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Location

Washington, D.C. (Courtyard
Gaithersburg Washingtonian
Center, Gaithersburg MD 20878)

Reservation deadline
08/13/07

NEW

Registration

Fee \$375
Registration ends 08/21/07

Sponsors

NIST, with technical co-sponsorship of the IEEE Washington Section Robotics and Automation Society Chapter and in-cooperation with the Association for Computing Machinery Special Interest Group on Artificial Intelligence

PerMIS'07

Performance Metrics for Intelligent Systems

http://www.isd.mel.nist.gov/PerMIS_2007

August 28-30, 2007

Call for Participation

PerMIS'07 will be the seventh in the series that started in 2000, targeted at defining measures and methodologies of evaluating performance of intelligent systems. The workshop has proved to be an excellent forum for discussions and partnerships, dissemination of ideas, and future collaborations in an informal setting. Attendees usually include researchers, graduate students, practitioners from industry, academia, and government agencies.

The cardinal theme of this year's workshop will be the ***interplay between autonomy and intelligence***, i.e. how does autonomy influence intelligence and vice versa. In addition to the main theme, as in previous years, the workshop 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 in various domains, e.g.,
 - Intelligent transportation systems
 - Emergency response robots (search and rescue, bomb disposal)
 - Homeland security systems
 - De-mining robots
 - Defense robotics
 - Hazardous environments (e.g., nuclear remediation)
 - Industrial and manufacturing systems
 - Space/Aerial robotics
 - Medical Robotics & Assistive devices

Selected papers from the past workshops have been published as special issues with the Journal of Integrated Computer-Aided Engineering (PerMIS'04) and the Journal of Field Robotics (PerMIS'06). The Proceedings of PerMIS'07 will be indexed by INSPEC, Ei Compendex, ACM's Digital Library, and are released as a NIST Special Publication.

Plenary Addresses

- Prof. Maria Gini *University of Minnesota USA*
- Dr. Eric Krotkov *Griffin Technologies USA*
- Prof. Illah Nourbakhsh *Robotics Institute CMU USA*
- Dr. Alex Zelinsky *CSIRO ICT Centre Australia*

Featured Speaker

- Dr. Vladimir Lumelsky *NASA Goddard*

Special Sessions & Panel Discussions

- SS1 *Autonomy Levels for Unmanned Systems* (Hui-Min Huang, NIST)
- SS2 *Human-Robot Interface Issues* (Sal Schipani & Brian Antonishek, NIST)
- SS3 *Space/Aerial Robotics* (Eddie Tunstel, JPL)
- SS4 *Smart Assembly Systems* (Robert Tilove, GM & John Slotwinski, NIST)
- PD1 *Can the Development of Intelligent Robots be Benchmarked? Concepts and Issues from Epigenetic Robotics* (Gary Berg-Cross, EM&I)
- PD2 *(Re-)Establishing or Increasing Collaborative Links Between Artificial Intelligence and Intelligent Systems* (Brent Gordon, NASA Goddard)