



SAPIENTIA UNIVERSITY
DEPARTMENT OF ELECTRICAL ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING

**6th International Conference on Recent Achievements in Mechatronics,
Automation, Computer Science and Robotics**

CONFERENCE PROGRAM



www.macro.ms.sapientia.ro

October 27-28, 2017
Tîrgu Mureş (Marosvásárhely), Romania

October 27, 2017

8 ⁰⁰ - 9 ⁰⁰	Registration (University Aula)	
	Opening ceremony (Room 114)	
9 ⁰⁰ - 9 ³⁰	Welcome from the Organizing committee	Welcome from András KELEMEN , Dean of the Faculty of Technical and Human Sciences.
		Foreword from László DÁVID , Rector of SAPIENTIA University.
“Bolyai János” Plenary session Chair: József DOMOKOS (Room 114)		
9 ³⁰ - 10 ³⁰	<p style="text-align: center;">Levente KOVÁCS</p> <p style="text-align: center;">Physiological Controls Research Center, University Research and Innovation Center John von Neumann Faculty of Informatics, Óbuda University, Hungary</p> <p style="text-align: center;"><i>Cyber-Medical Systems: the Digitalized Healthcare Approach and Its Trends</i></p>	
10 ³⁰ - 11 ⁰⁰	Coffee break (University Aula)	
Industrial reality Chair: László BAKÓ (Room 114)		
11 ⁰⁰ - 11 ³⁰	<p style="text-align: center;">Leitner István, Kovács Otilia, Papp Zsolt - ZES Zollner Electronic</p> <p style="text-align: center;"><i>Company presentation and student opportunities</i></p>	
11 ³⁰ - 12 ⁰⁰	<p style="text-align: center;">Moni Róbert - Continental Automotive Systems Sibiu</p> <p style="text-align: center;"><i>Company presentation</i></p>	
12 ⁰⁰ - 13 ⁰⁰	Poster session Chair: László Lefkovits (University Aula)	
13 ⁰⁰ - 15 ⁰⁰	Lunch (Dining room)	
15 ⁰⁰ - 18 ⁰⁰	Parallel sessions (Room 128, Room 129)	
18 ⁰⁰ - 20 ⁰⁰	Best paper awards and dinner reception (Room 240)	

**Computer Science session
(Room 128)**

Chair: László Szilágyi (Room 128)

15 ⁰⁰ -15 ¹⁵	WEB Application for Romanian Language Phonetic Transcription József DOMOKOS, Attila Zsolt SZAKÁCS
15 ¹⁵ -15 ³⁰	Finger or Stylus: Their Impact on the Performance of On-line Signature Verification Systems Margit ANTAL, András BANDI
15 ³⁰ -15 ⁴⁵	Evaluation and comparison of low FPGA footprint, embedded soft-core processors László BAKÓ, Szabolcs HAJDÚ, Fearghal MORGAN
15 ⁴⁵ -16 ⁰⁰	Bimodal RMS distributions for the objective detection of theta (θ) and gamma (γ) brain oscillations during long-term continuous LFP recordings in mice László MOLNÁR, József DOMOKOS, Isabella FERANDO, István MÓDY
16 ⁰⁰ -16 ¹⁵	Automated evaluation of agricultural damage using UAV survey Dániel STOICSICS, András MOLNAR
16 ¹⁵ -16 ³⁰	Coffee break

**Control System session
(Room 129)**

15⁰⁰ -16⁰⁰ Chair: Lőrinc MÁRTON

15 ⁰⁰ -15 ¹⁵	Theoretical study of the Nonlinear Quadratic Optimal Control implementation Katalin GYÖRGY
15 ¹⁵ -15 ³⁰	Modelling and control of bounded hybrid systems in power electronics Áron FEHÉR, Dénes Nimród KUTASI
15 ³⁰ -15 ⁴⁵	Digitally controlled current measurement and protection techniques László-Zsolt TUROS, Géza CSERNÁTH, István HEGYI
15 ⁴⁵ -16 ⁰⁰	Hybrid modeling and model based control of the four tank process Tamás KARDOS, Dénes Nimród KUTASI
16 ⁰⁰ -16 ¹⁵	FPGA based angular stabilization of a quadcopter Szabolcs HAJDÚ, Sándor Tihamér BRASSAI, Iuliu SZÉKELY
16 ¹⁵ -16 ³⁰	Control of the reactive magnetron sputtering process through a multilevel distributed embedded system Albert-Zsombor FEKETE, András KELEMEN, László JAKAB-FARKAS
16 ³⁰ -16 ⁴⁵	Coffee break

