



# EDCC-4

**Parc des Expositions  
Toulouse, France - October 23-25, 2002**

<http://www.laas.fr/edcc-4>

**Fourth  
European  
Dependable  
Computing  
Conference**



**In conjunction with SITEF 2002**

**the Innovation and Future Technologies Fair (<http://www.sitef.com>)**

**ORGANIZED BY** SEE Working Group "Dependable Computing", France, GI/ITG/GMA TC on Dependability and Fault Tolerance, Germany, AICA Working Group "Dependability of Computer Systems", Italy

**IN COOPERATION WITH** LAAS-CNRS • IFIP Working Group 10.4 "Dependable Computing and Fault-Tolerance" • IEEE TC on Fault-Tolerant Computing • EC IST CaberNet Network of Excellence on Distributed and Dependable Computing Systems • EWICS Technical Committee on Safety, Reliability and Security (TC7)

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## PROGRAM

### Tuesday, October 22

**18:00** *Welcome Reception at Grand Hotel de l'Opéra (Place du Capitole)*

### Wednesday, October 23

**08:30** Bus departure from Place Wilson (in front of "Cinéma Gaumont")

**09:00** Registration (Conference Site – Parc des Expositions)

**09:45-10:00** **Opening Remarks**

*Pascale Thévenod-Fosse, General Chair (LAAS-CNRS, Toulouse, France)  
Andrea Bondavalli, Program Chair (University of Firenze, Italy)*

**10:00-11:00** **Keynote Talk – René Amalberti (IMASSA, Brétigny-sur-Orge, France)**  
**Use and Misuse of Safety Models in Design**

**11:00-11:30** *Coffee break*

**11:30-13:00** **Session 1: Modeling and Evaluation**

*Chair: Mario Dal Cin (University of Erlangen-Nürnberg, Germany)*

- **On the User Perception of Outages on the QoS of GPRS Networks under Different User Characterizations** – S. Porcarelli (University of Pisa, Italy), F. Di Giandomenico (ISTI-CNR, Pisa, Italy)
- **Combination of Fault Tree Analysis and Model-Checking for Safety Assessment of Complex System** – P. Bieber, C. Castel, C. Seguin (ONERA-CERT, Toulouse, France)
- **BPM Based Robust E-Business Application Development** – Gy. Csertan, A. Pataricza, P. Harang, O. Doban (Budapest University of Technology and Economics, Hungary), G. Biro, A. Dancsecz, F. Friedler (University of Veszprem, Hungary)

**13:00-14:30** *Lunch*

14:30-15:30

## Session 2: Agreement Protocols

Chair: Erik Maehle (University of Luebeck, Germany)

- **Solving Agreement Problems with Weak Ordering Oracles** – F. Pedone (Hewlett-Packard Labs, Palo Alto, CA, USA), A. Schiper, P. Urban, D. Cavin (EPFL, Lausanne, Switzerland)
- **An Efficient Solution to the K-Set Agreement Problem** – E. Anceaume, M. Hurfin, P. Raipin Parvedy (IRISA-INRIA, Rennes, France)

15:30-16:30

## Session 3: Fast Abstracts I

Chair: Felicita Di Giandomenico (ISTI-CNR, Pisa, Italy)

- **Modelling Dependable Systems with Patterns** – M. Sand (University of Erlangen-Nuremberg, Germany)
- **B-HDL, an Experiment to Formalizing Hardware by Software Formal Specifications** – J.-L. Boulanger (HEUDIASYC University Technic of Compiègne, France), G. Mariano (INRETS, France), A. Aljer (LIFL University of Lille, France)
- **Model Checking of Replication Management** – I. Majzik, A. Darvas (Budapest University of Technology and Economics, Hungary)
- **Assessment of the Robustness of Windows 2000 via the Injection of Select Bit-flips** – T. Jarboui, A. Kalakech, O. Guitton (LAAS-CNRS, France)
- **The Data Grid: Security and Privacy Issues** – N. Mezzetti, F. Panzieri (University of Bologna, Italy)
- **A Byzantine-Resilient Protocol Using the TTCB** – M. Correia, L. Cheuk Lung, N. Ferreira Neves, P. Verissimo (University of Lisboa, Portugal)
- **Formal Verification of Model Transformation Systems** – G. Salamon, D. Varró, A. Pataricza (Budapest University of Technology and Economics, Hungary)

