



AT-EQUAL 2009

LAB-RS July 22-24, 2009

2nd ECSIS Symposium on Learning and Adaptive Behaviours in Robotic Systems
Learning and adaptation in robots working within environments in close proximity to other robots and humans

ARTIPED July 23-25, 2009

The International Symposium on Assistive and Recuperative Technologies
for Injured, ill, Pregnant, Elderly and people with Disabilities

ISRIS July 22-26, 2009

The International School on Robotics and Intelligent Systems
Assistive robots and systems for healthcare and rehabilitation



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Program

Day 1

Morning class

22 of July 2009

Joined sessions LAB-RS and ISRIS

Technical University Iasi – T1 Theatre

8⁰⁰-9⁰⁰ Registration of participants (LAB-RS and ISRIS), Coffee

9⁰⁰-9¹⁰ Welcome from organizers
Keynotes

9¹⁰-10⁰⁰ Robotic surgery; past results and current developments
Professor Paolo Fiorini Md PhD
Department of Informatics University of Verona, Italy

10⁰⁰-10²⁰ Break, refreshments to go, buss transportation

Joined sessions LAB-RS, ISRIS

Rehabilitation Hospital Theatre

10²⁰-12⁰⁰ Computed Assisted Live Surgery: Birmingham hip resurfacing
arthroplasty (BHR)
Featuring Professor Paul Botez Md PhD, Dr Geert Peersman, Antwerp,
Belgium
Operative navigation equipment provided by Smith& Nephew

12⁰⁰-12¹⁰ Buss transportation

12¹⁰-13²⁰ Lunch, Collini Restaurant

Day 1

Afternoon class

13²⁰-15¹⁰ Professor Paolo Fiorini Department of Informatics University of Verona,
Italy
Advanced Teleoperation and Telerobotics

13¹⁰-15³⁰ Afternoon brake

15³⁰-16²⁰ Lecture 1.
State of the art in exoskeletons for enhanced human performance and
rehabilitation
Professor Jos Vander Sloten Katholieke Universiteit Leuven, Belgium
Presented by: Dr.Ir. Kathleen Denis and ir. Jeroen Buijs, GroepT, Leuven

16²⁰-17¹⁰ Lecture 2.
Robot assisted surgery systems: synergy between man and machine
Presented by Professor Dr. Jos Vander Sloten
Authors: Nele Famaey, Bert Willaert, Mauro Sette, Hsiao-Wei Tang,
Dominiek Reynaerts, Hendri

17¹⁰ End of sessions Day 1

18³⁰ Get together party Colini Restaurant

Day 2

Technical University Iasi – T1 Theatre

8⁰⁰-9⁰⁰ Coffee
Joined session LAB-RS - ISRIS

9¹⁰-10⁰⁰ Onboard Learning of Adaptive Behavior: Biologically Inspired and Formal
Methods
Dr. Terry Huntsberger, Jet Propulsion Laboratory, USA

10⁰⁰-10¹⁰ Coffee break

10²⁰-11⁰⁰ Total Prosthetic of the Human Body - an Innovative concept for
Rehabilitation and Human Robots. Anatomic and Physiological Bases
and Technical Solutions, with Accent on Modular CAD Solutions for to
Prosthesis of the Human Biomechanism, respectively, Superior and
Inferior Limbs,
Professor Ionel Staretu Technical University of Brasov, Romania

11⁰⁰-11¹⁰ Intermezzo

11¹⁰-12⁰⁰ Dr. Terry Huntsberger
Medical Robotics: Current Research Trends

12¹⁰-13³⁰ Lunch Collini Restaurant, Buss transportation

Afternoon Joint session ARTIPED-ISRIS
Rehabilitation Hospital Theatre
Chair: Professor Paul Botez

13³⁰-13⁵⁰ Development of Pseudo 3D Visualization System by Superimposing
Ultrasound Images
Yumi Iwashita, Shinji Tarumi, Ryo Kurazume, and Makoto Hashizume,
Kyosho University, Japan

13⁵⁰-14²⁰ Review of Communication Systems for Ingestible Miniaturized
Integrated Sensor Microsystems Aydin Nizamettin, Bahcesehir
University Turkey, Tughrul Arslan, Edinburgh University U.K.

