National Institute of Standards and Technology

Call for Papers

PerMIS'06

Performance Metrics for Intelligent Systems

August 21-23, 2006

http://www.isd.mel.nist.gov/PerMIS_2006

Held in conjunction with the IEEE Safety, Security, and Rescue Robotics (SSRR) Conference

General Chair: Elena Messina, NIST
Honorary Chair: Alexander Meystel
Program Chair: Raj Madhavan, ORNL/NIST

SCHEDULE & RELATED EVENTS

May 1, 2006 Submission of full papers and invited sessions

June 9, 2006 Notification of acceptance

July 21, 2006 Final Papers due

August 21-23 PerMIS 2006

August 22-24 IEEE SSRR 2006

The IEEE Safety, Security, and Rescue Robotics Conference will be co-located with PerMIS to share plenary presentations, robot demonstrations, technology exhibits, and social events. For more information, see the website: http://www.isd.mel.nist.gov/ssrr2006

August 21 Responder/Robot Event

All attendees are invited to observe Urban Search and Rescue (US&R) and bomb-disposal robot assessment exercises at a local fire and rescue training facility. See the SSRR website for details.

WORKSHOP LOCATION

The workshop will be held at the National Institute of Standards and Technology, in Gaithersburg, Maryland, approximately 20 miles from Washington, D.C.

PLENARY ADDRESSES

Prof. Hugh Durrant-Whyte, ACFR/CAS, Univ. of Sydney, Australia
Prof. Henrik Christensen, CAS, Royal Institute of Technology, Sweden
Dr. Martin Buehler, Boston Dynamics, USA
Dr. James Albus, NIST, USA

Selected papers from both PerMIS/SSRR will be published in a special issue of the Journal of Field Robotics (www.journalfieldrobotics.org).

In the sixth workshop in a series targeted at defining measures and methodologies of evaluating performance of intelligent systems, we will focus on applications of performance measures to practical problems in commercial, industrial, homeland security, and military applications. Topic areas include, but are not limited to:

- Defining and measuring aspects of a system:
  - The level of autonomy
  - Human-robot interaction
  - Collaboration
- Evaluating components within intelligent systems
  - Sensing and perception
  - Knowledge representation, world models, ontologies
  - Planning and control
  - Learning and adapting
  - Reasoning
- Infrastructural support for performance evaluation
  - Testbeds and competitions for intercomparisons
  - Instrumentation and other measurement tools
  - Simulation and modeling support
- Technology readiness measures for intelligent systems
- Applied performance measures, e.g.,
  - Intelligent transportation systems
  - Emergency response robots (search and rescue, bomb disposal)
  - Homeland security systems
  - De-mining robots
  - Defense robotics
  - Command and control
  - Hazardous environments (e.g., nuclear remediation)
  - Industrial and manufacturing systems
  - Space robotics
  - Assistive devices

SUBMISSION INFORMATION

Prospective authors are requested to either send a draft paper (maximum 8 pages) or an extended abstract for review. All submissions must be written in English, starting with a succinct statement of the problem, the results achieved their significance and a comparison with previous work. Invited Sessions are welcomed as well.

Electronic submission (PDF, Word) is required. Please submit to:

PerMIS@cme.nist.gov
Phone: (301) 975-3235