

30th Ada-Europe International Conference on Reliable Software Technologies

AEiC 2026, June 9–12, 2026, Västerås, Sweden

Edited by

Antonio Filieri

Peter Backeman



Editors

Antonio Filieri 

Amazon Web Services, Santa Clara, USA
afilieri@amazon.com

Peter Backeman 

Mälardalen University, Västerås, Sweden
peter.backeman@mdu.se

ACM Classification 2012

Software and its engineering → Formal methods; Software and its engineering → Software reliability;
Computer systems organization → Real-time systems; Computer systems organization → Embedded and
cyber-physical systems; Computing methodologies → Concurrent computing methodologies

ISBN 978-3-95977-425-3

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/978-3-95977-425-3>.

Publication date

June, 2026

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists all publications of this volume in the Deutsche Nationalbibliografie;
detailed bibliographic data are available in the Internet at <https://portal.dnb.de>.

License

This work is licensed under a Creative Commons Attribution 4.0 International license (CC-BY 4.0):
<https://creativecommons.org/licenses/by/4.0/legalcode>.



In brief, this license authorizes each and everybody to share (to copy, distribute and transmit) the work
under the following conditions, without impairing or restricting the authors' moral rights:

- Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/OASlcs.AEiC.2026.0

ISBN 978-3-95977-425-3

ISSN 1868-8969

<https://www.dagstuhl.de/oasics>

OASlcs – OpenAccess Series in Informatics

OASlcs is a series of high-quality conference proceedings across all fields in informatics. OASlcs volumes are published according to the principle of Open Access, i.e., they are available online and free of charge.

Editorial Board

- Daniel Cremers (TU München, Germany)
- Barbara Hammer (Universität Bielefeld, Germany)
- Marc Langheinrich (Università della Svizzera Italiana – Lugano, Switzerland)
- Dorothea Wagner (*Editor-in-Chief*, Karlsruher Institut für Technologie, Germany)

ISSN 1868-8969

<https://www.dagstuhl.de/oasics>

■ Contents

Preface	
<i>Antonio Filieri and Peter Backeman</i>	0:vii
List of Authors	
.....	0:ix
Papers	
Model-Agnostic Uncertainty-Aware Semantic Segmentation with Conformal Risk Guarantees for Scene Understanding	
<i>Bakary Badjie, José Cecílio, Nils-Jonathan Friedrich, Norman Seyffner, Georg Jäger, and António Casimiro</i>	1:1–1:20
Discovering and Repairing Flaws in C Binaries Without Requiring Codebase and Instrumentation	
<i>Diogo Ferreira and Ibéria Medeiros</i>	2:1–2:19
A Certifiable Approach to Multicore Using Ada	
<i>José F. Ruiz</i>	3:1–3:15
HASCO: A Hybrid AI Simulation Compiler for Semantic Accident Reconstruction	
<i>Edin Jelačić, Rong Gu, Cristina Seceleanu, Ning Xiong, Peter Backeman, Tiberiu Seceleanu, Zhennan Fei, and Ali Nouri</i>	4:1–4:22
A Rust Framework for Real-Time Parallel Programming	
<i>Hugo Silva, Tiago Carvalho, and Luis Miguel Pinho</i>	5:1–5:17
Task-Based Constant Bandwidth Server in the Zephyr Operating System	
<i>Alexander Paschoaletto, Paulo Baltarejo Sousa, Luis Miguel Pinho, and Tiago Carvalho</i>	6:1–6:16
A Flexible Ada Framework for Jitter-Sensitive Mixed-Criticality Real-Time Systems	
<i>Sergio Sáez Barona and Jorge Real Sáez</i>	7:1–7:21

Preface

This volume gathers the papers included in the Regular Paper Track of the 30th Ada-Europe International Conference on Reliable Software Technologies (AEiC 2026), held in Västerås, Sweden, from 9 to 12 June 2026, and hosted by Mälardalen University.