16:30-17:00

Coffee break

17:00-18:30

## Panel 1: Novel Approaches for Dependable Computing

<http://www.cs.ukc.ac.uk/people/staff/rdl/EDCC-4/>

Moderator: Rogerio de Lemos (University of Kent, Canterbury, UK)

Panelists: Algirdas Avizienis (A. Avizienis and Associates Inc., Santa Monica, CA, USA), John Bigham (Queen Mary College, University of London, UK), Jean-Charles Fabre (LAAS-CNRS, Toulouse, France)

- **Novel Approaches for Dependable Computing** – R. de Lemos (University of Kent, Canterbury, UK)
- **An Immune System Paradigm for the Design of Fault Tolerant Systems** – A. Avizienis (A. Avizienis and Associates Inc. Santa Monica, CA, USA)
- **Security and Survivability of Large Scale Critical Infrastructures** – J. Bigham (Queen Mary College, University of London UK)
- **Middleware and Dependability ? Opportunities ... and Challenges** – J. C. Fabre (LAAS-CNRS, Toulouse, France)

19:00

Bus departure to Place Wilson

## Thursday, October 24

9:00

Bus departure from Place Wilson (in front of “Cinéma Gaumont”)

09:30-11:00

## Session 4: Error Detection and Fault Tolerance

Chair: Karama Kanoun (LAAS-CNRS, Toulouse, France)

- **Test Set Embedding Based on Phase Shifters** – M. Bellos (University of Patras, Greece), D. Kagaris (Southern Illinois University, Carbondale, IL, USA), D. Nikolos (University of Patras, Greece)
- **Reset-Driven Fault Tolerance** – J. C. Cunha (Instituto Superior de Engenharia de Coimbra, Portugal), M. Z. Relá, A. Correia, J. Henriques, J. G. Silva (University of Coimbra, Portugal)
- **Towards Dependability Modeling of FT-CORBA Architectures** – I. Majzik, G. Huszerl (Budapest University of Technology and Economics, Hungary)

11:00-11:30 *Coffee break*

11:30-13:00 **Session 5: Experimental Validation**

*Chair: Algirdas Avizienis (A. Avizienis and Associates Inc., USA)*

- **Experimental Evaluation of the Unavailability Induced by a Group Membership Protocol** – K. R. Joshi (University of Illinois, Urbana, IL, USA), M. Cukier (University of Maryland, College Park, MD, USA), W. H. Sanders (University of Illinois, Urbana, IL, USA)
- **UMLinux --- A Versatile SWIFI Tool** – V. Sieh, K. Buchacker (Friedrich Alexander University, Erlangen-Nürnberg, Germany)
- **A Methodology for Dependability Evaluation of the Time-Triggered Architecture** – A. Ademaj (Vienna University of Technology, Austria)

13:00-14:30 *Lunch*

14:30-15:30 **Session 6: Fast Abstracts II**

*Chair: Andras Pataricza (Budapest University of Technology and Economics, Hungary)*

