

SACI 2018 TECHNICAL PROGRAM

May 17, Thursday

8:30 – 16:00 **REGISTRATION** _____ Room A 107

9:30 – 10:00 **OPENING CEREMONY** _____ Room A 101 Aula

Viorel-Aurel Serban, Liviu Ioan Cadariu-Brailoiu, Florin Dragan, Levente Kovács, Nicolae Robu, Horia Ciocârlie, Radu-Emil Precup

10:00 – 10:45 **PLENARY SESSION I** _____ Room A 101 Aula

Robots on the Moon, and their Role in a Future Lunar Economy

Adrian Stoica

Robotic Systems Estimation, Decision and Control NASA Jet Propulsion Laboratory, Pasadena, CA, USA

Session Chair: *Horia Ciocârlie*

10:45 – 11:00 **COFFEE BREAK** _____

11:00 – 11:45 **PLENARY SESSION II** _____ Room A 101 Aula

Challenges on Data Analytics for Risk Predictions based on Deep and Ensemble Learning

Hamido Fujita

Iwate Prefectural University, Japan

Session Chair: *Radu-Emil Precup*

11:45 – 13:30 **LUNCH BREAK** _____ Casa Politehnicii 1

13:30 – 14:50

PARALLEL SESSIONS

13:30 – 14:50

[T1a] Session on Intelligent Control Room A 115

Session Chairs: *Dan Ionescu and Sándor Szénási*

13:30 – 13:50

Non Intrusive Load Monitoring: Analytic Expressions as Load Signature

Dadiana-Valeria Caiman, Toma-Leonida Dragomir

Politehnica University Timisoara, Timisoara, Romania

13:50 – 14:10

Access to Justice for the Protection of Pensioners' Rights

David-Tiberiu Gruescu

Politehnica University of Timisoara, Timisoara, Romania

14:10 – 14:30

Research of Required Vehicle System Parameters and Sensor Systems for Autonomous Vehicle Control

Huba Somogyi, Daniel Pup, Péter Kőrös

Széchenyi István University, Győr, Hungary

András Mihály, Alexandros Soumelidis

MTA SZTAKI, Budapest, Hungary

14:30 – 14:50

Systemic Analysis of Credit Contracts From the Perspective of Abusive Clauses

David T. Gruescu, Laura M. Cismaş

University Politehnica Timisoara, Timisoara, Romania

West University of Timisoara, Timisoara, Romania

13:30 – 14:50 **[T1b] Session on Intelligent Robotics** Room A 109

Session Chairs: *Milan Tuba and Vlad Muresan*

- 13:30 – 13:50 **A Line Tracking Algorithm Based on Image Processing**
András Kondákor, Zsombor Törcsvári, Ákos Nagy, István Vajk
Budapest University of Technology and Economics, Hungary
- 13:50 – 14:10 **Master-Slave Tracking System for Mobile Robots**
Adriana-Maria Berdich, Gheorghe-Daniel Andreescu
Politehnica University of Timisoara, Timisoara, Romania
- 14:10 – 14:30 **Large-Scale Point Cloud Based Volume Analysis Acceleration
Based on UAV Images**
Daniel Stojcsics, Zsolt Domozi, Andras Molnar
Óbuda University, Budapest, Hungary
- 14:30 – 14:50 **Compact Pose-Graph SLAM Framework Based on Algebra with
Embedded Uncertainty**
Gábor Péter, Bálint Kiss
Budapest University of Technology and Economics, Hungary

13:30 – 14:30

[T1c] Session on Intelligent Mechatronics

Room A 110

Session Chairs: *Ioan Zaharie and Éva Hajnal*

13:30 – 13:50

**Tensor Product-based Model Transformation Technique
Applied to Modeling Vertical Three Tank Systems**

*Elena-Lorena Hedrea, Radu-Emil Precup,
Claudia-Adina Bojan-Dragos, Ciprian Hedrea*

