



CALL FOR PAPERS
**The 17th IEEE Real-Time and Embedded Technology and Applications
Symposium (RTAS 2011)**

Chicago IL, USA, April 11-14, 2011
Submission Deadline: **Friday, October 8, 2010 (HARD deadline)**
Web site: <http://www.rtas.org>

RTAS is a highly selective forum for presentation and discussion of original research papers, covering all aspects of real-time and embedded computing theory and practice. RTAS'11, the seventeenth in a series of annual conferences sponsored by IEEE, will be held in Chicago, IL, USA, as part of the Cyber-Physical Systems Week (CPS Week), April 11-14, 2011. CPS Week 2011 will bring together five leading conferences, namely the International Conference on Information Processing in Sensor Networks (IPSN'11), the International Conference on Hybrid Systems (HSCC'11), the International Conference on Cyber-Physical Systems (ICCPs'11), the Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES'11), and RTAS'11.

RTAS 2011 invites papers describing original contributions both to the state of art and the state of practice in the broad field of embedded and open real-time systems and computing. The scope of RTAS 2011 will consist of the traditional core area of real-time and embedded systems infrastructure and theory, as well as two additional areas of special emphasis (specialized tracks): Hardware/Software Integration and Co-design, Wireless Sensor Networks.

Core Area: Real-Time and Embedded Systems: This thrust continues from previous years with a focus on embedded and real-time systems. Papers should describe original contributions to infrastructure, system support, or theoretical foundations for real-time or embedded computing. Submissions focusing on system design, implementation, and performance evaluation, as well as industrial experience papers, are encouraged. Topics of interest include, but are not limited to: networks of embedded computers; real-time communication; real-time resource management and scheduling; operating system and middleware support for real-time or embedded systems; energy and temperature management; QoS management; multimedia embedded systems; security, dependability and reliability for real-time embedded systems; real-time system modeling and analysis; composability; control theoretical approaches and performance feedback control; formal methods, WCET analysis; software engineering and programming methodologies for real-time embedded systems; distributed real-time information and database systems.

Area A: Hardware/Software Integration and Co-Design: This track focuses on design methodologies and tools for hardware/software integration and co-design of modern embedded systems for real-time applications. Such systems are increasingly complex and heterogeneous, both in terms of architectures and applications they need to support, so new approaches aimed at their efficient design and optimization are in great demand. General topics relevant to this track include various architecture- and software-related issues of embedded systems design which include, but are not limited to, architecture description languages and tools, WCET analysis, software architectures, design space exploration, synthesis and optimization. Of special interest are SoC design for real-time applications, special purpose functional units, specialized memory structures, multi-core chips and communication aspects, FPGA simulation and prototyping, software simulation and compilation for novel architectures and applications, as well as power, timing and predictability analyses.

Area B: Wireless Sensor Networks: Wireless Sensor Network (WSN) has emerged as a new information paradigm for distributed real-time and embedded systems. Example applications include environment monitoring, emergency response, critical infrastructure protection, medical care, intelligent transportation, and smart manufacturing. The WSN track aims at fostering interaction and collaboration of researchers and exchanging new ideas in various aspects of sensor network research. The WSN track of RTAS is open to submissions addressing any major aspect of sensor networks. Submissions concerning real-time and embedded issues are encouraged, but not required. Authors are invited to submit original works that demonstrate current research on various aspects of wireless sensor network systems. Topics of interest include (but are not limited to): sensor network applications and deployment experiences; sensor network architectures and protocols; programming abstractions; operating systems and middleware for sensor networks; real-time operation issues in sensor networks; distributed networked sensing; actuation and control; power and energy management/harvesting; wide-area sensing services; detection, classification, and estimation; localization and time synchronization; security and privacy.

SUBMISSION OF PAPERS

All papers must be submitted electronically in PDF format. Submissions can be made through the RTAS'11 web site (<http://www.rtas.org>). The material must be unpublished and not under submission elsewhere. Submissions should be no more than 10 pages in IEEE two-column, 10pt format. Papers that do not comply with these restrictions may not be considered for review.

IMPORTANT DATES

Submission Deadline: **Oct. 8, 2010, 23:59 PST (HARD deadline)**
Acceptance Decisions: Dec. 17, 2010
Camera-Ready Paper Due: Jan. 21, 2011

ORGANIZERS

General Chair: Marco Caccamo, UIUC, USA
Program Chair: Hakan Aydin, George Mason Univ., USA
Special Track Chairs:
Hardware/Software Integration and Co-design
X. Sharon Hu, Univ. of Notre Dame, USA
Wireless Sensor Networks
Eduardo Tovar, CISTER/ISEP, Portugal
Work-in-Progress Chair: Jian-Jia Chen, KIT, Germany
Finance Chair: Christopher Gill, Washington Univ. St. Louis, USA
Web Chair: Dakai Zhu, Univ. of Texas at San Antonio, USA
Ex-Officio: Raj Rajkumar (IEEE TC-RTS Chair), CMU, USA