

June 19, Wednesday

9:00 – 9:30 **Opening Ceremony**

9:30 – 10:15 **Plenary Session I**

session chair: János Fodor

Bogdan M. Wilamowski

Comparison of training algorithms and network architectures

10:15 – 10:30 **coffee break**

10:30 – 11:15 **Plenary Session II**

session chair: László T. Kóczy

Gyula Sallai

From Telecommunications to Cognitive InfoCommunications and Internet of Things -

Phases of Digital Convergence

11:15 – 12:00 **Plenary Session III**

session chair: Péter Galambos

Péter Baranyi

System Control in VirCA

12:00 – 13:30 **lunch**

13:30 – 15:10 **[W1] Session on Web based and communication systems**

Session chair: Carlos M. Travieso-González

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Majid Bayani

Web-Based Decision Support Systems: A Conceptual Performance Evaluation

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Peter Brida, Michal Mlynka and Juraj Machaj

How to Solve GNSS Problem in Critical Environment?

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Marek Ciglan and Ladislav Hluchy

Towards a practical semantic search - case study on the TV guide domain

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Francisco Siles

Temporal Segmentation of Association Football from TV Broadcasting

25

Laszlo Bacsardi

Quantum Based Solutions for Efficient Communication Networks

13:30 – 15:10 **[W2] Session on Medical diagnostic methods and biometric systems I.**

Session chair: Ladislav Hluchý

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José David Gómez Tames, José González and Wenwei Yu

Influence of the Fat Thickness and the Femur location on the Nerve Activity Computation During Electrical Stimulation

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Christoph Ledermann, Sascha Wirges, David Oertel, Michael Mende and Heinz Woern

Tactile Sensor on a Magnetic Basis using novel 3D Hall sensor - First prototypes and results

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Karmele Lopez-De-Ipina, Jesus Bernardino Alonso, Carlos Travieso, Harkaitz Egiraun, Miriam Ecay, Aitzol Ezeiza, Nora Barroso and Pablo Martinez-Lage

Automatic Analysis of Emotional Response based on non-linear speech modeling oriented to Alzheimer Disease diagnosis

60

József Homlok, J. Geoffrey Chase, Paul Docherty, Katalin Kovács and Balázs Benyó

Altered blood glucose dynamics during and after anhepatic phase of liver transplantation: a model-based approach

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Eva Pajorová and Ladislav Hluchý

Virtual Speaking Head for Hearing Impaired People in Crisis Time

15:10 – 15:30 coffee break

15:30 – 17:30 [W3] Special session on System Design in Cognitive Control

Session organizer and chair: Péter Baranyi

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Béla Takarics and Peter Baranyi

TP Type Polytropic Modelling of the Bergman Minimal Model of the Diabetes Mellitus

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Péter Galambos, József Kuti and Péter Baranyi

On the Tensor Product based qLPV modeling of Bio-inspired Dynamic Processes

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István Marcell Fülöp, Ádám Csapó, Péter Baranyi and Péter Várlaki

An Ontology-Based Approach to the Automated Triggering of CogInfoCom Messages

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Adam Csapo and Peter Baranyi

Identification of Complex Systems through Reduced Paths Using the Spiral Discovery Method

58

Krisztián Kósi, József Tar and Imre Rudas

RFPT-based Adaptive Control of a Small Aeroplane Model

66

András Rövid, László Szeidl and Péter Várlaki

Data Representation in HOSVD-DCT based Domain

15:30 – 17:30 [W4] Session on Control and Fuzzy methods and tools; Agent and multiagent methods and systems

Session chair: Pedro Furtado

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José David Rojas, Diana Valverde-Méndez and Víctor M. Alfaro

CACSD Tool for Optimal Multi-Objective PI Controller Tuning

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Pedro Furtado

Op-time Guaranteed Integration of WSNs in Networked Control Systems

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Alex Tormási and László T. Kóczy

Dynamic Fuzzy Rule Weight Optimization for a Fuzzy Based Single-Stroke Character Recognizer

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Fatemeh Hendijani Fard and Behrouz H. Far

Detection and Verification of a New Type of Emergent Behavior in Multiagent Systems

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Emil Gatia, Zoltán Balogh and Ladislav Hluchý

Agent-based Information Integration using Generated User Forms

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Zoltan Balogh, Emil Gatia and Ladislav Hluchy

Dynamic Agent Platform Discovery for Real-Time Resource Selection

Wednesday poster session on Engineering and media methods

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Csaba Szász

Enhancing the NI-9631 Mobile Robot Abilities with Multimodal Communication Skills

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Taher Ben Arab, Mourad Zribi and Afif Masmoudi

Parameter Estimation Of The Diagonal Of The Modified Riesz Distribution

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David Cymbalák, Miroslav Michalko and Frantisek Jakab

Mechanism for Video Streaming Control Related to Tracked Speaker Position

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Ákos Szlávecz, Gábor Hesz, Tamás Bükki, Péter Major and Balázs Benyó

Optical simulation environment with accurate gamma photon penetration model for PET detector blocks

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Gábor Hesz, Ákos Szlávecz and Balázs Benyó

Optimization of an iterative SPECT reconstruction algorithm utilizing a partial volume effect correction method

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Ervin Lumnitzer and Marcel Behún

OPTIMIZATION OF THE PSYCHOACOUSTIC EFFECTS OF THE AUTOMOBILE SOUND

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Attila L. Bencsik

Condition System for Application of Industrial Robot Systems as Critical Technologies

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András Bakó and József Gáti

Calibration the Parameters of the Leontief Input/Output Table

18:30 Get-Together-Dinner

June 20, Thursday

One-day tour

18:30 Welcome Dinner

June 21, Friday

9:00 – 10:00 [F1] Session on Data modeling and management

Session chair: Hani Hamdan

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Hani Hamdan and Jingwen Wu

Bin-EM-CEM algorithms of spherical parsimonious Gaussian mixture models for binned data clustering

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Pirjo Elbrecht, Jaak Henno and Knut-Joosep Palm

The data integration tool for digitized tailoring

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Štefan Dlugolinský, Marek Ciglan and Michal Laclavík

Evaluation of Named Entity Recognition Tools on Microposts

9:00 – 10:20 [F2] Session on Medical diagnostic methods and biometric systems II.

