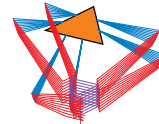




**TECHNICAL UNIVERSITY
OF CLUJ-NAPOCA**
FACULTY OF MACHINE BUILDING



CESTER
CENTER FOR INDUSTRIAL ROBOTS
SIMULATION AND TESTING

NEW TRENDS IN MEDICAL AND SERVICE ROBOTS

INTERNATIONAL EXPLORATORY WORKSHOP

30th June – 1st July 2012, Univers T Hotel, 53-55 Al. Vaida Voevod, Cluj-Napoca

PROGRAM

Friday, 29th June

19.00 – 22.00 Welcome Party

Day 1, Saturday, 30th June

08.30 REGISTRATION

09.00 OPENING CEREMONY

09.30 Plenary Lectures – Session 1

Chair: Prof. Dr.-Ing. Marco CECCARELLI

**OPPORTUNITIES, CHALLENGES AND APPROACHES
IN ASSISTIVE ROBOTICS**

Tim DETERT, Burkhard CORVES, Isabel PRAUSE
RWTH Aachen University, Germany

**RAPID RECONFIGURABLE CONTROL ARCHITECTURE
WITH APPLICABILITY IN MEDICAL ROBOTICS**

Stelian BRAD
Technical University of Cluj-Napoca, Romania

**AUTOMATED MANIPULATION IN MEDICAL AND
BIOTECHNOLOGICAL APPLICATIONS**

**Philipp BLUMENTHAL, Franz DIETRICH, Arne
BURISCH, Annika RAATZ**
Technical University of Braunschweig, Germany

11.00 Coffee Break

11.30 Plenary Lectures – Session 2

Chair: Prof. Dr.-Ing. Aleksandar RODIC

**EXPERIMENTAL CHARACTERIZATION FOR HUMAN
WALKING FOR REHABILITATION PURPOSES**

Marco CECCARELLI
University of Cassino, Italy

**DEVELOPMENT OF REHABILITATION ROBOTIC
SYSTEMS**

Dan MANDRU, Benjamin CHETLAN
Technical University of Cluj-Napoca, Romania

NEW TRENDS IN SERVICE ROBOTICS

Inocentiu MANIU, Valentin CIUPE
Politehnica University, Timisoara, Romania

13.30 Lunch break

15.00 Plenary Lectures – Session 3

Chair: Dipl.-Ing. Philipp BLUMENTHAL

**INNOVATIVE APPROACHES IN MEDICAL ROBOTICS.
ADAPTING TECHNOLOGY TO SURGERY**

Calin VAIDA, Nicolae PLITEA
Technical University of Cluj-Napoca, Romania

**INTELLIGENT PATH PLANNING, NAVIGATION,
GUIDANCE AND CONTROL FOR SINGLE AND MULTI**

MOBILE ROBOTS IN STRUCTURED ENVIRONMENT
Dusko KATIC, Marko SUSIC, Aleksandar COSIC
IMP, Belgrade, Serbia

**A MODEL OF IMPLEMENTING ROBOTIC SURGERY
IN THE UROLOGICAL FIELD. AN INSIDE VIEW FROM
THE ROBOTIC UROLOGIC SURGERY CENTER OF
CLUJ-NAPOCA**

**Ioan COMAN, Nicolae CRISAN, Ottavio de COBELLI,
Deliu Victor MATEI**
SCM Cluj-Napoca Romania, IEO Milano Italy

ROBUST HAPTIC TELEOPERATION BY FPGA

Marko FRANC, Ales HACE
University of Maribor, Slovenia

AUTOMATED SCANNER FOR BOOKS IN LIBRARIES

Andrei COMSA, Inocentiu MANIU
Politehnica University, Timisoara, Romania

17.30 Coffee Break

18.00 ROUND TABLE

**Topics of interest and collaborative research
opportunities in European Research Programmes**

20.00 – 22.30 Dinner – Sinaia Restaurant

Day 2, Sunday, 1st July

08.30 Plenary Lectures – Session 4

Chair: Prof. Dr.-Ing. Dusko KATIC

HAPTICS AS TOPIC FOR ROBOTICS, MAN-MACHINE INTERFACE AND NEUROSCIENCE RESEARCH

Hannes BLEULER, Mohamed BOURI
EPFL, Laussane, Switzerland

INTEGRATION OF 3D IMAGING SYSTEM IN COMPUTER AIDED MEDICAL APPLICATIONS FOR MODELLING OF HUMAN SPINAL COLUMN AND SIMULATION OF SPINAL DEFORMITIES

Erwin LOVASZ
Politehnica University, Timisoara, Romania

NEW FRONTIERS OF SERVICE ROBOTICS – CONCEPT, DESIGN & IMPLEMENTATION

Aleksandar RODIC, Branko MILORADOVIC, Ilija STEVANOVIC
IMP, Belgrade, Serbia

INNOVATIVE BRAIN-MACHINE INTERFACES AND THEIR ENVIRONMENT

Tiberiu VESELENYI, Radu TARCA
University of Oradea, Romania

10.30 Coffee Break

11.00 Plenary Lectures – Session 5

Chair: Prof. Dr.-Ing. Hannes BLEULER

RECONFIGURABLE ROBOTS. CONCEPT, DEVELOPMENT AND INTEGRATION

Doina PISLA, Nicolae PLITEA
Technical University of Cluj-Napoca, Romania

NONLINEAR DYNAMICS OF HUMAN AND ARTIFICIAL HAND SYSTEMS

Daniela TARNITA, Cosmin BERCEANU
University of Craiova, Romania

BUILDING MINI-ROBOTS FOR EDUCATIONAL PURPOSES: AN APPROACH TO THE INCREASING USE OF MOBILE ROBOTS IN REAL APPLICATIONS

Ioan DOROFTEI
“Ghe. Asachi” University, Iasi, Romania

12.30 Closing ceremony and Future Perspectives

12.45 Lunch

14.00 – 22:30 Social programme

Visit to the Salt Mine in Turda and dinner at “URSUS” Brewery Restaurant

NEW TRENDS IN MEDICAL AND SERVICE ROBOTS

Coordinator: Dr.-Ing. Calin VAIDA
Co-Coordiators: Prof. Dr.-Ing. Marco CECCARELLI
Dr.-Ing. Annika RAATZ
Prof. Dr. Ing. Doina PISLA
Honorary Coordinator: Prof. Dr.-Ing. Nicolae PLITEA

Organizing committee: Tiberiu ITUL, Bogdan GHERMAN, Andras SZILAGHYI, Alin STOICA, Bela GYURKA, Bogdan GALDAU

Website: www.cester.utcluj.ro/mesrob2012.html

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