Politehnica University of Timisoara, Timisoara, Romania

13:50 – 14:10

**Error Caused by Kinematic Control in the Dynamic Behavior of
Unmanned Ground Vehicles**

Zsófia Bodó, Béla Lantos

Budapest University of Technology and Economics, Hungary

14:10 – 14:30

**Parallel Implementation of K-Means Algorithm Using
MapReduce Approach**

*Ioan-Daniel Borlea, Radu-Emil Precup, Florin Dragan,
Alexandra-Bianca Borlea*

Politehnica University of Timisoara, Timisoara, Romania

13:30 – 14:50

[T1P] POSTER SESSION

Ground floor

Session chairs: *Ján Perháč and David-Tiberiu Gruescu*

Distribution of Linux Log Files Described by Predicate Linear Logic Formula

Ján Perháč, Daniel Mihályi, Lukaš Reloský

Technical University of Košice, Slovak Republic

The Raspberry Pi in an Education Process

Liberios Vokorokos, Matúš Uchnár, Emília Pietriková

Technical University of Košice, Slovak Republic

Information Hiding into OBJ Format File Using Vector Steganography Techniques

Branislav Madoš, Anton Baláž, Norbert Adám, Ján Hurtuk

Technical University of Košice, Slovak Republic

Above Modelling and Adaptive Control of a Double Winded Induction Generator

Iosif Szeidert, Ioan Filip, Octavian Prostean, Cristian Vasar

Politehnica University of Timisoara, Timisoara, Romania

Attila Michael Bilgic

General Manager and CTO
KROHNE Group
Ludwig-Krohne-Str. 5
47058 Duisburg
Germany
www.krohne.com



Attila Bilgic studied physics at the University of Dortmund, where he received the Dipl.-Phys. degree on theoretical solid-state physics and the Dr.-Ing. degree on microwave engineering in 1996 and 2000, respectively. Afterwards, he started his career in industry with Infineon Technologies AG, working on the 3rd generation mobile communication system UMTS. From 2004 on, he was with the Corporate Software Group of Infineon Technologies where he was responsible for the software architecture definition of the application and protocol layers of the Infineon multimedia platforms for mobile terminals.

In April 2007 he took over a position as Professor at the Ruhr-University-Bochum in order to foster the industrial and academic relationship to the benefit of both sides. His research interests were focused on integrated systems for multi-standard wireless communications with a strong focus also on the corresponding software and on embedded systems in general where hardware and software co-design is essential.

In autumn 2009 he joined the KROHNE group first as general manager for the headquarter and CTO, being responsible for the technology strategy and R&D operations. The technological scope of the KROHNE group has been significantly enhanced and new R&D sites were founded at the university of Bochum/Germany and in Timisoara/Romania. He did major contributions to advance the IoT in the automation community. Since 2017 he is also member of the KROHNE group holding executive management.

He is a member of the DPG, IEEE and member of the executive board of the VDI/VDE-Society Measurement and Automation Control (GMA).

Hamido Fujita

Director of Intelligent Software Systems

Iwate Prefectural University, Japan

<http://www.fujita.soft.iwate-pu.ac.jp/>

Editor-in-Chief: Knowledge-based system, Elsevier

<http://www.journals.elsevier.com/knowledge-based-systems>

Co-Editor-in-Chief: Applied Intelligence, Springer



Hamido Fujita is professor at Iwate Prefectural University (IPU), Iwate, Japan, as a director of Intelligent Software Systems. He is the Editor-in-Chief of Knowledge-Based Systems, Elsevier of impact factor (4,528) for 2016. He received Doctor Honoris Causa from Óbuda University in 2013, and a title of Honorary Professor from Óbuda University, Budapest, Hungary in 2011. He received honorary scholar award from University of Technology Sydney, Australia on 2012. He is Adjunct professor to Stockholm University, Sweden, University of Technology Sydney, National Taiwan Ocean University and others. He has supervised PhD students jointly with University of Laval, Quebec, Canada; University of Technology, Sydney, Australia; Oregon State University (Corvallis), University of Paris 1 Pantheon-Sorbonne, France and University of Genoa, Italy. He has four international Patents in Software System and Several research projects with Japanese industry and partners. He is vice president of International Society of Applied Intelligence, and Co-Editor in Chief of Applied Intelligence Journal, (Springer). He has given many keynotes in many prestigious international conferences on intelligent system and subjective intelligence. He headed a number of projects including Intelligent HCI, a project related to Mental Cloning as an intelligent user interface between human user and computers and SCOPE project on Virtual Doctor Systems for medical applications.

