## Programme

### Monday, September 8th 2008

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<tr>
<th>Time</th>
<th>Session</th>
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| 9:30-10:30 | Session 1: Applications and Case Studies     | Bernd Kleinjohann              | Hierarchically Distributing Embedded Systems for Improved Autonomy  
Claudius Stern, Philipp Adelt, Willi Richert and Bernd Kleinjohann  
Sorting Units for FPGA-Based Embedded Systems  
Rui Marcelino, Horácio Neto and João M. P. Cardoso  
Error-Exploiting Video Encoder to Extend Energy/QoS Tradeoffs for Mobile Embedded Systems  
Kyoungwoo Lee, Minyoung Kim, Nikil Dutt and Nalini Venkataramanian |
| 10:30-11:00| Coffee Break                                  |                                |                                                                |
| 11:00-12.00| Session 2: DIPES Keynote                    | Wayne Wolf                      | Embedded Computing and the Reliability Challenge  
Jörg Henkel University of Karlsruhe, Germany |
| 12.00-14.30| Lunch                                       |                                |                                                                |
| 14.30-16.00| Session 3: Verification and Validation      | Flavio R. Wagner                | Specification-based Verification of Embedded Systems by Automated Test Case Generation  
Christoph M. Kirchsteiger, Christoph Trummer, Christian Steger, Reinhold Weiss and Markus Pilstauer  
Analysis of Periodic Clock Relations in Polychronous Systems  
Hugo Metivier, Jean-Pierre Tälpin, Thierry Gautier and Paul Le Guernic  
Formal Correctness of an Automotive Bus Controller Implementation at Gate-Level  
Eyd Alkassar, Peter Böhm and Steffen Knapp |
| 16.00-16.30| Coffee Break                                  |                                |                                                                |
| 16.30-18.30| Session 4: Design Methods and Modelling     | Jörg Henkel                      | Unifying HW Analysis and SoC Design Flows by Bridging Two Key Standards: UML and IP-XACT  
Sebastien Revol, Safouan Taha, Francois Terrier, Alain Clouard, Sébastien Gerard, Ansgar Radermacher and Jean-Luc Dekeyser |
Expressing Environment Assumptions and Real-time Requirements for a Distributed Embedded System with Shared Variables
Simon Tjell and João M. Fernandes

Augustin Kebemou and Ina Schieferdecker

On the Use of Software Quality Metrics to Improve Physical Properties of Embedded Systems

Tuesday, September 9th 2008

09.00–10.30
Session 5: Resource Management
Chair: Nikil Dutt

Using Imprecise Computation Techniques for Power Management in Real-Time Embedded Systems
Geovani R. Wiedenhoft and Antônio A. Fröhlich

A Power Model for Register-Sharing Structures
Balaji V. Iyer and Thomas M. Conte

10.30–11.00
Coffee break

11.00–12.00
Session 6: Middleware and Communication
Chair: Achim Rettberg

Design and Implementation of a FTT-CAN Communication Infra-Structure for the RT-femtoJava Processor
Rita Kalile Almeida Andrade, Thomás Alimena Del Grande, Tiago Bücker and Carlos E. Pereira

Communication Paradigms for High-Integrity Distributed Systems with Hard Real-Time Requirements
Santiago Urueña, Zuan Zamorano, José A. Pulido and Juan A. de la Puente

12.00–14.30
Lunch

14.30–16.00
Session 7: Distributed Operating Systems and Timing
Chair: Franz J. Rammig

TinyOS Extensions for a Wireless Sensor Network Node Based on a Dynamically Reconfigurable Processor
Enkhbold Ochirsuren, Heiko Hinkelmann, Leandro Soares Indrusiak and Manfred Glesner

Scheduling Dependent Distributable Real-Time Threads in Dynamic Networked Embedded Systems
Sherif Fahmy, Binoy Ravindran and Douglas Jensen

An Efficient Time Annotation Technique in Abstract RTOS Simulations for Multiprocessor Task Migration
Henning Zabel and Wolfgang Müller

16.00–16.30
Coffee break

16.30–18.00
Session 8: Task and Data Partitioning
Chair: Thomas Conte

Handling QoS Dependencies in Distributed Cooperative Real-Time Systems
Luis Nogueira and Luis Miguel Pinho
Data Partitioning Techniques for Partially Protected Caches to Reduce Soft Error Induced Failures
Kyoungwoo Lee, Aviral Shrivastava, Nikil Dutt and Nalini Venkatasubramanian