

# Foreword

The Ninth International Conference on Reliable Software Technologies, Ada-Europe 2004, took place in Palma, Spain, June 14–18, 2004. It was sponsored by Ada-Europe, the European federation of national Ada societies, and Ada-Spain, in cooperation with ACM SIGAda. It was organized by members of the University of the Balearic Islands (UIB).

As in past years, the conference comprised a three-day technical program, during which the papers contained in these proceedings were presented, along with vendor presentations. The technical program was bracketed by two tutorial days, when the attendees had the opportunity to catch up on a variety of topics related to the field, at both introductory and advanced levels. Furthermore, the conference was accompanied by an exhibition where vendors presented their products for supporting reliable-software development.

## Invited Speakers

The conference presented four distinguished speakers, who delivered state-of-the-art information on topics of great importance, both for now and for the future of software engineering:

- S. Tucker Taft, SoftCheck Inc., USA  
*Fixing software before it breaks: using static analysis to help solve the software quality quagmire*
- Martin Gogolla, University of Bremen, Germany  
*Benefits and problems of formal methods*
- Antoni Olivé, Polytechnical University of Catalonia, Spain  
*On the role of conceptual schemas in information systems' development*
- Stephen Vinoski, IONA Technologies in Waltham, USA  
*Can middleware be reliable?*

We would like to express our sincere gratitude to these distinguished speakers, well known to the community, for sharing their insights with the conference participants.

## Submitted Papers

A large number of papers were submitted, from as many as 15 different countries. The program committee worked hard to review them, and the selection process proved to be difficult, since many papers had received excellent reviews. Finally, the program committee selected 23 papers for the conference. The final result was a truly international program with authors from Australia, Austria, China, Czech Republic, France, Germany, India, Portugal, Spain, the UK, and the USA, covering a broad range of software technologies: static analysis, testing, real-time systems, scheduling, distributed systems, formal methods, critical systems, UML, XML, fault tolerance and middleware, language issues, teaching and Ravenscar.

## Tutorials

The conference also included an interesting selection of tutorials, featuring international experts who presented introductory and advanced material in the domain of the conference:

- Jean-Pierre Rosen, *Developing a Web server in Ada with AWS*
- Matthew Heaney, *Programming with the Charles container library*
- Guillem Bernat, *Probabilistic worst case execution time analysis*
- Mário A. Alves, *No pointers, great programs*
- Alfred Strohmeier, *Requirements analysis with use cases*
- Peter Amey and Roderick Chapman, *Practical experiences of safety and security-critical technologies*
- Bruce Lewis and Ed Colbert, *Developing fault-tolerant, time-critical systems with AADL, UML and Ada*
- Ben Brosgol, *Real-time Java for Ada programmers*

## Acknowledgements

Many people contributed to the success of the conference. The program committee, made up of international experts in the area of reliable software technologies, spent long hours carefully reviewing all the papers and tutorial proposals submitted to the conference. A subcommittee comprising Dirk Craeynest, Albert Llamósí, Erhard Ploedereder, M.-Ribera Sancho, Alfred Strohmeier and Tullio Vardanega met in Barcelona to make the final paper selection. Some program committee members were assigned to shepherd some of the papers. We are grateful to all those who contributed to the technical program of the conference.

We would also like to thank the members of the organizing committee, with special thanks to Javier Miranda, whose dedication was key to the preparation of the attractive tutorial program and to Miquel Mascaró-Portells, who did a great job in preparing the Web pages and all the Internet facilities. Also to Dirk Craeynest, who worked hard to make the conference prominently visible and Peter Dencker who was in charge of the conference exhibition. Erhard Plöedereder and Janet Barnes played an important role in the financial assessment and the liaison with Ada-Europe.

A great help in organizing the submission process and the paper reviews was the START Conference Manager, provided graciously by Rich Gerber.

Finally, we would like to express our appreciation to the authors of the papers submitted to the conference, and to all the participants who helped in achieving the goal of the conference, providing a forum for researchers and practitioners for the exchange of information and ideas about reliable software technologies. We hope they all enjoyed the technical program as well as the social events of the Ninth International Conference on Reliable Software Technologies.

