

January 23, Thursday

9:45 – 10:00 Opening Ceremony

10:00 – 10:45 Plenary Talk I

Session chair: Zsolt Csaba Johanyák

74	Gábor Szederkényi	Analysis and Control of Nonnegative Dynamical Models with a Network Structure
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10:45 – 11:00 Coffee break

11:00 – 11:45 Plenary Talk II

Session chair: Levente Kovács

73	Cosmin Copot	A Graphical-oriented Approach to Improve the Programmability of a Robotic System
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11:45 – 12:30 Plenary Talk III

Session chair: Ladislav Főző

39	Zsolt Csaba Johanyák	Fuzzy Logic based Network Intrusion Detection Systems
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12:30 – 14:00 Lunch

14:00 – 15:20 [T1] Session on Intelligent Manufacturing Systems and CAD/CAM/CAE Systems

Session chair: Nancy Fulda

75	László Horváth	Situation-Awareness in Model of Cyber Physical System
41	Mariana Bran, Mihaela Frigura-Iliasa, Hannelore Elfride Filipescu, Lia Dolga, Vlad Vatau and Mirela Iorga	Case Study about Smart Integrated Utilities for Smart Cities
45	Nicolae Todea, Flaviu Mihai Frigura-Iliasa, Hannelore Filipescu, Lia Dolga, Valer Dolga and Florian Crisovan	Reconstruction of Industrial Parts by using 3D Scanning Techniques
46	Nicolae Tarfulea, Attila Simo, Doru Vatau, Flaviu Mihai Frigura-Iliasa, Sorin Musuroi and Petru Andea	Fuzzy Logic Based Diagnosis of SF6 Switching Devices

14:00 – 15:20 Poster session

Session chair: Monika Trojanová

3	Monika Trojanová and Alexander Hošovský	Comparison of two types of nonlinear dynamic models (Hammerstein-Wiener and MLP) used to identify the dynamic of the fluidic-muscles powered manipulator arm
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67	Franciska Hegyesi and Jolán Velencei	On the Impact of Online Courses on Engineering Education
36	Ivan Cik, Jan Magyar, Marian Mach and Norbert Ferencik	Reinforcement learning as a service
37	Norbert Ferencik, Marek Bundzel, Lukas Hruska and Ivan Cik	Patient assessment using computer games in rehabilitation
38	Lukas Hruska, Peter Sincak, Ivan Cik and Norbert Ferencik	Application of cloud-based social robotics incognitive exercises for elderly people

15:20 – 15:40 Coffee break

15:40 – 17:00 [T2] Session on Systems Engineering

Session chair: Stefan Gubo

48	Zsolt Faltin and Károly Beneda	Establishment of Meanline Compressor Mathematical Model with Active Blade Load Distribution Control
40	Bogdan Filip, Attila Simo, Flaviu Mihai Frigura-Iliasa, Doru Vatau, Sorin Musuroi and Petru Andea	LoRaWAN Based Real-Time Air Quality Monitoring System
34	Mátyás Szalai, Balázs Varga, Tamás Tettamanti and Viktor Tihanyi	Mixed reality test environment for autonomous cars using Unity 3D and SUMO
44	Florian Pfeifer, Mihaela Frigura-Iliasa, Hannelore Elfride Filipescu, Lia Dolga, Valer Dolga and Adrian Pocola	CAD Design of Overvoltage Protection Systems Applied to Embedded Systems in Automotive

17:30 Welcome reception

January 24, Friday

9:00 – 10:30 [F1] Special Session on Recent PhD Research Achievements in Applied Informatics

Session chair and organizer: László Horváth

11	Dr. Ervin Rácz and Zoltán Varga	Investigation of the Maximum Power Point Position on a DSSC Solar Cell Using Different Irradiations
43	Albert Nagy and József Tick	Modeling of bus transport operative planning tasks
49	Kristóf Takács, Kristóf Móga and Tamás Haidegger	Sensorized Psychomotor Skill Assessment Platform Built on a Robotic Surgery Phantom
56	Dénes Ákos Nagy, Imre J. Rudas and Tamás Haidegger	Using Process Models for Surgical Training
57	Abdallah Benhamida and Miklos Kozlovsky	Human ECG streaming data collection and digitalization
65	Tímea Fülöp, Ágnes Gyórfi, Levente Kovacs and Laszlo Szilagyi	Brain Tumor Segmentation from MRI Data Using Ensemble Learning and Multi-Atlas

