

Formal Aspects of Component Software

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Preface — Proceedings of the 17th International Conference on Formal Aspects of Component Software (FACS'2021)

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This volume contains the proceedings of the 17th International Conference on Formal Aspects of Component Software (FACS 2021), held online, due to the COVID-19 pandemic, during October 2829, 2021.

Component-based software development proposes sound engineering princi- ples and techniques to cope with the complexity of present-day software sys- tems. However, many challenging conceptual and technological issues remain in component-based software development theory and practice. Furthermore, the advent of service-oriented and cloud computing, cyber-physical systems, and the Internet of Things has brought to the fore new dimensions, such as quality of service and robustness to withstand faults, which require revisiting established concepts and developing new ones.

FACS 2021 was concerned with how formal methods can be applied to component-based software and system development. Formal methods have pro- vided foundations for component-based software through research on mathemati- cal models for components, composition and adaptation, and rigorous approaches to verification, deployment, testing, and certification.

We received 16 submissions for the conference, and all of them were reviewed by three reviewers. Based on their reports and subsequent discussions, the Pro- gram Committee (PC) decided to accept 8 papers (7 regular papers and 1 tool paper) for inclusion in this volume and programme of FACS 2021. In addition, we invited Radu Calinescu and Corina Pasareanu to give keynotes. This volume contains an abstract of the talk given by Radu Calinescu and an invited paper by Corina Pasareanu.

We thank Radu Calinescu and Corina Pasareanu for accepting our invitations to give an invited talk, as well as all authors who submitted their work for FACS 2021. We thank the members of the PC for their effort to write timely and high- quality reviews, and their discussions to make the final selection of papers. We also thank the FACS Steering Committee for useful suggestions and support. Finally, we thank the other members of the FACS 2021 organizing committee, Radu Mateescu, Ajay Muroor Nadumane, and Ahang Zuo, for their contribution to organizing the conference.

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