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Automata, Languages, and Programming

39th International Colloquium, ICALP 2012
Warwick, UK, July 9-13, 2012
Proceedings, Part II

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Preface

This volume contains the papers presented at the 39th International Colloquium on Automata, Languages and Programming (ICALP 2012), held during July 9–13, 2012 at the University of Warwick, UK. ICALP is the main conference and annual meeting of the European Association for Theoretical Computer Science (EATCS) and 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

In response to the call for papers, the three Program Committees received a total of 432 submissions: 248 for Track A, 105 for Track B, and 79 for Track C. Each submission was reviewed by three or more Program Committee members, aided by sub-reviewers. The committees decided to accept 123 papers for inclusion in the scientific program: 71 papers for Track A, 30 for Track B, and 22 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 submissions was very high indeed, and many deserving papers could not be selected.

The EATCS sponsored awards for both a best paper and a best student paper (to qualify for which, all authors must be students) for each of the three tracks, selected by the Program Committees.

The best paper awards were given to the following papers:

Track A: Leslie Ann Goldberg and Mark Jerrum for their paper "The Complexity of Computing the Sign of the Tutte Polynomial (and Consequent #P-hardness of Approximation)"

Track B: Volker Diekert, Manfred Kufleitner, Klaus Reinhardt, and Tobias Walter for their paper "Regular Languages are Church-Rosser Congruential"

Track C: Piotr Krysta and Berthold Vöcking for their paper "Online Mechanism Design (Randomized Rounding on the Fly)"

The best student paper awards were given to the following papers:

Track A: jointly, Shelby Kimmel for her paper "Quantum Adversary (Upper) Bound" and Anastasios Zouzias for his paper "A Matrix Hyperbolic Cosine Algorithm and Applications"

Track B: Yaron Velner for his paper "The Complexity of Mean-Payoff Automaton Expression"

Track C: Leonid Barenboim for his paper "On the Locality of Some NP-Complete Problems"

In addition to the contributed papers, the conference included six invited lectures, by Gilles Dowek (INRIA Paris), Kohei Honda (Queen Mary London), Stefano Leonardi (Sapienza University of Rome), Daniel Spielman (Yale), Berthold Vöcking (RWTH Aachen University), and David Harel (The Weizmann Institute of Science). David Harel's talk was in honor of Alan Turing, since the conference was one of the Alan Turing Centenary Celebration events, celebrating the life, work, and legacy of Alan Turing.

The following workshops were held as satellite events of ICALP 2012 on July 8, 2012:

- Workshop on Applications of Parameterized Algorithms and Complexity (APAC)
- 4th International Workshop on Classical Logic and Computation (CL&C)
- Third Workshop on Realistic models for Algorithms in Wireless Networks (WRAWN)

We wish to thank all the authors who submitted extended abstracts for consideration, the members of the three Program Committees for their scholarly efforts, and all sub-reviewers who assisted the Program Committees in the evaluation process. We thank the sponsors Microsoft Research, Springer-Verlag, EATCS, and the Centre for Discrete Mathematics and its Applications (DIMAP) for their support, and the University of Warwick for hosting ICALP 2012. We are also grateful to all members of the Organizing Committee and to their support staff. The conference-management system EasyChair was used to handle the submissions, to conduct the electronic Program Committee meeting, and to assist with the assembly of the proceedings.

May 2012

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