



SAPIENTIA UNIVERSITY
DEPARTMENT OF ELECTRICAL ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING

**3rd International Conference on
Recent Achievements in Mechatronics, Automation,
Computer Science and Robotics**

CONFERENCE PROGRAM

MACRo

2011 

www.macro.ms.sapientia.ro

April 8-9, 2011
Tîrgu Mureş, Romania

April 8, 2011

8 ⁰⁰ -9 ⁰⁰	Registration (Aula)	
	Opening Ceremony (Room 114)	
9 ⁰⁰ -9 ¹⁰	Welcome from the Organizing committee and foreword from:	László DÁVID Rector of SAPIENTIA University
		Iuliu SZÉKELY Dean of the Faculty of Technical and Human Sciences
“Bolyai János” Plenary Session (Room 114) Chair: László Ferenc MÁRTON		
9 ¹⁰ -9 ⁵⁰	"Bolyai János" - plenary lecture	Mária IMECS Technical University of Cluj-Napoca, Faculty of Electrical Engineering, Electrical Drives & Robots Department, Cluj-Napoca <i>From Space-Phasors to the Modern Control Theory of the AC Motor Drives</i>
9 ⁵⁰ -10 ³⁰	Plenary lecture	Pál BOZA College of Mechanical Engineering and Automation (GAMF), Kecskemét <i>Digital Manufacturing</i>
10 ³⁰ - 10 ⁴⁰		Coffee break
10 ⁴⁰ -11 ²⁰	Plenary lecture	Gheorghe SEBESTYÉN Technical University of Cluj-Napoca, Faculty of Automation and Computer Science, Computer Science Department, Cluj-Napoca <i>Industrial Informatics - Perspectives and Achievements</i>
11 ²⁰ -12 ⁰⁰	Plenary lecture	Liviu-Cristian MICLEA Technical University of Cluj-Napoca, Faculty of Automation and Computer Science, Automation Department, Cluj-Napoca <i>About Dependability and Security in Large Heterogeneous Distributed Systems</i>
12 ⁰⁰ -12 ¹⁰		Coffee break
Industrial Reality Plenary Session (Room 114)		
12 ¹⁰ - 12 ⁵⁰		Mircea DĂBĂCAN General Manager Digilent Romania, Professor at Technical University of Cluj-Napoca, Faculty of Electronics, Telecommunication and Information Technology, Applied Electronics Department, Cluj-Napoca
13 ⁰⁰ - 14 ⁰⁰	Lunch (Dining hall)	
14 ⁰⁰ - 15 ⁰⁰	Industrial Reality Exhibition / Poster Session (Aula)	
15 ⁰⁰ -17 ¹⁵	Parallel Sessions	
17 ³⁰ - 18 ⁰⁰	Conference Closing Ceremony, Best Paper Awards (Room 230)	
18 ⁰⁰ -	Conference Reception (Senate room)	

15⁰⁰ - Computer Science and Telecommunication Session (Room 230) Chair: József DOMOKOS	
15 ⁰⁰ -15 ¹⁵	Sándor Tihamér BRASSAI, László BAKÓ, László Ferenc MÁRTON <i>Parallelization Techniques for BCI Signal Computation</i>
15 ¹⁵ -15 ³⁰	Zoltán KÁTAI <i>Solving Markov Decision Processes by d-Graph Algorithms</i>
15 ³⁰ -15 ⁴⁵	Cosmin SZANTO, Gyula FARKAS, Valentin GORA, Piroska HALLER <i>Efficient Data Transfer for the BOINC Project</i>
15 ⁴⁵ -16 ⁰⁰	Raghad Jawad AHMED <i>Novel Techniques for Improving the Motion Estimation and Compression</i>
16 ⁰⁰ -16 ¹⁵	Coffee break
16 ¹⁵ -16 ³⁰	Péter BAKOS, Péter KATZENBERGER, Attila MITCSENKOV, Géza PAKSY, Tibor CINKLER <i>Topology Optimization for Next Generation Access Networks: Algorithmic Overview</i>
16 ³⁰ -16 ⁴⁵	Alexandru BALICA, Florin SANDU, Iuliu SZÉKELY <i>Value Added Services in Telecommunications –Recharging Process Performance Study</i>
16 ⁴⁵ -17 ⁰⁰	Ioan FIȚIGĂU, Gavril TODEREAN <i>Internet Protocols. Distance Vector and Link State Algorithms</i>
17 ⁰⁰ -17 ¹⁵	László SZILÁGYI, Sándor M. SZILÁGYI, David ICLĂNZAN, Lehel SZABÓ <i>Efficient Skeleton Extraction from Large 3-D Objects</i>

