Scientific Seminar on New Technologies for Rehabilitation, Prosthesis and Surgery
14-15 June 2011

With the participation of Regione Lombardia

June 14, 2011 – Palazzo Mezzanotte, Milano, Italy

14:30-14:35 WELCOME
Armando De Crinito, Director University and Research, Regione Lombardia

14:35-15:00 OPENING SESSION
Tullio A. M. Tolio, Institute of Industrial Technologies and Automation, CNR-ITIA
Gianni Conti, H. Valduce, Villa Beretta Rehabilitation Center
Anath Fischer, Faculty of Mechanical Engineering, Technion

15:00-18:00 SCIENTIFIC TRENDS
Lecture 1: Eugenio Guglielmelli and Silvia Sterzi, From lab to bedside: translational approaches to robot-mediated neurehabilitation
Università Campus Biomedico, Roma Italy

Lecture 2: Gabriel Zeilig, Robotics for upper limbs: old and new
Sheba Medical Center, Tel Hashomer, Israel

Lecture 3: Caterina Pistorini, Training and methodology for clinical application of technologies in rehabilitation
Fondazione Salvatore Maugeri, Pavia Italy
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Lecture 4: Itzhak Siev-Ner, Implementation of Virtual Reality in Rehabilitation: The CAREN (Computer Assisted Rehabilitation Environment) System
Sheba Medical Center, Tel Hashomer, Israel

Lecture 5: Luigi Tesio, Gait analysis: the whole and the parts. Bridging the gap through the centre of mass
Università degli Studi di Milano, Milano, Italy

Lecture 6: Meir (In) Liebergall, Challenges of technology integration and computer assisted surgery
Hebrew University, Hadassah Medical Center, Israel

Lecture 7: Laura Vergani, Optimal design of prosthesis for amputees
Politecnico di Milano, Milano, Italy

Lecture 8: Moshe Shoham, Trends in Medical Robotics
Faculty of Mechanical Engineering, Technion, Haifa, Israel

18:00-19:30 BUSINESS MEETINGS
Company presentations (max 10 min each)
- Motek Medical, Israel
- MPD Srl, Italy
- Motorika, Israel
- BTS Spa, Italy

Matching Opportunities
June 15, 2011 – Chamber of Commerce, Lecco, Italy

8:30-8:45 WELCOME and OPENING SESSION
Vico Valassi, President, Chamber of Commerce of Lecco

8:45-10:00 SCIENTIFIC TRENDS
Lecture 1: Luciano Bissolotti, Technology applied to rehabilitation: the clinician’s perspective
Casa di Cura Domus Salutis, Brescia, Italy
Lecture 2: Dario Liebermann, Invariant arm kinematic features for robot-based diagnosis, motor training and rehabilitation assessment
Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel
Lecture 3: Matteo Malosio, Influence of robotic orthoses kinematics on usability and wearability
CNR-ITIA Istituto di Tecnologie Industriali ed Automazione, Milano, Italy
Lecture 4: Tamar Weiss, Clinical studies on the effectiveness of virtual reality for Acquired Brain Damage
Faculty of Social Welfare & Health Sciences, University of Haifa, Haifa, Israel
Lecture 5: Enrico Castelli, The role of robotic rehabilitation in children with Cerebral Palsy
Ospedale Bambin Gesù, Roma, Italy

10:00-10:20 COFFEE BREAK

10:20-12:35 SCIENTIFIC TRENDS
Lecture 6: Alon Wolf, Rehabilitation robotics and Biomechanics study of the lower limbs
Faculty of Mechanical Engineering, Technion, Haifa, Israel
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Lecture 7: Federico Posteraro, Robotic devices for upper limb neurorehabilitation: clinical experience
Auxilium Vitae, Volterra, Italy

Lecture 8: Miriam Zacksenhous, Error-related Potentials during sensory-motor errors and their applications for Rehabilitation
Technion, Haifa Israel

Lecture 9: Maurizio Ferrarin, Rehabilitation engineering in Don Gnocchi Foundation: from human biomechanics to rehabilitation robotics
Fondazione Don Gnocchi, Milano, Italy

Lecture 10: Anath Fischer, Physically based multiscale modeling of large-scale porous structures
Faculty of Mechanical Engineering, Technion, Haifa, Israel

Lecture 11: Simone Pittaccio, The use of Shape Memory alloys in rehabilitation devices
CNR-IEI Istituto per l’Energetica e le Interfasi, Lecco, Italy

Lecture 12: Michael Lindenbaum, Supervised and unsupervised image segmentation
Faculty of Computer Science, Technion, Haifa, Israel

Lecture 13: Marta Gandolla, Compatibility assessment and design matrix improvement with simultaneous measurements of kinematics and fMRI in stroke patients
Politecnico di Milano, Milano, Italy

Lecture 14: Yoram Halevi, Redundant actuation in robots - minimum energy control and related issues
Faculty of Mechanical Engineering, Technion, Haifa, Israel

12:35-14:00 LUNCH and TRANSFER

14:00-15:45 Tour and demonstrations at the H. Valduce Villa Beretta Rehabilitation Center Costa Masnaga (Lecco)
Welcome and Demo: Villa Beretta, Aeroscout/IBM, Real-time Location, Status and Condition of Assets, Patients and Staff Throughout Hospital, Israel
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Demo2: CNR - ITIA, Villa Beretta, BTS Bioengineering, Robotic Devices for upper limb rehabilitation, Italy
Demo3: Villa Beretta, BTS Bioengineering, Virtual Reality interactive system for rehabilitation, Italy
Demo4: Villa Beretta, Università degli Studi di Brescia, Idrogenet, Robotic Device for hand rehabilitation, Italy
Demo5: Villa Beretta, Motorika, BTS Bioengineering, Robotic Device for upper limb rehabilitation, Israel
Demo6: Villa Beretta, Università degli Studi di Roma – La Sapienza, MPD, Robotic Device for lower limb rehabilitation, Italy
Demo7: Villa Beretta, BTS Bioengineering, Robotic hospital Bed, Italy
Demo8: Villa Beretta, Argo Medical Technologies, Powered exoskeleton, Israel

15:45-16:00 BUS TRANSFER

16:00-17:45 Tour and demonstrations at the Scientific Hospital “Eugenio Medea”, Bosisio Parini (Lecco)
Welcome and Demo1: Eugenio Medea, Gait Analysis Lab + Plethysmography, Italy
Demo2: Eugenio Medea, Robotic Devices for upper and lower limb rehabilitation, Italy
Demo3: Eugenio Medea, Clinical 3T Magnetic Resonance, Italy

17:45-18:00 FINAL REMARKS and CONCLUSION