Session chair: Levente Kovács

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Miklos Kozlovszky, Krisztina Hegedus, Sandor Szenasi, Gabor Kiszler, Barna Wichmann, Istvan Bandi, Gyorgy

Eigner, Peter Istvan Sas, Levente Kovacs, Zoltan Garaguly, Gabor Kiss, Gabor Valcz and Bela Molnar

Parameter assisted HE colored tissue image classification

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Levente Kovacs, Johanna Sápi, Tamas Ferenci, Peter Szalay, D. A. Drexler, Gyorgy Eigner, Péter István Sas, Bernadett Kiss, István Harmati, Miklos Kozlovsky and Zoltan Sapi

Model-based optimal therapy for high-impact diseases

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Karmele Lopez-De-Ipina, Carlos Travieso, Jesus Bernardino Alonso, Harkaitz Egiraun, Aitzol Ezeiza, Nora Barroso, Jose Luis Vasquez, Joxerra Aihartza and Inazio Garin

First approach to automatic identification of bat calls, in the Basque Country

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José L. Vásquez, Carlos M. Travieso and Jesús B. Alonso

Off Line Writer Identification Based on Graphometric Parameters

10:20 – 10:40 coffee break

10:40 – 12:00 [F3] session on Machine Learning and Neural networks

session chair: Annamária R. Várkonyi-Kóczy

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Philip Reiner and Bogdan M. Wilamowski

Nelder Mead Enhanced Extreme Learning Machine

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Marcel Kvassay, Ladislav Hluchý, Peter Krammer and Bernhard Schneider

Exploring Human Behaviour Models through Causal Summaries and Machine Learning

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Annamária R. Várkonyi-Kóczy, Balázs Tusor and Adrienn Dineva

Determination of the Complexity Fitted Model Structure of Radial Basis Function Neural Networks

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Xing Wu and Bogdan M Wilamowski

Advantage analysis of Sigmoid based RBF Networks

10:40 – 12:00 [F4] session on Engineering modeling, simulation, and manufacturing systems

session chair: László Horváth

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László Horváth and Imre J. Rudas

Product Definition by Requested Behavior

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Vincent Kvočák, Michal Tomko and Viktória Kožlejšová

Modelling of Encased Steel Beams in Abaqus Program

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Peter Michalik, Michal Hatala and Jan Duplak

Creation of programs by Shop Floor programming for CNC machines using Cam software

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Miklos Kozlovsky, Levente Kovacs, Marietta Torocsik, Gergely Windisch, Sandor Acs, Daniel Prem, Gyorgy Eigner, Péter István Sas, Tamas Schubert and Valeria Poser

Cloud security monitoring and vulnerability management

12:00 – 13:30 lunch

13:30 – 14:50 [F5] session on Mobile robots

session chair: Juan Luis Crespo

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Marek Masar

A biologically inspired swarm robot coordination algorithm for exploration and surveillance

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Andres Aiello and Juan Luis Crespo

Using a tail-like appendage system to control roll movement in wheeled robots.

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Ondrej Krejcar

Motion detection using a USB camera

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Áron Ballagi, Pozna Claudiu Radu, Péter Földesi and Laszlo T. Koczy
Fuzzy Situational Maps: a New Approach in Mobile Robot Cooperation
13:30 – 14:50 [F6] session on Optimization and other engineering problems

session chair: Jozef Zajac

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Jan Zelenka and Zuzana Didekova

Cost Balancing Act of Vehicle Number to Solve the Vehicle Routing Problem with Time Windows
Optimization methods

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Peter Kadar

Reverse Weighted Multi Objective Optimization

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Jozef Zajac, Dusan Mital', Svetlana Radchenko, Antonia Jadušová and Roman Straka
Study of the Subsurface Layers of the Structural Ceramics WC – Co Alloyed by Laser

18:30 Farewell Dinner

Friday poster session on Information technology methods

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Liberios Vokorokos, Anton Balaz, Branislav Madoš and Jan Radusovsky
Cloud File System

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Michal Gregor and Juraj Spalek

Using Context Blocks to Implement Node-attached Modules in Genetic Programming

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Liberios Vokorokos, Michal Ennert, Marek Čajkovský and Alexandra Turínska

A Distributed Network Intrusion Detection System Architecture Based on Computer Stations Using GPGPU

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Adrián Pekár, Eva Chovancová, Peter Fanfara and Jana Trelová

Issues in the Passive Approach of Network Traffic Monitoring

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László Erdődi

Attacking x86 Windows binaries by jump oriented programming

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Martin Tomášek, Marek Čajkovský and Ivan Klimek

Cloud-Centric Application Tracing and User Monitoring Intrusion Prevention System

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František Jakab, Peter Feciľak and Katarína Kleinová

Emerging Technologies supporting the Networking Academy Collaboration

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Katarina Jelemenska and Pavel Cicak

SystemC Modeling Skills Assessment in Moodle Environment