15 ⁰⁰ - Mechatronics and Mechanical Engineering Session (Room 231) Chair: Márton MÁTÉ	
15 ⁰⁰ -15 ⁴⁵	Invited lecture: Călin PUIU <i>High-Tech for More Quality of Life from Otto-Bock</i>
15 ⁴⁵ -16 ⁰⁰	Márton MÁTÉ, Dénes HOLLANDA <i>About an Interesting Geometry Problem by Manufacturing Profiled Turning Disk-Tool and Holder</i>
16 ⁰⁰ -16 ¹⁵	Coffee break
16 ¹⁵ -16 ³⁰	István PAPP, Izolda POPA-MÜLLER <i>The Equation of Constraint of the Cylindrical Joints</i>
16 ³⁰ -16 ⁴⁵	Alexandra-Maria ALUȚEI, Emőke SZELITZKY, Beniamin CHETRAN, Dan MANDRU <i>Design of Thermal Actuators for Braille Devices</i>
16 ⁴⁵ -17 ⁰⁰	Vlad T. DOBRA, Mugur C. BĂLAN, Lorentz JÄNTSCHI <i>Semi -Quantitative Calibration of PORTALIBS 2000 for Magnesium</i>
17 ⁰⁰ -17 ¹⁵	Erzsébet FALUVÉGI, Luciana CRISTEA <i>Precision Analysis of the Spur Gears Tooth's Surfaces</i>

15⁰⁰ – Electronics and Control Systems Session (Room 130) Chair: László BAKÓ	
15 ⁰⁰ -15 ¹⁵	Traian TULBURE, Radu GAVRUS <i>Testability Optimizations for a Dynamic Reconfigurable PLA on Structured ASIC Technology</i>
15 ¹⁵ -15 ³⁰	László BAKÓ, Sándor Tihamér BRASSAI <i>Hardware Neural Network Implementations Using Embedded Multiple-Core Processors</i>
15 ³⁰ -15 ⁴⁵	Beniamin CHETRAN, Emőke SZELITZKY, Alexandra-Maria ALUȚEI, Dan MÂNDRU <i>High Voltage Systems for Driving Electrorheological Fluids in Rehabilitation Systems</i>
15 ⁴⁵ -16 ⁰⁰	Nimród KUTASI, András KELEMEN <i>Predictive Control of the Power Electronic Converters: a Survey</i>
16 ⁰⁰ -16 ¹⁵	Coffee break
16 ¹⁵ -16 ³⁰	Levente TAMAS, Gheorghe LAZEA <i>Low Cost 3D Laser Measurement Design</i>
16 ³⁰ -16 ⁴⁵	László TUROS, Géza CSERNÁTH, Barna CSENERI <i>Balancing Multiple Chemistry Batteries in a DC voltage Operated UPS</i>
16 ⁴⁵ -17 ⁰⁰	Lorentz JÄNTSCHI <i>Inference in Meteorological Data Taken from January 8, 2011 at Three Different Locations</i>

15⁰⁰ – Recent Advances in Biomedical Engineering Special Session (Room 131) Session Co-Chairs: László SZILÁGYI, Levente KOVÁCS	
15 ⁰⁰ -15 ¹⁵	Levente KOVÁCS, Péter SZALAY and Zsuzsanna ALMÁSSY <i>Validation Results of a Modern Robust Control Algorithm for Type 1 Diabetes</i>
15 ¹⁵ -15 ³⁰	Tamás HAIDEGGER, Levente KOVÁCS, Hunor VARGA, Ștefan PREITL, Radu-Emil PRECUP, Balázs BENYÓ and Zoltán BENYÓ <i>Extended Symmetrical Optimum Combined with Smith-Predictor for Telehealth Applications: a Case Study</i>
15 ³⁰ -15 ⁴⁵	Dániel A. DREXLER, István HARMATI and Levente KOVÁCS <i>Optimal Control of Tumor Growth Using Antiangiogenic Chemotherapy</i>
15 ⁴⁵ -16 ⁰⁰	Melinda NAGY, László SZILÁGYI, Ákos LEHOTSKY and Tamás HAIDEGGER <i>A Novel System to Combat Hospital Acquired Infections</i>
16 ⁰⁰ -16 ¹⁵	Coffee break
16 ¹⁵ -16 ³⁰	Tamás FERENCI, Levente KOVÁCS, Zsuzsanna ALMÁSSY, László SZILÁGYI and Zoltán BENYÓ <i>Automatic Classification of Obesity in Teenage Population Based on Laboratory Results</i>
16 ³⁰ -16 ⁴⁵	Mihaela MANISOR, Cosmin MARCU, Gheorghe TOMOAI and Liviu MICLEA <i>Cemented Versus Uncemented Glenohumeral Joint During Abduction and Adduction</i>

14 ⁰⁰ -15 ⁰⁰ - Poster Session (Aula)	
P1	József DOMOKOS <i>Romanian Language Grapheme-to-Phoneme Conversion System</i>
P2	Francisc Levente KERTÉSZ <i>Sales Forecasting in Sewing Thread Manufacture</i>
P3	László MOLNÁR, Bogdan BODA-LANGA <i>Phone Call Diverting Through the Internet</i>
P4	Adolfo SENATORE, Alessandro RUGGIERO <i>Experiments on Spinning Thin Disk for Design and Stability Control Purposes</i>
P5	Lajos LOSONCZI, László F. MÁRTON, Zoltán GERMÁN-SALLÓ <i>Scheduling Techniques for Hard Real-Time Embedded Systems</i>

