# Sixth Workshop on Next Generation Real-Time Embedded Systems

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

Edited by
Patrick Meumeu Yomsi
Stefan Wildermann

*Editors*

**Patrick Meumeu Yomsi**
CISTER Research Centre, ISEP, Porto, Portugal
pmy@isep.ipp.pt

**Stefan Wildermann**
Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Erlangen, Germany
stefan.wildermann@fau.de

*ACM Classification 2012*
Computer systems organization → Real-time systems; Computer systems organization → Embedded and cyber-physical systems; Software and its engineering → Software notations and tools; Networks

**ISBN 978-3-95977-366-9**

*Published online and open access by*
Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at https://www.dagstuhl.de/dagpub/978-3-95977-366-9.

*Publication date*
March, 2025

*Bibliographic information published by the Deutsche Nationalbibliothek*
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at https://portal.dnb.de.



Digital Object Identifier: 10.4230/OASIcs.NG-RES.2025.0

**ISBN 978-3-95977-366-9** **ISSN 1868-8969** **https://www.dagstuhl.de/oasics**

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**ISSN 1868-8969**

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## Papers



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OASICS Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany

# 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
- Luís Almeida, Universidade do Porto, Portugal
- Daniel Casini, Scuola Superiore Sant'Anna, Italy
- Dakshina Dasari, Robert Bosch GmbH, Germany
- Khalil Esper, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
- Deepak Gangadharan, International Institute of Information Technology, Hyderabad
- John Harrison Kurunathan, University of Porto, Portugal
- Ahlem Mifdaoui, University of Toulouse, France
- Marc Pouzet, École normale supérieure, Paris, France
- Mubarak Ojewale, King Abdullah University of Science and Technology (KAUST), Saudi Arabia
- 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!

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# List of Authors


Pascal Becker (2)
ABB AG Corporate Research Center,
Mannheim, Germany

Nicolas Coppik (2)
ABB AG Corporate Research Center,
Mannheim, Germany

Diogo Costa (4, 5)
Centro ALGORITMI / LASI,
Universidade do Minho, Portugal

Sverre Hendseth (1)
Norwegian University of Science and Technology,
Trondheim, Norway

Erling Rennemo Jellum (1)
University of California, Berkeley, CA, USA

Edward A. Lee (1)
University of California, Berkeley, CA, USA

Shaokai Lin (1)
University of California, Berkeley, CA, USA

Marten Lohstroh (1)
University of California, Berkeley, CA, USA

José Martins (4, 5)
Centro ALGORITMI / LASI,
Universidade do Minho, Portugal

Gonçalo Moreira (4, 5)
Centro ALGORITMI / LASI,
Universidade do Minho, Portugal

Magnus Mæhlum (1)
Norwegian University of Science and Technology,
Trondheim, Norway

Afonso Oliveira (4, 5)
Centro ALGORITMI / LASI,
Universidade do Minho, Portugal

Sandro Pinto (4, 5)
Centro ALGORITMI / LASI,
Universidade do Minho, Portugal

Marcus Ritter (2)
ABB AG Corporate Research Center,
Mannheim, Germany

Martin Schoeberl (1)
Technical University of Denmark, Denmark

Jan Spieck (3)
Friedrich-Alexander-Universität
Erlangen-Nürnberg (FAU), Germany

Jürgen Teich (3)
Friedrich-Alexander-Universität
Erlangen-Nürnberg (FAU), Germany

Dominik Walter (3)
Friedrich-Alexander-Universität
Erlangen-Nürnberg (FAU), Germany

Jan Waschkeit (3)
Friedrich-Alexander-Universität
Erlangen-Nürnberg (FAU), Germany



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