

19-21 June 2013, Porto, Portugal

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Background: Application domains have had a considerable impact on the evolution of embedded systems, in terms of required methodologies and supporting tools and resulting technologies. SoCs are slowly making inroads in to the area of industrial automation to implement complex field-area intelligent devices which integrate the intelligent sensor/actuator functionality by providing on-chip signal conversion, data processing, and communication functions. There is a growing tendency to network field-area intelligent devices around industrial type of communication networks. Similar trends appear in the automotive electronic systems where the Electronic Control Units (ECUs), typically implemented as heterogeneous system-on-chip, are networked by means of one of safety-critical communication protocols such as FlexRay, for instance, for the purpose of controlling one of vehicle functions; electronic engine control, ABS, active suspension, etc. The design of this kind of networked embedded systems (this includes also hard real-time industrial control systems) is a challenge in itself due to the distributed nature of processing elements, sharing common communication medium, and safety-critical requirements, to mention some.

Aim: The aim of the symposium is to bring together researchers and practitioners from industry and academia and provide them with a platform to report on recent developments, deployments, technology trends and research results, as well as initiatives related to embedded systems and their applications in a variety of industrial environments.

Topics include, but are not limited to:

Embedded Systems: Design and Validation of Embedded Systems; Real-Time Issues; Models of Embedded Computation; Design and Verification Languages; Operating Systems and Quasi-Static Scheduling; Timing and Performance Analysis; Power Aware Embedded Computing; Adaptive Embedded Systems; Security in Embedded Systems.

System-on-Chip and Network-on-Chip Design & Testing: Design of Application-Specific Instruction-Set Processors; Design and Programming of Embedded Multiprocessors; SoC Communication and Architectures; NoC Communication and Architectures; Design of SoC/NoC; Platform-Based Design for Embedded Systems; Reconfigurable Platforms; Multiprocessor SoC Platforms and Tools; Testing of Embedded Core-based Integrated Circuits.

Networked Embedded Systems: Design Issues for Networked Embedded; Middleware Design and Implementation for Networked Embedded Systems; Self Adaptive Networked Entity Sensor Networks: Architectures, Energy-Efficient Medium Access Control, Time Synchronization Issues, Distributed Localization Algorithms, Routing, Distributed Signal Processing, Security..

Embedded Applications: Industrial Automation and Controls; Automotive Applications; Industrial Building Automation and Control; Power (sub-) Station Automation and Control; Intelligent Sensors, etc. - design, maintenance, fault tolerance & dependability, networks, infrastructure, safety and security.

Submission of Papers: Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site. Contributions must contain original unpublished work. Papers that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected. Papers are to be submitted electronically in PDF format. Two types of submissions are solicited: Long Papers - from 6 to 10 double-column pages (typically 8 pages). Work-in-Progress Papers - limited to 4 double-column pages. For further details, please consult the conference web pages.

Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

Author's Schedule

Regular Papers:

Submission deadline: February 24, 2013
Notification for acceptance: April 7, 2013
Deadline for final manuscript: May 19, 2013

WiP papers:

Submission deadline: April 14, 2013
Notification for acceptance: May 5, 2013
Deadline for final manuscript: May 19, 2013

FURTHER INFORMATION: <http://www.cister.isep.ipp.pt/sies2013>



About Porto: Overlooking the Douro River, Porto is one of the most ancient European cities. It was developed from the northern bank of this river during the Middle Ages. It is marked by its historical centre is its landscape, combining harmony with the urban structure and presenting a frame of rare beauty. The city was classified as World Heritage by UNESCO in 1996. When discovering Porto, you will find many surprises. Besides its welcoming and conservative environment, Porto is also contemporary and artistic. This is shown not only in the streets, architecture, monuments and museums but also in the terraces, restaurants and leisure and shopping areas.

Further information at <http://www.cister.isep.ipp.pt/sies2013/porto/>

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Tullio Facchinetti, University of Pavia, Italy
Wang Yi, Uppsala University, Sweden

Keynote Speakers



Chenyang Lu

Chenyang Lu is a Professor of Computer Science and Engineering at Washington University in St. Louis. Professor Lu is Editor-in-Chief of ACM Transactions on Sensor Networks and Associate Editor of Real-Time Systems. He also served as Program Chair of IEEE Real-Time Systems Symposium (RTSS 2012) and ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS 2012). Professor Lu is the author and co-author of over 100 research papers with over 9000 citations and an h-index of 45. He received the Ph.D. degree from University of Virginia in 2001, the M.S. degree from Chinese Academy of Sciences in 1997, and the B.S. degree from University of Science and Technology of China in 1995, all in computer science. His research interests include real-time systems, wireless sensor networks and cyber-physical systems.



Michael Paulitsch

Michael Paulitsch has joined EADS Innovation Works TCC-4 based in Munich, Germany, as Scientific Director. Before he worked at Honeywell Aerospace in the U.S. on software and electronic platforms in the area of business, regional, air transport, and human space avionics and engine control electronics. He was a key contributor to the avionics electronic architecture of Orion, NASA's next generation human space vehicle. Michael Paulitsch published multiple scientific papers in his area of expertise, participates in internal scientific conference committees and has multiple patents. He holds a PhD in technical sciences from the Vienna University of Technology, Vienna, Austria with emphasis on embedded systems and a doctoral degree in Economic and Social Science with emphasis in production.



Rolf Ernst

Rolf Ernst received a diploma in computer science and a Dr.-Ing. (with honors) in electrical engineering from the University of Erlangen-Nuremberg, Germany, in 81 and 87. After 2 years at Bell Laboratories, Allentown, PA, he joined the Technical University Braunschweig, Germany, where he chairs a university institute of 55 researchers and staff. He is a full professor and was Head of the Department of Electrical Engineering from 1999 to 2001.

His research activities include embedded system design and design automation. The activities are currently supported by the German "Deutsche Forschungsgemeinschaft", by the German BMBF, by European programs, and by industrial contracts, such as from Intel, Thomson, Ford, Bosch, and Volkswagen. He gave numerous invited presentations and tutorials at major international events and contributed to seminars and summer schools in the areas of hardware/software co-design, embedded system architectures, and system modeling and verification.

He chaired major international events, such as the International Conference on Computer Aided Design of VLSI (ICCAD), or the Design Automation and Test in Europe (DATE) Conference and Exhibition, and was Chair of the European Design Automation Association (EDAA), which is the main sponsor of DATE. He is a founding member of the ACM Special Interest Group on Embedded System Design (SIGBED), and was a member of its first board of directors. He is a member and activity leader of the European Networks-of-Excellence Artist1 (real-time systems), Artist 2 (embedded systems), and ArtistDesign. He is an elected member (Fachkollegiat) and Deputy Spokesperson of the "Computer Science" review board of the German DFG. He is an advisor to the German Ministry of Economics and Technology for the high-tech entrepreneurship program EXIST (www.exist.org). He is an IEEE Fellow and served as an ACM-SIGDA Distinguished Lecturer. He is a member of the German Academy of Science and Engineering, acatech.