

Session chairs: *Levente Kovács and Octavian Prostean*

21	Cristina Manitiu and Marius Marcu	Study on Computer Usage Patterns Depending on End Users' Contexts
115	Rita Fleiner, Barnabás Szász and Péter Piros	Indoor Navigation Linked Data at Óbuda University
1	Maria Laura Sebu and Horia Ciocarlie	Similarity of business process models in a modular design
26	Marius-Alexandru Velciu and Victor-Valeriu Patriciu	A Bio-cryptographic framework for securing mobile devices content
20	Maria Laura Sebu and Horia Ciocarlie	Optimizing business processes by learning from monitoring results

11:00 – 12:15 [T1b] Session on Intelligent Manufacturing Systems and Mechatronics

Room A 109

Session chairs: *Claudiu Pozna and Stefan Preitl*

132	László Horváth and Imre J. Rudas	Multifunctional Engineering Space Supports Integration in Content Based Modeling
23	Elena-Lorena Hedrea, Mircea-Bogdan Radac and Radu-Emil Precup	Virtual Reference Feedback Tuning for Position Control of a Twin Rotor Aerodynamic System
134	Gyula Hermann	Determination of Track Straightness and Parallelism of a Sandwich Producing Machine
45	Emil Voisan, Radu-Emil Precup and Florin Dragan	Facial Expression Recognition System Based on a Face Statistical Model and Support Vector Machines
12	György Max and Bela Lantos	Hierarchical Control System for Autonomous Vehicles Based on Robotic Formalism

11:00 – 12:15 [T1P] Poster session

Session chairs: *Ioan-Daniel Borlea and Gabriel Mihail Danciu*

10	Ján Hurtuk, Anton Baláž and Norbert Ádám	Security Sandbox Based on RBAC Model
90	Éva Stefanko and Tamás Orosz	Optimizing Knowledge Transfer in Physics Education by Fitting Supplemental Materials to Individual Learners
24	Anca Lupei and Loredana Stanciu	Application for UDS Automated Test Generation
27	Iosif Szeidert, Ioan Filip, Cristian Vasar and Octavian Prostean	Computation of Electrical Generator Parameters Using Regression Functions

12:15 – 14:00 Lunch break

14:00 – 15:15 Parallel sessions

14:00 – 15:15 [T2a] Session on Informatics II**Room A 115**Session chairs: ***György Max and Mircea-Bogdan Radac***

50	Tibor Kiss and János-Rancz Katalin Tünde	Developing railway interlocking systems with Session types and Event-B
46	Ákos Odry, Ervin Burkus, István Kecskés, János Fodor and Péter Odry	Fuzzy Control of a Two-Wheeled Mobile Pendulum System
92	József Homlok , Geoff Chase and Balazs Benyo	Blood glucose model for liver transplantation: Alteration of physiological parameters
47	Annamária Szenkovits and Noémi Gaskó	Automated Environment-Model Based Testing with an Adaptive Differential Evolution Algorithm for Reactive Systems
100	Johanna Sápi, Dániel András Drexler and Levente Kovács	Discrete time state feedback with setpoint control, actual state observer and load estimation for a tumor growth model

14:00 – 15:15 [T2b] Special Session on Applied Mathematics I**Room A 109**Session chair: ***Alexandru Kristály***

102	Tibor K. Pogány, Árpád Baricz and Anikó Szakál	On Kapteyn–Kummer Series' Integral Form
108	Violeta Crai	On the Robustness of a Concept of Dichotomy with Different Growth Rates for Linear Discrete-Time Systems in Banach Spaces
74	Ovidiu Sicoe and Mircea Popa	Generation of Floating Point 2D Scaling Operators for FPGA

Francesca Faraci: *Two solutions for a singular elliptic problem indefinite in sign*Árpád Baricz: *Zeros of cross-products of some special functions***14:00 – 15:15 [T2P] Poster session**Session chairs: ***Cristina Stangaciu and Jan Pitel***

