Call for Participation

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). Selected papers from the PerMIS'08 workshop will be considered for inclusion in an edited book volume by Springer.

Plenary Addresses *(http://www.isd.mel.nist.gov/PerMIS_2008/plenary.htm)*
▪ Prof. Sunil Agrawal (University of Delaware, U.S.A.)
▪ Prof. Alonzo Kelly (Carnegie Mellon University, U.S.A.)
▪ Prof. Allison Okamura (Johns Hopkins University, U.S.A.)
▪ Prof. Erwin Prassler (Bonn-Aachen International Center for Information Technology, Germany)
▪ Mr. Alan Schultz (Navy Research Laboratory, U.S.A.)

Special Sessions *(http://www.isd.mel.nist.gov/PerMIS_2008/ss.htm)*
• Cognitive Systems of EU Cognition Programme
• Architectures for Unmanned Systems
• Quantitative Assessment of Robot-generated Maps
• Results from a Virtual Manufacturing Automation Competition
• Performance Metrics for Perception in Intelligent Manufacturing
• Biologically Inspired Models of Intelligent Systems
• Medical Robotics

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