May 18, Friday

8:30 – 16:00 **REGISTRATION** _____ **Room A 107**

9:00 – 9:40 **PLENARY SESSION III** _____ **Room A 109**

**The Disruptive Power of Machine Learning and IoT in
Automation Industry**

Attila M. Bilgic

KROHNE Group, Duisburg, Germany

Session Chair: ***Mihai V. Micea***

9:40 – 10:20 **INVITED TALK** _____ **Room A 109**

**Industry X.0 – Digital Disruption and Smart Manufacturing
IT&OT Transformation Journey**

Marcel-Mihai Sămânță

Accenture Digital, Timișoara, Romania

Session Chair: ***Mircea-Bogdan Radac***

10:20 – 10:40 **COFFEE BREAK** _____

10:40 – 12:20

PARALLEL SESSIONS

10:40 – 12:20

[F1a] Session on Computational Intelligence I

Room A 115

Session Chairs: *Gyula Hermann and Joao Papa*

10:40 – 11:00

A Novel Method to Compute the Membership Value of the States of Fuzzy Automata

Doru Todinca, Ioana Şora, Daniel-Eugen Butoianu and Radu-Emil Precup

Politehnica University Timisoara, Timisoara, Romania

11:00 – 11:20

Novel Gesture Interaction Using Leap Motion in 3D Applications

Stelian Nicola, Oana Sorina Lupşe, Lăcrămioara Stoicu-Tivadar

Politehnica University Timisoara, Timisoara, Romania

11:20 – 11:40

Modeling and Simulation of an Operational Transformation Algorithm using Finite State Machines

Cristian Gadea, Bogdan Ionescu, Dan Ionescu

University of Ottawa Ottawa, Ontario, Canada

11:40 – 12:00

K Modal Logic Approach to Maze Solving

Dinko Osmanković, Aleksandar Aćimović

University of Sarajevo, Sarajevo, Bosnia&Herzegovina

12:00 – 12:20

Two-stage Racetrack Segmentation Method using Color Feature Filtering and Superpixel-based Convolutional Neural Network

János Hollósi, Ernő Horváth

Széchenyi István University, Győr, Hungary

Claudiu Radu Pozna

Transilvania University of Brasov, Brasov, Romania

10:40 – 12:20 **[F1b] Session on Informatics I** _____ **Room A 109**

Session Chairs: *Iosif Szeidert and József Borbély*

10:40 – 11:00 **Programming Concepts in the Silver Code Guide for Elders**
Oana-Sorina Lupșe, Ciprian-Bogdan Chirila, Horia Ciocârlie
University Politehnica of Timișoara, Romania

11:00 – 11:20 **Romanian Biometric Word List for Public Key Fingerprint Validation**
Alin Anton
Politehnica University of Timișoara, Romania

11:20 – 11:40 **On Reliability of 3D Hammock Networks**
Noemi-Clara Rohatinovici, **, Octavian Proștean*,
Valentina E. Balas***
* Politehnica University of Timișoara, Timișoara, Romania
** Aurel Vlaicu University, Arad, Romania

11:40 – 12:00 **Towards Auto-Generative Learning Objects for Industrial IT Services**
*Felicia-Mirabela Costea, Ciprian-Bogdan Chirila,
Vladimir-Ioan Crețu*
University Politehnica of Timișoara, Romania

12:00 – 12:20 **Fit Gap Analysis Methods for ERP Systems**
Ieva Ancveire
Riga Technical University, Riga, Latvia

10:40 – 11:20 **[F1c] Special Session on Safety and Security**

Room A 110

Organizer and Session Chair: *Zoltán Rajnai*

10:40 – 11:00 **Adaptive Optocoupler Degradation Compensation in Isolated Feedback Loops**

György Györök, Bertalan Beszédes

Óbuda University, Székesfehérvár, Hungary

11:00 – 11:20 **Lightweight Version of SQRL Authentication Protocol based on Cryptography in the Cloud**