10:30 – 10:50 Coffee break**10:50 – 12:30 [F2] Session on Informatics**

Session chair: Annamária R. Várkonyi-Kóczy

42	Stefan Gubo, Tibor Kmet, Andras Molnar and Ondrej Takac	A Multi-range Approach for Cultural Heritage Survey: A Case Study of a Medieval Church in Slovakia
12	Isabela Dramnesc and Tudor Jebelean	Deductive Synthesis of Bubble–Sort Using Multisets
66	Balázs Tusor, Annamária Várkonyi-Kóczy, András Molnár, Štefan Gubo and Ondrej Takač	Shape Recognition in Drone Images Using Simplified Fuzzy Indexing Tables
35	Martin Cervenka and Vaclav Skala	Behavioral Study of Various Radial Basis Functions for Approximation and Interpolation Purposes
68	Rituraj Rituraj and Annamária Várkonyi Kóczy	Advantages of Anytime Algorithm for Multi-Objective Query Optimization

10:50 – 12:30 Poster session

Session chair: Martin Kenyeres

13	Narushi Nakane, Kosuke Oiwa and Akio Nozawa	Construction of a general model for estimating blood pressure using independent components of facial skin temperature in consideration of the mechanism of variation
28	Martin Kenyeres and Jozef Kenyeres	Estimation Precision of Fastest Constant Edge Weights Algorithm over Wireless Sensor Networks with Mobile Agents
29	Martin Kenyeres and Jozef Kenyeres	Synchronous Distributed Consensus Algorithms for Extrema Finding with Imperfect Communication
50	Jakub Palša, Liberios Vokorokos and Zuzana Bilanová	User interface of smart environment based on human body gestures
62	Tamás Orosz	Replacement and Extention of Detailed Statements with Expressions by means of Innovative SAP Development Concepts

12:30 – 14:00 Lunch**14:00 – 16:00 [F3] Session on Computational Intelligence I**

Session chair: Philipp Niemietz

7	Nancy Fulda, Ben Murdoch and Daniel Ricks	Getting it Right the Fourth Time: Goal-driven Behavior Using Vector Space Models
15	Sajjad Ahmadi, Donya Ashtiani Haghighi, Ksra Nasim, Adel Akbarimajd and Yazdan Ashgevari	The Application of Optimum Self-Tuning Fuzzy Logic Controllers in Multi-Area Power Systems Including UPFC
8	Nancy Fulda	You Are What You Read: The Effect of Corpus and Training Task on Semantic Absorption in Recurrent Neural Architectures
16	Sajjad Ahmadi, Saeid Hojjati Talami, Mostafa Andalib Sahnesaraie, Mahnaz Mohebbi Zanganeh, Bahareh Tahernejadjozam and Yazdan Ashgevari	Load Frequency Control of Multi-Source Power Systems using Optimized-GA Fuzzy Logic-based Self-tuning PID Controller

5	Tobias Kaufmann , Shashwat Sahay , Philipp Niemietz , Daniel Trauth , Wolfgang Maaß and Thomas Bergs	AI-based Framework for Deep Learning Applications in Grinding
27	Thomas Bergs, Philipp Niemietz, Tobias Kaufmann and Daniel Trauth	Punch-to-Punch Variations in Stamping processes

16:00 – 16:20 Coffee break

16:20 – 18:00 [F4] Session on Intelligent Robotics, Man-Machine Systems and Engineering Education

