Logical Methods in Computer Science
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PREFACE

This special issue collects the extended versions of seven selected papers presented at the 42nd IFIP WG 6.1 International Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE 2022), held as one of the three main conferences of the 17th International Federated Conference on Distributed Computing Techniques (DisCoTec 2022). The event took place from June 13–17, 2022 in Lucca, Italy, and was hosted by the IMT School for Advanced Studies Lucca.

FORTE is a well-established forum for fundamental research on theory, models, tools, and applications for distributed systems, with special interest in the following areas:

- Component- and model-based design;
- Cyber-physical systems, autonomous systems, and AI-enabled systems design and trustworthiness;
- Object technology, modularity, software adaptation;
- Self-stabilization and self-healing/organizing;
- Software quality, reliability, availability, and safety;
- Security, privacy, and trust in distributed and/or communicating systems;
- Service-oriented, ubiquitous, and cloud computing systems; and
- Verification, validation, formal analysis, and testing of the above.

In the 2022 edition for FORTE, 12 papers were selected for inclusion in the scientific program. Each submission was reviewed by at least three Program Committee members with the help of 18 external reviewers in selected cases. The articles in this special issue were selected among the conference papers that received the highest rankings by the programme committee. Their authors were invited to revise and extend their conference versions with additional technical content as well as full proofs of the results. Each extended paper subsequently underwent a new review process adhering to the high standards of LMCS.

The special issue features the following seven articles:

- *revTPL: The Reversible Temporal Process Language* by Laura Bocchi, Ivan Lanese, Claudio Antares Mezzina, and Shoji Yuen;
- *Branch-Well-Structured Transition Systems and Extensions* by Benedikt Bollig, Alain Finkel, and Amrita Suresh;
- *Offline and online energy-efficient monitoring of scattered uncertain logs using a bounding model* by Bineet Ghosh and Étienne André;
- *FTMPST: Fault-Tolerant Multiparty Session Types* by Kirstin Peters, Uwe Nestmann, and Christoph Wagner;
- *Structural Reductions and Stutter Sensitive Properties* by Emmanuel Paviot-Adet, Denis Poitrenaud, Etienne Renault, and Yann Thierry-Mieg;

All articles have already been published in the regular issues of Logical Methods in Computer Science.

- *Flexible Correct-by-Construction Programming* by Tobias Runge, Tabea Bordis, Alex Potanin, Thomas Thüm, and Ina Schaefer;
- *Encodability Criteria for Quantum Based Systems* by Anna Schmitt, Kirstin Peters, and Yuxin Deng.

We would like to thank all the authors of the submitted papers for their efforts in preparing the extended versions included in this special issue. We are also grateful to the reviewers of this issue, as well as to the members of the Program Committee and the external reviewers who contributed to the evaluation process, for their thorough and insightful assessments. Finally, we extend our thanks to Brigitte Pientka for her support throughout the publication process.

Mohammad Reza Mousavi and Anna Philippou
FORTE 2022 Guest Editors