



The 2009 ECSIS Symposium on *Learning and Adaptive Behavior in Robotic Systems*



Hosted by the
Technical
University of
Iasi

July 22-24, 2009, Iasi, Romania

Organized by

European Centre for Secure Information and Systems,
Romania Branch
University of Edinburgh, United Kingdom
Technical University of Iasi, Romania

Hosted by

Technical University of Iasi, Romania

Endorsed by

Society for Adaptive and Evolvable Hardware and
Systems, ADEVO
Romanian Academy, Iasi Branch

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Important Dates

Proposals for special sessions: March 20, 2009
Deadline for papers: April 9, 2009
Author notification: May 1, 2009
Camera ready: May 7, 2009
Author/Early registration: May 30, 2009

Aim and scope

Learning and adaptive behaviors are key to robotics system operation in real world environments. While there have been important developments at the theoretical level and in simulations or laboratory environments, the transfer of these methods onto real-world platforms has been limited. This symposium aims to provide a forum for advancement of learning and adaptation in robotics systems to high capability levels comparable to those of biological systems. It seeks reports on new concepts, laboratory demonstrations, and fielded robotic systems that exhibit learning and adaptive behaviors. The focus of the 2009 symposium is learning and adaptation in robots working within environments in close proximity to other robots and humans.

LAB-RS 2009 will take place in Iasi, Romania. The capital of the medieval principality of Moldavia, Iasi is a city immersed in history and culture, yet trendy and vibrant due to the tens of thousands of university students that live in Romania's oldest - and second largest - university city. The social program will include a tour to the famous painted monasteries of Northern Moldavia and Iasi sightseeing.

LAB-RS 2008 took place in Edinburgh, Scotland and included keynotes, presentations, demonstrations and a video competition. The proceedings were published by IEEE. The awards (each accompanied by a \$1000 cash prize) included the Homayoun Seraji Award, for best paper, won by R. Felix Reinhart and Jochen J. Steil, from Bielefeld University, Germany, for the paper "Recurrent neural autoassociative learning of forward and inverse kinematics for movement generation of the redundant PA-10 robot" and Best Video Award, to T. Noda, S. Ikemoto, D. Quevedo, T. Shimizu, H. Sumioka, H. Ishihara, Y. Sasamoto, Y. Yoshikawa, T. Minato, Hiroshi Ishiguro and Minoru Asada from JST ERATO Project, Osaka University, Japan for the video "CB2: Child Robot with Biomimetic Body".

LAB-RS selected topics:

Technologies

- * Robot learning
- * Dynamics of learning
- * Learning in real environments
 - * Adaptive behaviors
- * Bio-inspired algorithms & technologies
 - * Neural networks
 - * Evolutionary algorithms
- * Adaptive information processing
 - * Collaborative learning
 - * Soft computing techniques
- * Dynamic and reinforcement learning
 - * Legged locomotion
 - * Flying robots
- * Adaptive multi-robot behaviors
- * Adaptive information processing
 - * Socially adaptive robots
- * Sensory-control for learning/adaptive robots

Application areas

- * Autonomous ground vehicles
- * Unmanned Aerial Vehicles
- * Unmanned Underwater Vehicles
 - * Industrial Robots
 - * Construction Robots
 - * Humanoids and Actroids
 - * Human-centric systems
 - * Security robots
- * Training systems (modeling, simulation, virtual environments)
- * Cooperative and collaborative robotic
 - * Entertainment robots
 - * Educational robots
 - * Agricultural robots
- * Medical robots, therapy and surgical applications
 - * Space robotics

LAB-RS 2009 is part of AT-EQUAL 2009, which includes the following meetings:

LAB-RS July 22-24, 2009

2nd ECSIS Symposium on Learning and Adaptive Behaviours in Robotic Systems.
<http://www.labrs.info/labrs09.html>

ARTIPED July 24-26, 2009

The Exploratory Workshop on Assistive and Recuperative Technologies for Injured, ill, Pregnant, Elderly and people with Disabilities
<http://www.artiped.info/artiped09.html>

ISIRIS July 22-26, 2009 The International School on Robotics and Intelligent Systems, with the theme: *Assistive robots and systems for healthcare and rehabilitation*
<http://www.isiris.info/isiris09.html>