

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

### Keynote Speakers

#### Chenyang Lu

Washington University in St. Louis, USA

#### Michael Paulitsch

EADS, Germany

#### Rolf Ernst

Technische Universität Braunschweig, Germany

**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/