- SSG: Algorithms and Structure for Sparse Graphs
- AVeRTS: Algorithmic Verification of Real-Time Systems
- SP: Separability Problems
The Lipa Summer School was organized on topics connected to logic in computer science during 3–6 July, 2017.

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 Mikołaj Bojańczyk, Piotr Sankowski, Bartek Klin and Filip Murlak for organizing ICALP 2017 and all the support staff of the Organizing Committee, especially Hanna Bargiel and Alicja Kosińska from Global Congress.

We would like to thank Paul Spirakis, the president of EATCS, for his generous advice on the organization of the conference.

July 2017

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Piotr Indyk
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