# Organizing Committee

## Conference Chair

Albert Llamosí, *University of the Balearic Islands, Spain*

## Program Co-chairs

Albert Llamosí, *University of the Balearic Islands, Spain*

Alfred Strohmeier, *Swiss Fed. Inst. of Technology Lausanne, Switzerland*

## Tutorial Chair

Javier Miranda, *University of Las Palmas de Gran Canaria, Spain*

## Exhibition Chair

Peter Dencker, *Aonix GmbH, Germany*

## Publicity Chair

Dirk Craeynest, *Offis, Belgium*

## Local Organization Co-chairs

Miquel Mascaró-Portells, *University of the Balearic Islands, Spain*

Gabriel Fontanet, *University of the Balearic Islands, Spain*

## Ada-Europe Conference Liaison

Laurent Pautet, *ENST, France*

## Program Committee

Alejandro Alonso, *Universidad Politécnica de Madrid, Spain*

Ángel Álvarez, *Universidad Politécnica de Madrid, Spain*

Lars Asplund, *Mälardalens Högskola, Sweden*

Neil Audsley, *University of York, UK*

Janet Barnes, *Praxis Critical Systems Limited, UK*

Pierre Bazex, *IRIT, France*

Guillem Bernat, *University of York, UK*

Johann Blieberger, *Technical University Vienna, Austria*

Maarten Boasson, *University of Amsterdam, The Netherlands*

## VIII Organizing Committee

Ben Brosgol, *ACT, USA*  
Bernd Burgstaller, *TU Vienna, Austria*  
Ulf Cederling, *Vaxjo University, Sweden*  
Roderick Chapman, *Praxis Critical Systems Limited, UK*  
Dirk Craeynest, *Aubay Belgium & K.U. Leuven, Belgium*  
Alfons Crespo, *Universitat Politècnica de València, Spain*  
Juan A. de la Puente, *Universidad Politécnica de Madrid, Spain*  
Peter Dencker, *Aonix GmbH, Germany*  
Raymond Devillers, *Université Libre de Bruxelles, Belgium*  
Gabriel Fontanet, *Universitat de les Illes Balears, Spain*  
Ana García, *Universitat Politècnica de València, Spain*  
Wolfgang Gellerich, *IBM, Germany*  
Michael González-Harbour, *Universidad de Cantabria, Spain*  
Jesús M. González-Barahona, *Universidad Rey Juan Carlos, Spain*  
Thomas Gruber, *Austrian Research Centers Seibersdorf, Austria*  
Helge Hagenauer, *University of Salzburg, Austria*  
Andrew Hatelly, *Eurocontrol, Belgium*  
Günter Hommel, *TU Berlin, Germany*  
Wolfgang Kastner, *TU Vienna, Austria*  
Stefan Kauer, *EADS, Friedrichshafen, Germany*  
Hubert B. Keller, *Institut für Angewandte Informatik, Germany*  
Yvon Kermarrec, *ENST Bretagne, France*  
Jörg Kienzle, *School of Computer Science, McGill University, Montreal, Canada*  
Fabrice Kordon, *UPMC, France*  
Michel Lemoine, *ONERA, France*  
Pascal Leroy, *Rational Software, France*  
Kristina Lundqvist, *Massachusetts Institute of Technology, USA*  
Franco Mazzanti, *Istituto di Elaborazione della Informazione, Italy*  
Silvia Mazzini, *Intecs HRT, Italy*  
John W. McCormick, *University of Northern Iowa, USA*  
Thierry Millan, *IRIT, France*  
Pierre Morere, *Aonix, France*  
Pascal Obry, *EdF, France*  
Laurent Pautet, *ENST Paris, France*  
Erhard Plödereder, *University of Stuttgart, Germany*  
Werner Pohlmann, *University of Salzburg, Austria*  
Gerhard Rabe, *TÜV Nord e.V., Germany*  
Ceri Reid, *CODA Technologies*  
Jean-M. Rigaud, *Université Paul Sabatier, France*  
Alexander Romanovsky, *University of Newcastle, UK*  
Jean-P. Rosen, *Adalog, France*  
M. Ribera Sancho, *Universitat Politècnica de Catalunya, Spain*  
Bo I. Sandén, *Colorado Technical University, USA*  
Bernhard Scholz, *TU Vienna, Austria*  
Edmond Schonberg, *New York University & ACT, USA*

Gerald Sonneck, *ARC Seibersdorf research, Austria*

Tullio Vardanega, *University of Padova, Italy*

Andy Wellings, *University of York, UK*

Jürgen Winkler, *Friedrich-Schiller-Universität, Germany*

Thomas Wolf, *Paranor AG, Switzerland*

Reliable Software Technologies - Ada-Europe 2004  
9th Ada-Europe International Conference on Reliable  
Software Technologies, Palma de Mallorca, Spain, June  
14-18, 2004, Proceedings  
Llamosi, A.; Strohmeier, A. (Eds.)  
2004, XIII, 331 p., Softcover  
ISBN: 978-3-540-22011-4