33	Adriana Albu	Logical Inference Modeled by Petri Nets
52	József Zoltán Szabó and Péter Bakucz	Knocking combustion characteristic of large gas engine based on the coherence wavelet analysis of vibration signals
75	Ioan-Daniel Borlea, Radu-Emil Precup and Florin Dragan	On the Architecture of a Clustering Platform for the Analysis of Big Volumes of Data
81	Cristina Stangaciu , Valentin Stangaciu , Mihai Micea , Andrei Stoica and Vladimir-Ioan Cretu	TEEARTS: Time and Energy Efficiency Analysis for Real Time Systems Framework
114	József Gáti and Tünde Kovács	Metal Hardness Changing in Case of Explosive Welding

15:15 – 15:30 Coffee break

15:30 – 16:45 [T3a] Special Session on Applied Mathematics II

Room A 115

Session chair: *Árpád Baricz*

104	Csaba Farkas, Alexandru Kristály and Aniko Szakal	Sobolev interpolation inequalities on Hadamard manifolds
103	Claudia Mihit and Diana Borlea	On Some Concepts of Exponential Stability for Skew-Evolution Semiflows in Banach Spaces
118	Popa Ioan-Lucian and Ceausu Traian	Generalized exponential trichotomy for difference equations

Csaba Farkas and Alexandru Kristály. *Maxwell-Schrodinger systems on curved spaces*

Nicolae Marian Seimeanu. *Generalizations of some dichotomy concepts for evolution operators in Banach spaces*

15:30 – 16:45 [T3b] Special Session on PhD

Room A 109

Session chair: *László Horváth*

116	Krisztián Karóczkai, Eszter Kail , Péter Kacsuk and Miklós Kozlovsky	Supporting Health Smart System Applications in Scientific Gateway Environment
109	József K. Tar and Bertalan Csanadi	Selection of Kinematic Requirements for RFPT-based Adaptive Anaesthesia Control
117	Anna Bánáti, Péter Kacsuk and Miklós Kozlovsky	Evaluating the Reproducibility Cost of the Scientific Workflows
99	Artur Kuczapski and Gheorghe-Daniel Andreescu	Real-time Interfacing for Fault Detection and Auralization with MED-EL Cochlear Implant Processors
113	Khulan Batbayar , Márta Takács and Miklós Kozlovsky	Medical device software risk assessment using FMEA and fuzzy linguistic approach: case study

15:30 – 16:45 [T3P] Poster Session

Session chairs: *Alexandra-Iulia Szedlak-Stinean and Gabriel Danciu*

57	Alexandra-Iulia Stinean, Stefan Preitl , Radu-Emil Precup and Claudia-Adina Bojan-Dragos	An Adaptable Feedback Control Solution for a Drive System with Variable Parameters
80	Marius-Florin Crainic and Stefan Preitl	Development of a Special setup for path tracking of RV-2AJ robot
82	Ovidiu Banias	The drawbacks of statement code coverage test case prioritization related to domain testing
89	Ciprian Sorandaru , Sorin Musuroi , Mihaela Codruta Ancuti , Gheza-Mihai Erdodi and Doru-Ionut Petrescu	Equivalent Power for a Wind Power System

18:00 Banquet

May 13, Friday

9:00 – 9:35 Plenary Session III

Room A 109

Session chair: *Mihai V. Micea*

133	Valentin Mureşan	Superior Vision: Always on Human-like Vision for Intelligent Devices
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9:35 – 10:10 Plenary Session IV

Room A 109

Session chair: *Florin Dragan*

Christian von Albrichsfeld: Steps on the Way to Automated Driving

10:10 – 10:30 Coffee break

10:30 – 12:00 Parallel sessions

10:30 – 12:00 [F1a] Session on Informatics III

Room A 115

Session chairs: *Maria Laura Sebu and Iosif Szeidert*

41	Isabela Dramnesc , Tudor Jebelean and Sorin Stratulat	A Case Study on Algorithm Discovery from Proofs: The Insert Function on Binary Trees
95	Constantin Barbulescu , Stefan Kilyeni and Antheia Deacu	ANN based Monthly Load Curves Forecasting
4	Margit Antal and Gyoza Nemes	Gender Recognition from Mobile Biometric Data
44	Grigoreta Sofia Cojocar	On Top-Down Aspect Mining for Monitoring Techniques Implementation
68	Doru Anastasiu Popescu, Nicolae Bold and Ovidiu Domşa	A generator of sequences of hierarchical tests which contain specified keywords

