



PerMIS'08

Performance Metrics for Intelligent Systems Workshop

August 19—21, 2008

http://www.isd.mel.nist.gov/PerMIS_2008

Call for Papers

PerMIS'08 will be the eighth 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.

PerMIS'08 aims at **identifying and quantifying contributions of functional intelligence towards achieving success**. Our working definition of *functional intelligence* is "the ability to act appropriately in an uncertain environment, where appropriate action is that which increases the probability of success", and *success* is "the achievement of behavioral goals" (J. Albus, 1991). 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 & coordination
 - Taxonomies
 - Biologically inspired models
- 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

The Proceedings of PerMIS are indexed by INSPEC, Compendex, ACM Digital Library, and are released as a NIST Special Publication. Selected papers from 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).

Submission Information

Prospective authors are requested to submit a draft paper (max. 8 pages) or an extended abstract (1-2 pages) for review. Invited session proposals can also be submitted as draft papers but should contain 1) a session title and a brief statement of purpose, 2) name and affiliation of the organizer(s), and 3) a preliminary list of speakers. 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. Papers are to be submitted at www.isd.mel.nist.gov/PerMIS_2008/submission.htm/ using the specified templates.

Important Dates

Submission of full papers	May 29, 2008
Proposal for invited sessions	June 06, 2008
Notification of acceptance	June 27, 2008
Final papers due	July 25, 2008

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Elena Messina, NIST

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Raj Madhavan, ORNL/NIST

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Location

Washington, D.C. (The workshop will be held at NIST, Gaithersburg MD 20899)