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Sung-Shik Jongmans · Antónia Lopes
Editors

Coordination Models and Languages

25th IFIP WG 6.1 International Conference, COORDINATION 2023
Held as Part of the 18th International Federated Conference
on Distributed Computing Techniques, DisCoTec 2023
Lisbon, Portugal, June 19–23, 2023
Proceedings

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Foreword

The 18th International Federated Conference on Distributed Computing Techniques (DisCoTec) took place in Lisbon, Portugal, from June 19 to June 23, 2023. It was organized by the Department of Computer Science of NOVA School of Science and Technology, NOVA University Lisbon. The DisCoTec series is one of the major events sponsored by the International Federation for Information Processing (IFIP). It comprises three conferences:

- COORDINATION, the IFIP WG 6.1 25th International Conference on Coordination Models and Languages
- DAIS, the IFIP WG 6.1 23rd International Conference on Distributed Applications and Interoperable Systems
- FORTE, the IFIP WG 6.1 43rd International Conference on Formal Techniques for Distributed Objects, Components and Systems

Together, these conferences cover a broad spectrum of distributed computing subjects, ranging from theoretical foundations and formal description techniques to systems research issues. In addition to the individual sessions of each conference, the event also included plenary sessions that gathered attendees from the three conferences. These included joint invited speaker sessions and a joint session for the best papers and artefacts from the three conferences. The keynote speakers of DisCoTec 2023 are listed below:

- Azalea Raad, Imperial College London, UK
- Frank Pfenning, Carnegie Mellon University, USA
- Peter Pietzuch, Imperial College London, UK

Associated with the federated event were also the following satellite events:

- ICE, the 16th Interaction and Concurrency Experience
- BehAPI Tutorial Day, a series of three tutorials covering results from the BehAPI project

in addition to other short tutorials on relevant topics to DisCoTec.

I would like to thank the Program Committee chairs of the different events for their help and cooperation during the preparation of the conference, and the Steering Committee and Advisory Boards of DisCoTec for their guidance, patience, and support. The organization of DisCoTec 2023 was only possible thanks to the work of the Organizing Committee, including João Costa Seco, João Leitão, Mário Pereira, Carlos Baquero (publicity chair), Simão Melo de Sousa (workshops and tutorials chair), Joana Dâmaso (logistics and finances), as well as all the students who volunteered their time to help. Finally, I would like to thank IFIP WG 6.1 and NOVA LINCS for sponsoring this event,

Springer's Lecture Notes in Computer Science team for their support and sponsorship, and EasyChair for providing the reviewing infrastructure.

June 2023   Carla Ferreira

Preface

This volume contains the proceedings of the 25th International Conference on Coordination Models and Languages (COORDINATION 2023), held during June 19–23, 2023, at NOVA University Lisbon, in Lisbon, Portugal, as part of the 18th International Federated Conference on Distributed Computing Techniques (DisCoTec 2023).

Modern information systems rely increasingly on combining concurrent, distributed, mobile, adaptive, reconfigurable, and heterogeneous components. New models, architectures, languages, and verification techniques are necessary to cope with the complexity induced by the demands of today's software development. Coordination languages have emerged as a successful approach, in that they provide abstractions that cleanly separate behavior from communication, thereby increasing modularity, simplifying reasoning, and ultimately enhancing software development. COORDINATION provides a well-established forum for the community of researchers interested in models, languages, architectures, and implementation techniques for coordination.

COORDINATION 2023 solicited contributions in five different categories: (1) long regular papers describing thorough and complete research results and experience reports; (2) short regular papers describing research in progress or opinion papers on past *coordination* research, on the current state of the art, or on prospects for the years to come; (3) short tool papers describing technological artefacts in the scope of the research topics of *coordination*; (4) long tool papers describing technological artefacts in the scope of the research topics of *coordination*; and (5) survey papers describing important results and success stories that originated in the context of *coordination.*

There were 27 paper submissions distributed over the different categories: 14 long regular papers, seven long tool papers, four short regular papers, and two short tool papers. The selection of the papers was entrusted to the Program Committee (PC), with 29 members from 15 different countries. The selection of the papers was done electronically, in two phases. In the first phase, which lasted three weeks, each submission was single-blind reviewed by at least three program committee members, in some cases with the help of external reviewers. During the second phase, which lasted slightly less than one week, the papers were throughly discussed. The decision to accept or reject a paper was based not only on the review reports and scores but also on these in-depth discussions. In the end, 14 papers were selected to be presented at the conference: eight long regular papers, four long tool papers and two short tool papers.

The authors of the accepted papers were subsequently invited to participate in the EAPLS artefact badging. The 11 members of the Artefact Evaluation Committee (AEC), chaired by Alceste Scalas, awarded the available badge to eight artefacts, the reusable badge to five artefacts, and the functional badge to three artefacts.

In addition to the selected papers, these proceedings contain a paper that accompanies the excellent invited talk by Frank Pfenning from Carnegie Mellon University, USA, entitled "Relating Message Passing and Shared Memory, Proof-Theoretically". This paper was subject to a different review process, carried out by the PC chairs.

We are grateful to all involved in COORDINATION 2023. In particular, to the authors for their submissions, the attendees of the conference for their participation, the PC members and external reviewers for their work in reviewing submissions and participating in the discussions, the AEC members for their effort in the evaluation of the artefacts, and the Steering Committee, chaired by Mieke Massink, for their guidance and support. We are also grateful to the Organizing Committee, chaired by Carla Ferreira, for their excellent job. We also thank the providers of EasyChair Conference Management System, which was a great help in organizing the submission and reviewing process and in the preparation of the proceedings. We would also like to acknowledge the prompt and professional support from Springer, who published these proceedings in printed and electronic volumes as part of their LNCS and LNPSE book series.

June 2023
<div align="right">Sung-Shik Jongmans
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