

22nd International Conference on Principles of Distributed Systems

OPODIS 2018, December 17–19, 2018, Hong Kong, China

Edited by

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■ Preface

The papers in this volume were presented at the 22nd International Conference on Principles of Distributed Systems (OPODIS 2018), held on December 17-19, 2018, in Hong Kong, China. The conference was organized by the Hong Kong Polytechnic University (PolyU).

OPODIS is an open forum for the exchange of state-of-the-art knowledge about distributed computing. With strong roots in the theory of distributed systems, OPODIS has expanded its scope to cover the whole range between the theoretical aspects and practical implementations of distributed systems, as well as experimentation and quantitative assessments. All aspects of distributed systems are within the scope of OPODIS: theory, specification, design, performance, and system building. Specifically, this year, the topics of interest at OPODIS included:

- Biological distributed algorithms
- Blockchain technology and theory
- Communication networks
- Dependable distributed algorithms and systems
- Design and analysis of distributed data structures
- Design and analysis of distributed graph algorithms
- Distributed operating systems and middleware
- Embedded systems
- Formal methods
- Game-theory and economical aspects of distributed computing
- Impossibility results for distributed computing
- Mesh and ad-hoc networks
- Mobile agents, robots, and rendezvous
- Randomization in distributed computing
- Security and privacy
- Self-stabilization
- Shared memory algorithms
- Specification and verification of distributed systems
- Synchronization
- Transactional memory

We received 66 submissions, each of which was reviewed by at least three members of the Program Committee with the help of external reviewers. Overall, the quality of the submissions was very high. From the 66 submissions, 28 papers were selected to be included in these proceedings.

The OPODIS proceedings appear in the Leibniz International Proceedings in Informatics (LIPIcs) series. LIPIcs proceedings are available online and free of charge to readers. The production costs are paid in part from the conference budget. The review process was done using EasyChair.

The Best Paper Award was given to Seth Gilbert, Nancy Lynch, Calvin Newport, and Dominik Pajak, for their paper entitled “On Simple Back-Off in Unreliable Radio Networks”. The Best Student Paper Award was given to Dean Leitersdorf and Elia Turner for their paper entitled “Sparse Matrix Multiplication and Triangle Listing in the Congested Clique Model”, coauthored with Keren Censor-Hillel. Some of the papers were selected by the Program Committee for a special issue of Theoretical Computer Science.

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This year OPODIS had three distinguished invited keynote speakers: Amr El Abbadi (University of California Santa Barbara, USA), Siddhartha Sen (Microsoft Research New York City, USA), and Jennifer Welch (Texas A&M University, USA)

We would like to thank all the authors for submitting their work to OPODIS. We are also grateful to the members of the Program Committee for their hard work reviewing papers and their active participation in the online discussions and the program committee meeting held via teleconference. We also thank the external reviewers for their help with the reviewing process.

Organizing this event would not have been possible without the time and the effort of Carmen Au, the local arrangements chair, Jia Wang, who was responsible for the website, and Bernardo Ferreira, who managed the proceedings.

Finally, we would like to thank the Steering Committee, especially Sebastien Tixeuil, for their valuable advice and to Hong Kong Polytechnic University for their support.

December 2018

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