Two milestones meet in these proceedings. The first is the conference’s thirtieth edition – three decades during which AEiC has served as a meeting point for the community that designs, builds, and maintains critical, high-reliability software systems. The second, and the reason for this particular volume, is the introduction of a Regular Paper Track, appearing for the first time in the conference’s history.

Alongside the established Journal, Industrial, and Work-in-Progress Tracks, the Regular Paper Track was created to provide a natural home for contributions that present solid, completed research results in a concise conference format. It broadens the program by offering authors an appropriate venue for work that does not require the length or scope of a full journal article.

A new track comes into being only through the work of many. Our thanks go to the authors for entrusting us with their contributions; to the Program Committee members and external reviewers for the depth and care of their assessments; to the General Chairs, the publishing team at Dagstuhl, and the local team at Mälardalen University; and to the Ada-Europe Board for championing this addition to the program. We hope the papers that follow will spark discussion, collaboration, and further work.

Välkommen till Västerås, and welcome to the Regular Track of AEiC 2026.

Antonio Filieri, Peter Backeman
Program Chairs, AEiC 2026 Regular Track

■ List of Authors

Peter Backeman  (4)
Department of Computer Science and
Engineering, Mälardalen University, Sweden

Bakary Badjie  (1)
LASIGE, Departamento de Informática,
Faculdade de Ciências da Universidade de
Lisboa, Portugal

Tiago Carvalho  (5, 6)
SoftCPS/ISEP & INESC TEC,
Porto, Portugal

António Casimiro  (1)
LASIGE, Departamento de Informática,
Faculdade de Ciências da Universidade de
Lisboa, Portugal

José Cecílio  (1)
LASIGE, Departamento de Informática,
Faculdade de Ciências da Universidade de
Lisboa, Portugal

Zhennan Fei  (4)
Volvo Cars, Göteborg, Sweden;
Chalmers University of Technology,
Göteborg, Sweden

Diogo Ferreira  (2)
LASIGE, Department of Informatics, Faculty of
Sciences of University of Lisboa, Portugal

Nils-Jonathan Friedrich (1)
Technische Universität Bergakademie Freiberg,
Germany

Rong Gu  (4)
Prover Technology AB, Stockholm, Sweden

Edin Jelačić  (4)
Department of Computer Science and
Engineering, Mälardalen University, Sweden

Georg Jäger  (1)
Technische Universität Bergakademie Freiberg,
Germany

Ibéria Medeiros  (2)
LASIGE, Department of Informatics, Faculty of
Sciences of University of Lisboa, Portugal

Ali Nouri  (4)
Volvo Cars, Göteborg, Sweden;
Chalmers University of Technology,
Göteborg, Sweden

Alexander Paschoaletto (6)
SoftCPS/ISEP, Porto, Portugal

Luis Miguel Pinho  (5, 6)
SoftCPS/ISEP & INESC TEC, Porto, Portugal

Jorge Real Sáez  (7)
Instituto de Automática e Informática Industrial,
Universitat Politècnica de València, Spain

José F. Ruiz  (3)
AdaCore, 46 rue d'Amsterdam,
75009 Paris, France

Cristina Seceleanu  (4)
Department of Computer Science and
Engineering, Mälardalen University, Sweden

Tiberiu Seceleanu  (4)
Department of Computer Science and
Engineering, Mälardalen University, Sweden

Norman Seyffer  (1)
Technische Universität Bergakademie Freiberg,
Germany

Hugo Silva (5)
SoftCPS/ISEP, Porto, Portugal

Paulo Baltarejo Sousa  (6)
SoftCPS/ISEP & INESC TEC, Porto, Portugal

Sergio Sáez Barona  (7)
Instituto Universitario Mixto Tecnológico de
Informática, Universitat Politècnica de València,
Spain

Ning Xiong  (4)
Department of Computer Science and
Engineering, Mälardalen University, Sweden

