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Christel Baier · Luís Caires (Eds.)

Formal Techniques for Distributed Objects, Components, and Systems

38th IFIP WG 6.1 International Conference, FORTE 2018
Held as Part of the 13th International Federated Conference
on Distributed Computing Techniques, DisCoTec 2018
Madrid, Spain, June 18–21, 2018
Proceedings

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Foreword

The 13th International Federated Conference on Distributed Computing Techniques (DisCoTec) took place in Madrid, Spain, during June 18–21, 2018. 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 WG6.1 International Conference on Coordination Models and Languages (the conference celebrated its 20th anniversary in 2018)
- DAIS, the IFIP WG6.1 International Conference on Distributed Applications and Interoperable Systems (the conference is in its 18th edition)
- FORTE, the IFIP WG6.1 International Conference on Formal Techniques for Distributed Objects, Components and Systems (the conference is in its 38th edition)

Together, these conferences cover a broad spectrum of distributed computing subjects, ranging from theoretical foundations and formal description techniques to systems research issues. Each day of the federated event began with a plenary speaker nominated by one of the conferences.

In addition to the three main conferences, two satellite events took place during June 20–21, 2018:

- ICE, the Workshop on Interaction and Concurrency Experience (in its 11th edition)
- FADL, Workshop on Foundations and Applications of Distributed Ledgers (this was the first year that the workshop took place)

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 of DisCoTec for its guidance and support. The organization of DisCoTec 2018 was only possible thanks to the dedicated work of the Organizing Committee, including the organization chairs, Jesús Correas and Sonia Estévez (Universidad Complutense de Madrid, Spain), the publicity chair, Ivan Lanese (University of Bologna/Inria, Italy), the workshop chairs, Luis Llana and Ngoc-Thanh Nguyen (Universidad Complutense de Madrid, Spain and Wroclaw University of Science and Technology, Poland, respectively), the finance chair, Mercedes G. Merayo (Universidad Complutense de Madrid, Spain), and the webmaster, Pablo C. Cañizares (Universidad Complutense de Madrid, Spain). Finally, I would like to thank IFIP WG6.1 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 2018

Manuel Núñez

Preface

This volume contains the papers presented at the 38th IFIP WG 6.1 International Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE 2018). It was held as one of the three main conferences of the 13th International Federated Conference on Distributed Computing Techniques (DisCoTec), June 18–21, 2018, in Madrid.

The conference is dedicated to fundamental research on theory, models, tools, and applications for distributed systems. It solicits original contributions that advance the science and technologies for distributed systems, with special interest in the areas of: component- and model-based design; object technology, modularity, software adaptation, service-oriented, ubiquitous, pervasive, grid, cloud, and mobile computing systems; software quality, reliability, availability, and safety; security, privacy, and trust in distributed systems; adaptive distributed systems; self-stabilization; self-healing/organizing; verification, validation, formal analysis, and testing of the above.

The program consisted of ten contributed papers, selected from 28 submissions. Each submission was reviewed by at least three Program Committee members, with the help of external experts. The selection was made based on discussions via the EasyChair conference management system, which was also used to assist with the assembly of the proceedings.

We wish to thank all authors who submitted to FORTE 2018, all the Program Committee members for their excellent work, and the external reviewers for their thorough evaluation of the submissions. We want to say a special thanks to Joachim Klein, who helped us to generate the conference proceedings. In addition, we would like to thank the DisCoTec Organizing Committee for providing an excellent environment for FORTE and other conferences and workshops.

April 2018

Christel Baier
Luís Caires

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