14⁰⁰-15⁰⁰ - *Industrial Reality Session*
(Aula)



April 9, 2011

Optional trip

- Departure by bus from the Sapientia University Campus at 9⁰⁰
- Arrival back to Sapientia University Campus at ~20⁰⁰

Route:

Tîrgu Mureş (Marosvásárhely) - Turda (Torda) - Rimetea (Torockó) - Colţeşti (Torockószentgyörgy) - Aiud (Nagyenyed) - Tîrgu Mureş (Marosvásárhely) ~ 200km

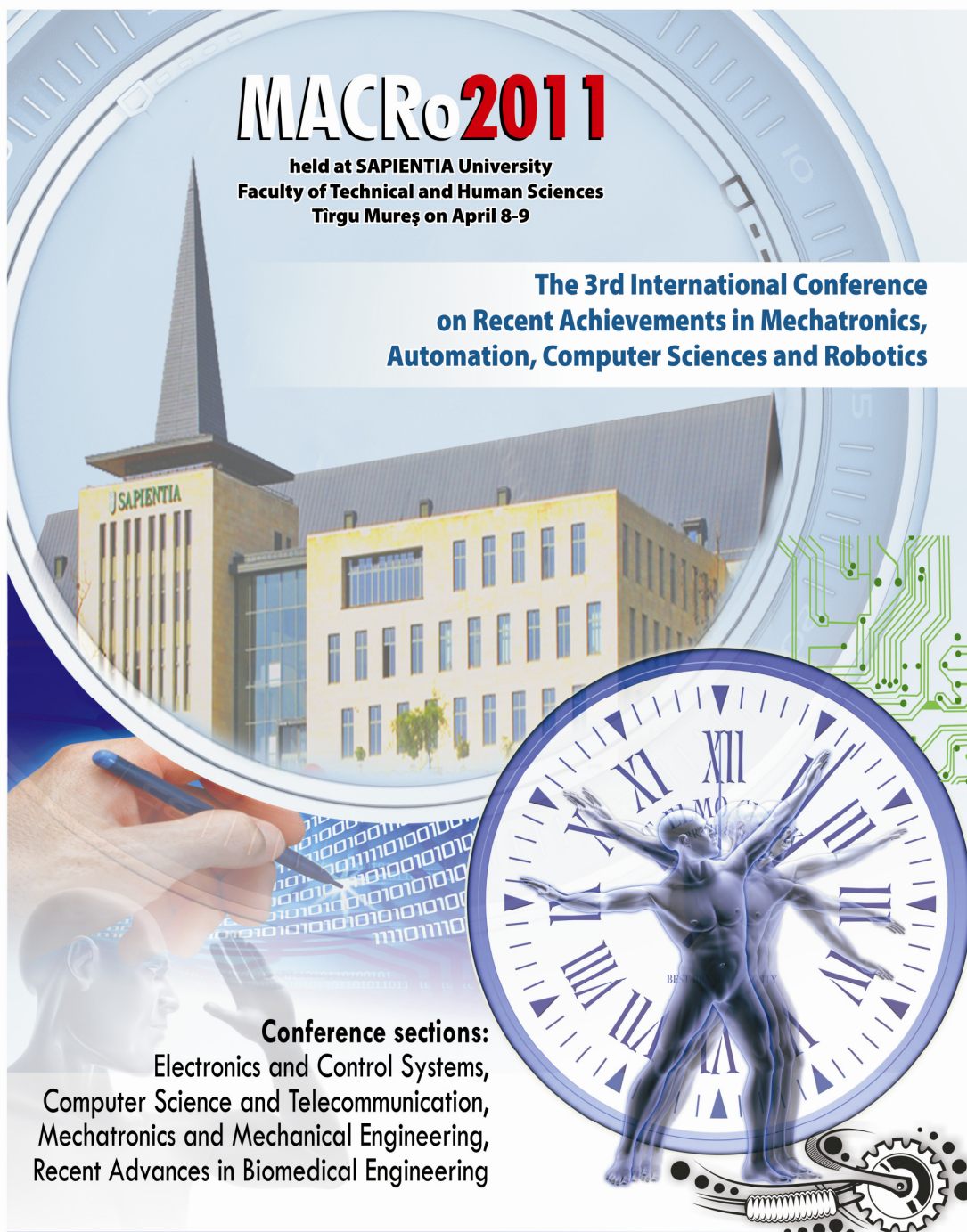
Highlights of the trip include:

- Visiting the [Salt Mine of Turda](#), dating from the seventeenth century, the most famous destination for tourists visiting the town of Turda
- Lunch in Colţeşti at the [Székelykő Mansion](#)
- Visiting ethnographic museum in [Rimetea](#)
- Visiting the [Castle of Colţeşti](#)
- Vine tasting and dinner in [Aiud](#)

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Conference sections:

Electronics and Control Systems,
Computer Science and Telecommunication,
Mechatronics and Mechanical Engineering,
Recent Advances in Biomedical Engineering

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Industrial reality



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