

Announcement



Call for Papers



MESA06—The 2nd IEEE/ASME International Conference
on Mechatronic and Embedded Systems and Applications
Beijing, China on August 13–16, 2006

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Objectives

Mechanical and electrical engineering show an increasing integration of mechanics with electronics and information processing. This integration is between the components (hardware) and the information-driven functions (software), resulting in integrated systems called mechatronic systems. The development of mechatronic systems involves finding an optimal balance between the basic mechanical structure, sensor and actuator implementation, automatic digital information processing, and overall control for which embedded systems play a key role. The field of embedded systems is getting more and more challenging, and issues in development of embedded software are attracting the attention of an increasing number of researchers both in industry and academia. The goal of MESA06 is to bring together experts from the fields of mechatronic and embedded systems to disseminate the recent advances made in the area, discuss the future research directions, and exchange application experience with respect to the conference themes.

Topics

Mechatronics and Robotics

- Analysis, modeling, and simulation
- Autonomous mobile robots
- Advanced control
- System design
- Robots and mobile devices
- Man machine interfaces
- Open architecture system integration

Embedded Systems Infrastructure and Theory

- System-on-a-chip (SoC) technology
- Embedded microcontrollers
- Multiprocessors
- Hardware specification
- Synthesis, modeling, simulation, and analysis
- Power-aware
- Embedded system security
- Real-time issues
- Software architectures
- Virtual machines
- OS and middleware support
- Memory management support
- Hardware/software co-design

Sensors and MEMs

- Analysis, modeling, and simulation
- MEMS and NEMS
- Sensor design, integration, and fusion
- Sensor networks

Networked Mechatronic and Embedded Systems

- Communication tools
- Reconfigurable, scalable, and interoperable middleware development
- Network-on-chip
- Component-based approaches
- Mobile and agent-based computing

Development, Verification, and Debug Tools for Mechatronic and Embedded Systems

- Compilers
- Assemblers and cross assemblers
- System design tools
- Test and debug strategies
- Emulators and simulators
- Debuggers
- Software simulations of hardware components

Mechatronic and Embedded System Applications

- Challenges, requirements, model problems, and constraints associated with various application domains
- Use of mechatronic and embedded technologies in meeting particular system requirements, performance, scalability, reliability, and security
- Assessments of mechatronic and embedded technologies for particular application domains
- Technology transition lessons learned
- Applications in intelligent transportation systems
- Applications in intelligent manufacturing and automation systems

Education in Mechatronics and Embedded Computing

- Innovations in course, curriculum, laboratory development
- Development of teaching tools and innovative teaching strategies
- Integration of emerging technologies into the undergraduate and graduate programs

Paper Submission

Complete manuscripts in PDF format must be electronically submitted to the conference website <http://www.asmemesa.org>. Submitted manuscripts should be six (6) pages or less in IEEE two-column format, including figures, tables, and references.

Important Dates

May 10, 2006—Full paper, proposal for special session, workshop and tutorial

June 20, 2006—Notification of acceptance

July 1, 2006—Camera ready paper submission

For detailed information, please visit the conference website at <http://www.asmemesa.org> or <https://150.135.155.193/mesa06/>