14²⁰-15¹⁰ Mechatronic leg with intelligent control

Professor Alberto Rovetta, Politecnico di Milano Italy

- 15¹⁰-15³⁰ The Effect of Clearance in Total Hip Endoprosthesis
Professor Florin Munteanu, Paul Sirbu, Constantin Barbarosie, Anca Munteanu and Professor Paul Botez, Gr.T. Popa” University of Medicine and Pharmacy, Iasi, Romania
- 15³⁰-16⁰⁰ Robotics in orthopedic surgery; past, present and future trends
Professor Paul Botez, University of Medicine and Pharmacy, Iasi, Romania
- 16⁰⁰-17⁰⁰ Minimally Invasive Plate Osteosynthesis in Distal Femoral Fractures (MIPO),
Dr. Paul Sirbu, “Gr.T.Popa” University of Medicine and Pharmacy, Iasi, Romania

19⁰⁰ Dinner around

Day 3

24 of July 2009

University Medicine and Pharmacy Theare

- 8⁰⁰-9⁰⁰ Coffee
Plenary joined session LAB-RS – ARTIPED- ISRIS
Chair Professor Vander Sloten, Professor Lefeber
- 9¹⁰-10⁰⁰ Daphne System for Neuromotor Control Evaluation: Reconfiguration Concepts
Professor Alberto Rovetta, PhD Politecnico di Milano Italy
- 10⁰⁰-10¹⁰ Cofee break
- 10¹⁰-10⁰⁵⁵ Use of Compliant Actuators in Robotic Application
Professor Dirk Lefeber Vrije Universiteit Brussel, Belgium
- 10⁵⁵-11¹⁰
- 11¹⁰-11²⁰ Intermezzo coffe break
Towards Improved Assessment of Bone Fracture Risk
Professor Jos Vander Sloten, Katholieke Universiteit Leuven, Belgium
- 11¹⁰-11²⁰ Intermezzo coffe break



- 11²⁰-11⁴⁵ Robotically Assisted Aorto-Femoral Bypass Grafting Surgery
Professor Adrian Lobontiu, MD
Henri Mondor Hospital, Paris 12 University, France
- 11⁴⁵-12¹⁰ Improving the Quality of Life of People with Dementia through the Use of Socially Assistive Robots
Dr. Adriana Tapus University of Southern California, USA
- 12⁰⁰-12³⁰ Stem cells in musculoskeletal regeneration (Part 1)
Professor Brendon Noble, Edinburgh University, U.K.
- 12³⁰-13³⁰ Lunch Unirea Restaurant
- Afternoon class
Bioengineering Faculty Theatre
- 13⁵⁵-14²⁰ From conventional to bionic prosthesis
Professor Dirk Lefeber Vrije Universiteit Brussel, Belgium
Exoskeletonsgait rehabilitation for gait rehabilitation
- 14⁴⁵-15¹⁰ Compliant actuators for robots in contact with humans
Professor Dirk Lefeber Vrije Universiteit Brussel, Belgium
- 15¹⁰-15³⁰ Afternoon break
- 15³⁰-16⁴⁰ Professor Adrian Lobontiu Henri Mondor Hospital Paris
Medicine Meets Robotics: From Multidisciplinary Indications in: General, Thoracic, Cardiac, Urology, Gynecology and Vascular Surgery to Virtual Reality and Simulation".
- 16⁴⁰ Buss transportation
- 17⁰⁰-18⁰⁰ Poster session
Bioengineering Faculty Hall
Robotic Scaffolds for Tissue Engineering and Organ Growth
Professor Adrian Stoica, NASA-JPL, California Institute of Technology, USA
ISRIS students
- 19³⁰ Outdoor networking & dinner (LAB-RS, ISRIS, ARTIPED)

**Day 4,
25 of July 2009**

- 8⁰⁰-9³⁰ Buss loading, departure UNESCO awarded Northern Moldavia
Monasteries tour
- 13³⁰-15³⁰ Lunch Jam-session
Romania on the map of industrial and health care robotics development
Prof Dr Paul Botez, Prof Dr Adrian Stoica, Prof Dr Dragos Arotaritei, Dr Paul Sirbu

Day 5
26 of July 2009-
Bioengineering Faculty Conference Room

- 8³⁰-9⁰⁰ Coffee
- 9⁰⁰-10³⁰ Dan Zaharia, University of Medicine and Pharmacy “Gr. T. Popa” Iasi
Romania
Functional evaluation of brachial plexus lesions
- 10³⁰-12⁰⁰ **Socially Assistive Robots for Therapeutic and Personal Care"**
Dr Adriana Tapus Ecole Nationale Supérieure de Techniques
Avancées
- 12¹⁰-13⁰⁰ Professor Dragos Arotaritei University of Medicine and Pharmacy, Iasi,
Romania
"Evolutionary Algorithms applied to Trajectory Planning in Robotics"
- 13⁰⁰-14⁰⁰ Lunch break, Oscar restaurant
- 14⁰⁰-14³⁰ Transportation to Technical University
- 14³⁰-15³⁰ Robotics Lab Tour (Mechanical Engineering Faculty)
Professor Ioan Doroftei, “Gh. Asachi” Technical University Iasi Romania
- 15³⁰-16³⁰ Professor Adrian Stoica, NASA-JPL, California Institute of Technology
Concluding remarks