



7th International Conference on
Reliable Software Technologies -
Ada-Europe 2002



Vienna, Austria, June 17-21, 2002

<http://www.ada-europe.org/conference2002.html>



SIGAda

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TECHNISCHE UNIVERSITÄT WIEN



ADA-EUROPE 2002

In 2002, the 7th International Conference on Reliable Software Technologies will take place in Vienna, Austria, from June 17th to June 21st. The conference offers a technical program and exhibition, plus a series of tutorials and a workshop.

The conference provides an international forum for researchers, developers and users of reliable software technologies. Presentations and discussions cover applied and theoretical work currently conducted to support the development and maintenance of software systems.

Vienna, a city with about 2 million inhabitants is situated in the heart of Europe. It is a city

on which its ever-changing history has left an indelible mark, manifested also in the rich cultural heritage. Shaped by its hundreds of years as capital of an empire, the city's ultimate fascination nowadays stems from combining imperial grandeur with explosive modernity.

The conference will take place in the Parkhotel Schönbrunn which originated in 1907 as the guest house of Emperor Franz Josef I. The newly renovated hotel is located in the immediate vicinity of the "Schönbrunn Palace" and its beautiful surrounding park, situated close to the center of Vienna.

PRELIMINARY PROGRAM

	Morning	Late Morning	After Lunch	Afternoon
Monday June 17th Tutorials	MaRTE OS: Bringing Embedded Systems and Real-Time POSIX Together, <i>M. González and M. Aldea</i>		Using Open Source Hardware and Software to Build Reliable Systems, <i>J. Sherrill and J. Gaisler</i>	
	Principles of Physical Software Design in Ada95, <i>M. Heaney</i>		Implementing Design Patterns in Ada95, <i>M. Heaney</i>	
	SPARK, an "Intensive Overview", <i>P. Amey and R. Chapman</i>			
Tuesday June 18th Sessions & Exhibition	Embedded Systems unsuitable for object orientation, <i>Maarten Boasson</i>	Embedded Systems	Real-Time Systems	High Integrity Systems
		Case Studies	Vendor presentations	
Wednesday June 19th Sessions & Exhibition	On Architectural Stability and Evolution, <i>Mehdi Jazayeri</i>	Ada Language Issues	Program Analysis	Tools
			Vendor presentations	
Thursday June 20th Sessions & Exhibition	Reasoning About Reliable Distributed Programs, <i>Rachid Guerraoui</i>	Distributed Systems	Libraries	Contextware: Bridging Physical and Virtual Worlds, <i>Alois Ferscha</i>
		Vendor presentations	OO Technology	
Friday June 21st Tutorials & Workshop	Improved Software Testing with the Use of Metrics, <i>A. Sorkowitz</i>			
	WG9 Meeting		CORBA 3 and CORBA for Embedded Systems, <i>S. Ron Oliver</i>	
	Workshop: A Standard Container Library for Ada, <i>E. Lamm</i>		Cleanroom Software Engineering: An Overview, <i>W. Bail</i>	



INVITED SPEAKERS

Embedded Systems Unsuitable for Object Orientation

Maarten Boasson, Quaerendo Invenietis bv & University of Amsterdam

It will be argued that the current focus on object technology is detrimental to progress in embedded systems. The core of the problem is that OO is fine for analysis but does not answer the design needs. Solutions for shortcomings are sought within the OO dogma, making things worse. This talk will outline a different approach.

Maarten Boasson studied mathematics in Groningen, the Netherlands. He became involved in advanced studies aiming at control of complexity, both of the development process and of the system under development itself. This resulted in the creation of a novel architecture for distributed reactive systems, that has been applied successfully in numerous systems and is, more than 10 years after its introduction, still unsurpassed in its support for integration, fault tolerance and component reuse. In 1996 Boasson was appointed professor of computer science at the University of Amsterdam, where he holds a chair in Industrial Complex Computer Systems. He played a major role in establishing a dutch national research program in embedded systems, and is currently associate editor-in-chief of IEEE Software.

Reasoning About Reliable Distributed Programs

Rachid Guerraoui, Swiss Federal Institute of Technology in Lausanne (EPFL)

What does it mean for a distributed program to be reliable? A program is reliable if it looks like a centralized program that does never fail. This talk aims at addressing the ramifications underlying this first glance intuitive answer. While doing so, the talk overviews several decades of work on correctness of distributed programs, from Lamport's atomicity and Papadimitriou's serializability, to linearizability and x-ability.

Rachid Guerraoui is professor in computer science at the Swiss Federal Institute of Technology in Lausanne (EPFL). He leads the Distributed Programming Laboratory and teaches object-oriented programming and distributed algorithms. He is interested in devising abstractions for reliable distributed programming.

Contextware: Bridging Physical and Virtual Worlds

Alois Ferscha, University of Linz

Alois Ferscha joined the University of Linz as full professor in 2000. He published more than 60 technical papers on topics related to parallel and distributed computing. Currently his research interests are in the areas of Pervasive Computing, Embedded Software Systems, Wireless Communication, Multiuser Cooperation, Distributed Interaction and Distributed Interactive Simulation.

On Architectural Stability and Evolution

Mehdi Jazayeri, Technical University of Vienna

Many organizations are now pursuing software architecture as a way to control their software development and evolution challenge. A software architecture describes the properties of a family of products, thus addressing the problems of both development and evolution. An important problem is to be able to evaluate the "goodness" of a proposed architecture. The talk will propose stability or resilience as a measure of goodness of an architecture. The stability of an architecture is a measure of how well it accommodates new family members. It can be measured by the amount of code changes necessary for the introduction of a new member. A case study of several releases of a telecommunication software system containing a few million lines of code will be used to demonstrate one way to try to estimate architectural stability. The talk will also present the challenges in software evolution and conclude with recommendations for future research.

Mehdi Jazayeri is a professor of computer science at the Technical University of Vienna. He spent many years in software research and development at several Silicon Valley companies, including ten years at Hewlett-Packard Laboratories in Palo Alto, California. His recent work has been concerned with component-based software engineering of distributed systems, particularly Web-based systems. He is a coauthor of Programming Language Concepts (John Wiley, 1998), Fundamentals of Software Engineering (Prentice-Hall, 2002), and Software Architecture for Product Families (Addison-Wesley, 2000).



OTHER PROGRAM DETAILS

Exhibiting

Exhibition space will be provided at the Parkhotel Schönbrunn in the area of the so-called "Kaisersalon". The exhibition and a summary of the exhibits will be publicized in handouts, conference schedule, and conference program. Announcements will be made in the course of technical presentations.

Sponsoring

A sliding scale of sponsorship provides a range of benefits. All levels include display of the sponsor's logo on the conference web site and in the program.

See the conference web site for more details (<http://www.ada-europe.org/conference2002.html>).

Social Program

Several activities have already been organized. On Tuesday the City of Vienna has invited us all for a reception at the historic town hall. Before that we will enjoy a guided tour by bus that will provide a first impression of the city and several of its well-known sights.

Wednesday evening the conference banquet will take place at a famous "Heurigen" in Grinzing. Over a glass of wine and traditional Viennese cuisine we will have the opportunity to experience several of the mundane ingredients such as "Schrammel-Musik" and "Wiener Gemütlichkeit" that add to the flair of this city.

ORGANIZATION

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