Session chair: Tudor Jebelean

24	Sivapong Nilwong and Genci Capi	Reinforcement Learning Based Outdoor Navigation System for Mobile Robots
18	Laura Alejandra Martinez Tejada	Classifier comparison using EEG features for emotion recognition process
54	Nicolae Iacobici-Luca, Mihaela Frigura-Iliasa, Flaviu Mihai Frigura-Iliasa, Hannelore Filipescu, Nen Madlena and Mirela Iorga	Digital Imaging Processing and Reconstruction for General Applications
14	Monika Pogatsnik and Rita Bodáné Kendrovics	Communication and Reading Comprehension among Informatics and Engineering Students
53	Emil Lazarescu, Attila Simo, Florin Alexa, Flaviu Mihai Frigura-Iliasa, Sorin Musuroi and Petru Andea	RDS Coder Emulator Applied for Didactic Purposes

18:00 Banquet

January 25, Saturday

8:30 – 10:30 [S1] Session on Artificial Intelligence I

Session chair: Miklós Kozlovsky

30	Nándor Kis and Noémi Gaskó	Community detection in multiplex networks with a genetic algorithm using a semi-aggregate method
6	Amin Dadgar and Guido Brunnett	SaneNet: Training a Fully Convolutional Neural Network Using Synthetic Data for Hand Detection
31	Noémi Gaskó, Tamás Képes, Mihai Suciuc and Rodica Ioana Lung	Considerations about using the Shapley Value for Influence Maximization in the case of the Weighted Cascade Model
19	Berna Eraslan, Gokhan Muzaffer Guvensen and Yalcin Tanik	A Novel Neural Network Architecture for Radar Clutter Classification
21	Mohammad Rasool Tanhatalab, Hossein Yousefi and Hesam Mohammad Hosseini	Deep RAN: A Scalable Data-driven platform to Detect Anomalies in Live Cellular Network Using Recurrent Convolutional Neural Network
33	Xuan Fang, Tamás Tettamanti and Arthur Couto Piazzi	Online Calibration of Microscopic Road Traffic Simulator

8:30 – 10:30 Poster session

Session chair: Ladislav Főző

58	Andrinandrasana David Rasamoelina and Fouzia Adjailia	A Review of Activation Function for Artificial Neural Network
70	Sándor Szénási, Zoltán Fried and Imre Felde	GPU Accelerated Heat Transfer Simulation Supporting Heuristics To Solve The Inverse Heat Conduction Problem
71	Sándor Szénási, Zoltán Fried and Imre Felde	Training of Artificial Neural Network to Solve the Inverse Heat Conduction Problem
72	Zoltán Fried, Imre Felde and Sándor Szénási	Reconstruction of the heat transfer coefficients by using hybrid (FWA + gradient) approach
69	Milena Ilic, Vladimir Jakovljevic, Tomislav Nedeljkovic and Irena Ilic	Artificial neural network for predicting depressive symptoms in women with positive Papanicolaou smear results before and after diagnostic procedures

10:30 – 10:50 Coffee break

10:50 – 12:30 [S2] Session on Artificial Intelligence II and Computational Intelligence II

Session chair: László Szilágyi

20	Konstantin Kurochka and Konstantin Panarin	Algorithm for real-time binary classification of adenomas and norms images obtained by confocal microscopy
51	Masoud Abedi and Mohammadreza Pourkiani	AIMCS: An Artificial Intelligence based Method for Compression of Short String
55	Satoshi Kitamura, Ryoma Iimura and Takayuki Kawahara	AI chip on Things for Sustainable Society: 28-nm CMOS, Fully Spin-to-spin Connected 512 Spins, Multi-Spin-Threads, Annealing Processing chip
63	Ágnes Győrfi, Tímea Fülöp, Levente Kovacs and László Szilágyi	The effect of spectral resolution upon the accuracy of brain tumor segmentation from multi-spectral MRI data
17	Sajjad Ahmadi, Mostafa Andalib Sahnesaraie, Saeid Hojjati Talami, Bahareh Tahernejadjozam, Mahnaz Mohebbi Zanganeh and Yazdan Ashgevari	Determine the optimal switching angles symmetrical cascaded multilevel inverter using Improved particle swarm optimization algorithm

12:30 Lunch and Farewell