79	Éva Hajnal , Balázs Nagy and Valéria Varga	Intelligent Estimation Method for Demographic Effect onto the Research and Development Sector in Hungary
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10:30 – 12:00 [F1b] Session on Systems Engineering I

Room A 109

Session chairs: *Dan Ionescu and Ciprian Sorandaru*

42	Octavian Pastravanu and Mihaela-Hanako Matcovschi	On Switched Linear Copositive Lyapunov-Function Method
31	Dalibor Dobrilovic and Zeljko Stojanov	Design of open-source platform for introducing Internet of Things in university curricula
17	Oana Carmen Niculescu-Faida, Valentin Sgarciu and Adrian Niculescu-Faida	The industrial process control simulator with Programmable Logic Control
48	Vlad Muresan, Mihail Abrudean, Mihaela-Ligia Unguresan, Iulia Clitan and Tiberiu Colosi	Control of the 18O Isotope Separation Process
66	K. Jagatheesan, B. Anand, Nilanjan Dey, Amira S. Ashour, Cornel Barna and Valentina E. Balas	Automatic Generation Control of an Interconnected Multi-Area Reheat Thermal Power Systems with Conventional Proportional-Integral Controller Considering various Performance Indices
85	Ervin Racz, Andrea Varga, Dániel Nagy, Holger Ruf and Erik Rene Neuchel	Comparison of Electric Current–Voltage Characteristics and Maximal Power Point Values of Differently and Artificially Aged Solar Panels

10:30 – 12:00 [F1P] Poster Session

Session chairs: *Adriana Albu and Ovidiu Baniias*

72	Gabriel Danciu	A method proposal of scene recognition for RGB-D cameras
101	Attila L. Bencsik, Marianna Lendvay, Adrienn Katalin Trimmel and Krisztina Némethy	Integration of new Equipment by Advanced Process Optimization
	Franciska Hegyesi	
86	Traian Caramihale, Loretta Ichim and Dan Popescu	Intelligent Feature Selection for Regions of Interest Identification in Retinal Images
78	Ioana Sora and Doru Todinca	Using Fuzzy Rules for Identifying Key Classes in Software Systems

12:00 – 13:30 Lunch break

13:30 – 15:30 [F2a] Special Session on Safety and Security

Room A 115

Session chair: *Zoltán Rajnai*

110	Tokody Dániel and Schuster György	The Smart Mobility Aspects of Intelligent Railway
111	Nyikes Zoltán and Kerti András	The electronic information security aspects of the administration system
112	Szilágyi Győző	Analysis of the Topological Changes of an E-mailing Network Using Network-theory Methods
123	Otti Csaba and Kovács Tibor	Comparison of biometric identification methods
124	Fehér-Polgár Pál and Németh Zsolt	Fehér-Polgár Pál and Németh Zsolt
125	Lazányi Kornélia	Who do you trust? – Safety aspect of interpersonal trust among young adults with work experience
129	Ruiz Salvador Lourdes Cecilia	Occupational Safety and Health: An Overview
14	László Pokorádi and József Menyhárt	Electric Vehicles' Battery Parameter Tolerances Analysis by Fuzzy Logic