**Telecommunication session
(Room 128)**

Chair: László MOLNÁR

17 ⁰⁰ -17 ¹⁵	Game Theory Based Radio Resource Management Algorithm for Packet Access Cellular Networks Mihály VARGA, Zsolt Alfréd POLGÁR
17 ¹⁵ -17 ³⁰	An analysis of the video capabilities of multiple antenna LTE networks Radu CURPEN, Titus BĂLAN, Fabian SOCEA, Florin SANDU
17 ³⁰ -17 ⁴⁵	Network Automation and Abstraction using Python programming methods Paul MIHĂILĂ, Titus BĂLAN, Radu CURPEN, Florin SANDU
17 ⁴⁵ -18 ⁰⁰	Communication protocol for wireless sensor network, dedicated for real time biosignal acquisition, implemented on top of Contiki OS Loránd FARKAS, Lajos LOSONCZI

**Mechatronics and Mechanical Engineering
session
(Room 129)**

Chair: Zoltán FORGÓ

17 ⁰⁰ -17 ¹⁵	About The Profile Accuracy of the Involute Gear Hob Márton MÁTÉ, Dénes HOLLANDA
17 ¹⁵ -17 ³⁰	Algorithm for Mixed CAD Method Generated, Gears Teeth Gap Points Cloud Envelope Ferenc TOLVALY-ROȘCA, Zoltán FORGÓ
17 ³⁰ -17 ⁴⁵	Comparative FEM Analysis of Gears Modeled With Analytical, Solid Subtracting and Mixed CAD Generating Method Ferenc TOLVALY-ROȘCA, András KAKUCS, Zoltán FORGÓ, Márton MÁTÉ
17 ⁴⁵ -18 ⁰⁰	DMA tests for 3D printed polymer specimens of fatigue test examination Antal FODOR

**Poster session
(University Aula)**

12⁰⁰ -13⁰⁰ Chair: László Lefkovits

P1	Mobile Router Platform with Advanced RRM Capabilities for Heterogeneous Wireless Networks Zsolt Alfréd POLGÁR, Zsuzsanna Ilona KISS
P2	Hybrid Testing Framework for web pages, in both desktop and mobile browsing Gelu BUGNARU, Gabriel Cristian DRAGOMIR-LOGA
P3	Palpation device for quantitative determination of the mechanical parameters of the tissue Lajos LOSONCZI, Emese NAGY
P4	Dorsal Hand Vein Identification Based on Geometric and Local Features László LEFKOVITS, Szidónia LEFKOVITS, Simina EMERICH
P5	Clustering Models Situated Between the Probabilistic Hard and Fuzzy C-Means Algorithms László SZILÁGYI
P6	Ethical hacking 1.0 (terms and rules) Péter TÖRÖK, János RIKK

October 28, 2017

Optional trip

On 28th October a bus will take the participants on the Marosvásárhely (Tîrgu Mures) – Farkaslaka (Lupeni) – Szejkefürdő (Baile Seiche) - Székelyudvarhely (Odorheiu Secuiesc) – Derzs (Dârjiu) – Kelementelke (Calimanesti) - Marosvásárhely (Tîrgu Mures) route.

During the trip the participants will explore some landmarks and cultural sites. The region is extremely attractive for those who are interested in the Hungarian culture and heritage in Transylvania. There are planned a visit to the Tamási Áron memorial house, the Mineral Water Museum, Orbán Balázs's tomb, the fortified Unitarian Church of Derzs (a 13th Century UNESCO World Heritage).

Participants will have lunch in Székelyudvarhely.

Returning to Marosvásárhely, participants will have dinner with wine tasting in Kelementelke, a small village near Marosvásárhely.