

Sixth Workshop on Next Generation Real-Time Embedded Systems

NG-RES 2025, January 20, 2025, Barcelona, Spain

Edited by

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Preface

On behalf of the Technical Program Committee, we are delighted to welcome you to the *Proceedings of the 6th Edition of the Workshop on Next Generation Real-Time Embedded Systems (NG-RES 2025)*, held in Barcelona, Spain, on January 20, 2025.

The NG-RES workshop series focuses on real-time embedded systems, with special emphasis on distributed and parallel aspects. It serves as a meeting place for the networking and multicore real-time communities and fosters cross-disciplinary collaboration and innovation in embedded system design.

Key topics covered at NG-RES 2025 included, but were not limited to:

- Application of formal methods to distributed and/or parallel real-time systems
- Programming models, paradigms, and frameworks for real-time computation on parallel and heterogeneous architectures
- Dependable systems and networks
- Machine learning techniques for designing real-time systems
- Applications of approximate computing in real-time systems
- Compiler-assisted solutions for distributed and/or parallel real-time systems
- Middleware for distributed and/or parallel real-time systems
- Networking protocols and services (e.g., clock synchronization) for distributed real-time embedded systems
- Scheduling and schedulability analysis for distributed and/or parallel real-time systems
- System-level software and technologies (e.g., RTOSs, hypervisors, separation kernels, virtualization) for parallel and heterogeneous architectures

We would like to express our heartfelt gratitude to all those involved in the organization of the workshop. In particular, we would like to thank the General Chair, Federico Terraneo, and the Submission and Web Chair, Daniele Cattaneo. We would also like to express our special appreciation to the Program Committee members listed below, whose commitment and hard work were instrumental in shaping the workshop program:

- Jaume Abella Ferrer, Barcelona Supercomputing Center, Spain
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- Amit Kumar Singh, University of Essex, United Kingdom
- Marco Solieri, Minerva Systems and Università di Modena e Reggio Emilia, Italy
- Jürgen Teich, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

We also thank our publisher Schloss Dagstuhl as well as the HiPEAC organizers for contributing to the success of this workshop. Finally, we sincerely thank all the authors who contributed to NG-RES 2025. Their valuable research and insights made this workshop possible!

Patrick Meumeu Yonsi and Stefan Wildermann

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Editors: Patrick Meumeu Yonsi and Stefan Wildermann



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