13:30 – 15:30 [F2b] Session on Systems Engineering II

Room A 109

Session chair: *Octavian Pastravanu and Zoran Nesic*

40	Clement Festila, Roxana Rusu-Both, Eva-Henrietta Dulf and Mihai Secara	The Linear and Nonlinear Behavior Analysis for RC-Filters
51	Mircea Tihu, Daniel Telbis, Cristian Babau and Marius Marcu	Energy Efficiency of Raw Sensor Data Collection on Mobile Devices
58	Gabriel-Cosmin Apostol and Florin Pop	MICE: Monitoring High-Level Events in Cloud Environments
63	Tuncer Haslak	Controllable Loads in the Smart Grid: Stress Relief for the Power Grid through Rescheduling; Test Implementation in Sewage Treatment Facility
87	Attila Adamkó, Ábel Garai and István Péntek	Common Open Telemedicine Hub and Infrastructure with Interface Recommendation
76	Radu Velea, Florina Gurzau, Laurentiu Margarit and Ion Bica	Performance of Parallel ChaCha20 Stream Cipher
28	Peter Holcsik	Improving Quality of Service Indicators in Distribution Network by Applying Modern LV Network Management System
131	Miklos Kozlovsky, Khulan Batbayar, Zoltán Garaguly and Krisztián Karózkai – pending paper, because no final paper had been uploaded	Multimodal biophysical data visualisation for patient monitoring

13:30 – 15:30 [F2P] Poster Session

Session chairs: *Krisztina Némethy and Csaba Szász*

6	Irina Georgescu and Jani Kinnunen	New Mixed Models of Optimal Saving
22	Daniel Hetenyi, Márton Gótzty and Laszlo Blazovics	Sensor Fusion with Enhanced Kalman Filter for Altitude Control of Quadrotors
5	Margit Antal and László Zsolt Szabó	On-line verification of finger drawn signatures

39	Akos Nagy and Bence Kovari	Analyzing .NET serialization components
93	Judith Pálfi	Localization of faults in low voltage networks by the graph method

15:30 – 15:45 Coffee break

15:45 – 17:15 Parallel sessions

15:45 – 17:15 [F3a] Session on Computational Intelligence

Room A 115

Session chairs: *Adrian Niculescu-Faida and Grigoreta-Sofia Cojocar*

7	Krisztian Buza	Drug-Target Interaction Prediction with Hubness-aware Machine Learning
64	Cristian Gadea, Mircea Trifan, Dan Ionescu, Marius Cordea and Bogdan Ionescu	A Microservices Architecture for Collaborative Document Editing Enhanced with Face Recognition
62	Ioan-Gabriel Mircea	A Fuzzy Decision Tree Based Method For Skeletal Sex Determination
8	Krisztian Buza and Dora Neubrandt	How You Type Is Who You Are
25	Vlad-Sebastian Ionescu, Mihai Teletin and Estera-Maria Voiculescu	Machine learning techniques for age at death estimation from long bone lengths
91	Leonardo Moraes, Dionne Monteiro, Jefferson Morais, Daniel Souza and Roberto Oliveira	A PSO FPGA based architecture to optimize restricted functions

15:45 – 17:00 [F3b] Special Session on PhD

Room A 109

Session chair: *László Horváth*

107	József Klespitz , Miklós Bíró and Levente Kovács	Evaluation criteria for application life cycle management systems in practice
122	Yatish Bathla	Structured Organization of Engineering Objects in the Information Content of PLM System
126	Patrik Szpisják and Levente Rádai	Performance Issues of in-Memory Databases in OLTP systems
127	Neerendra Kumar, Zoltán Vámosy and Zsolt Miklós Szabó-Resch	Robot Obstacle Avoidance Using Bumper Event
130	Gábor Kertész, Dániel Kiss, Anna Lovrics, Sándor Szénási and Zoltán Vámosy	Multiprocessing of an Individual-Cell Based Model for Parameter Testing

15:45 – 17:15 [F3P] Poster Session

Session chairs: *Ioan Virag and Daniel Bogdan*

13	Mária Tóthová and Ján Pitel'	Testing of Two Types of Membership Functions in Fuzzy Adaptive Controller of Pneumatic Muscle Actuator
11	Daniel Bogdan , Razvan Bogdan and Mircea Popa	Delta Flashing of an ECU in the Automotive Industry
119	József Mezei and András Molnár	Drone Sound Detection by Correlation
60	Ioan Virag , Lăcrămioara Stoicu-Tivadar and Vida Mihaela Marcella	Gesture-Based Interaction in Medical Interfaces
34	Csaba Szasz and Eva-Henrietta Dulf	Mathematical Model Development for Faults Simulation in Current-source PWM Inverters

18:00 **Coctail**