- **A Stepwise Strategy for Property-Oriented Testing** – O. Abdellatif-Kaddour, P. Thévenod-Fosse, H. Waeselynck (LAAS-CNRS, France)
- **Evolution Control: a Strategy to Mitigate Vulnerability of Interdependent Critical Infrastructures** – R. Setola (Information Office of the Italian Prime Minister's Office, Italy), G. Iannello (University CAMPUS Biomedico, Italy)
- **Software-Based Self-Testing of Microprocessors by Exploiting a Virtual Scan Path** – G. Dimitrakopoulos, X. Kavousianos, D. Nikolos (University of Patras, Greece)
- **Stable Checkpointing without Shared Disks** – P. Sobe (University of Luebeck, Germany)
- **Tolerating Faults in Embedded Systems Based on Artificial Immune Systems** – M. Ayara, R. de Lemos, J. Timmis (University of Kent At Canterbury, UK), Ross Duncan (NCR FSG Ltd. , UK)
- **Data Warehousing Approach for the Analysis of Dependability Benchmarking Experiments** – H. Madeira (University of Coimbra, Portugal), J. Costa, M. Vieira (Polytechnic Institute of Coimbra, Portugal), M. Costa, D. Costa (Critical Software SA, Coimbra, Portugal)
- **Model-Based Dynamic Reconfiguration in Complex Critical Systems** – A. Bondavalli (University of Firenze, Italy), F. Di Giandomenico (ISTI-CNR, Italy), S. Porcarelli (University of Pisa, Italy)

15:30-17:00 **Panel 2: Critical Infrastructure Protection**

*Moderator: Jean-Claude Laprie (LAAS-CNRS, Toulouse, France)*

*Panelists: Reinhard Hutter (IABG, Germany), Marcelo Masera (Joint Research Center, Italy, European Commission), Sandro Bologna (ENEA - Modelling and Simulation Unit, Rome, Italy)*

- **Assessment and Exercise on Critical Infrastructure Protection** – R. Hutter (IABG, Germany)
- **A Dependability Approach to Interdependencies** – M. Masera (Joint Research Center, Italy, European Commission)
- **Modeling and Simulation of Critical Infrastructures and their Interdependencies: Linking Complex Systems and Interacting Agents Approaches** – S. Bologna (ENEA - Modelling and Simulation Unit, Rome, Italy)

17:00-19:00 *Cocktail and Visit of SITEF Exhibition*

19:00 Bus departure to “Cité de l’Espace”

19:30 *Evening at “Cité de l’Espace”*

## Friday, October 25

9:00 Bus departure from Place Wilson (in front of “Cinéma Gaumont”)

### 09:30-10:30 **Session 7: Distributed Algorithms**

*Chair: André Schiper (EPFL, Lausanne, Switzerland)*

- **Fast Indulgent Consensus with Zero Degradation** – *P. Dutta, R. Guerraoui (EPFL, Lausanne, Switzerland)*
- **Probabilistic Queries in Large-Scale Networks** – *F. Pedone (Hewlett-Packard Labs, Palo Alto, CA, USA), N. Duarte, M. Goulart (University of Rio Grande, Brazil)*

### 10:30-11:00 *Coffee break*

### 11:00-13:00 **Panel 3: Towards Information Society Initiative in FP6: Roadmapping Activities in Dependability**

*Moderator: Luca Simoncini (University of Pisa, Italy)*

*Panelists: Andrea Servida (ECC), Vaia Sdralia (representative from PAMPAS), Andrew Rathmell (representative from DDSI), Reinhard Hutter and Heinz Thielmann (representatives from ACIP), Jean-Claude Laprie (representative from AMSD)*

### 13:00-14:30 *Lunch*

### 14:30-16:00 **Session 8: Real-Time**

*Chair: Henrique Madeira (University of Coimbra, Portugal)*

- **The Design of a COTS Real-Time Distributed Security Kernel** – *M. Correia, P. Veríssimo, N. F. Neves (University of Lisboa, Portugal)*
- **Wrapping Real-time Systems from Temporal Logic Specifications** – *M. Rodriguez, J-C. Fabre, J. Arlat (LAAS-CNRS, Toulouse, France)*
- **Model-Based Dependability Evaluation Method for TTP/C Applications** – *P. Herout, S. Racek, J. Hlavicka (University of West Bohemia, Plzen, Czech Republic)*

16:00 Conference close