Iulian Aciobanitei, Iulian Catalin Buhus, Mihai-Lica Pura

Military Technical Academy, Bucharest, Romania

12:20 – 14:00 **LUNCH BREAK**

Casa Politehnicii 1

10:40 – 12:20

[F1P] POSTER SESSION

Ground floor

Session chairs: *Adriana Albu and Alexandru Gavruta*

Acquisition of Physical Data in an Automated System for Monitoring Medication Stocks

Adrian Mirea, Adriana Albu

Politehnica University Timisoara, Romania

Enhancing Brain Storm Optimization through Optimum-Path Forest

Luis Claudio Sugi Afonso, Leandro Passos Jr.

UFSCar - Federal University of São Carlos, São Carlos - SP, Brazil

Joao Paulo Papa

UNESP - São Paulo State University, Bauru - SP, Brazil

Comparative Study of Clustering Distance Measures to Determine Neural Network Architectures

Mohamed Lafif Tej, Stefan Holban

Politehnica University of Timisoara, Romania

Seam Carving Detection Using Convolutional Neural Networks

Luiz Fernando da Silva Cieslak, Kelton Augusto Pontara da Costa,

João Paulo Papa

São Paulo State University - UNESP, Bauru, São Paulo, Brazil

Prediction of the Survival of Patients with Cardiac Failure by using Soft Computing Techniques

Kinan Morani*, György Eigner**, Tamás Ferenci**, Levente Kovács**, Şeref Naci Engin*

* Yildiz Technical University, Istanbul, Turkey

** Óbuda University, Budapest, Hungary

14:00 – 16:00

PARALLEL SESSIONS

14:00 – 16:00

[F2a] Special Session on PhD Student Research in Applied Informatics and Numerical Mathematics Room A 115

The session was organized by the Doctoral School of Applied Informatics and Applied Mathematics, Óbuda University, Budapest, Hungary

Organizer and Session Chair: *László Horváth*

14:00 – 14:15

Comparison of Optimized PID and Fuzzy Control Strategies on a Mobile Pendulum Robot

Ákos Odry**, *Róbert Fullér**, ***

* Óbuda University, Budapest, Hungary

** Széchenyi István University, Győr, Hungary

14:15 – 14:30

Applying Multiobjective Optimization for the Heat Supply in the Residential Sector in Budapest

Endre Börcsök**, *, *Ágnes Gerse***, *János Fülöp******

* Óbuda University, Budapest, Hungary

** Centre for Energy Research, Hungarian Academy of Sciences, Budapest, Hungary

*** Institute for Computer Science and Control, Hungarian Academy of Sciences, Budapest, Hungary

14:30 – 14:45

Orthophoto Creation based on Low Resolution Thermal Aerial Images

István Lovas*, *András Molnár

Óbuda University, Budapest, Hungary

14:45 – 15:00

Automotive Dead-Reckoning Navigation System Based on Vehicle Speed and Yaw Rate

***Nicolae Dicu*, *Gheorghe-Daniel Andreescu*,
*Eugen Horatiu Gurban***

Politehnica University of Timisoara, Timisoara, Romania

- 15:00 – 15:15 **Era of Behavioral Modeling in Product Lifecycle Management System: State of the Art Survey**
Yatish Bathla
Óbuda University, Budapest, Hungary
- 15:15 – 15:30 **Mass Event Monitoring by Using Mobile Cell Information: A Case Study for Budapest at the Celebration of the State Foundation Day**
Miklós Mezei, Imre Felde
Óbuda University, Budapest, Hungary
- 15:30 – 15:45 **Laser Scan Matching in Robot Navigation**
Neerendra Kumar, Zoltán Vámosy
Óbuda University, Budapest, Hungary
- 15:55 – 16:00 **Evaluation of Mobile Phone Signals in Urban Environment during a Large Social Event**
G. Pintér, L. Nádai, G. Bognár, I. Felde
Óbuda University, Budapest, Hungary

14:00 – 15:40 **[F2b] Special Session on Systems, Man, and Cybernetics** _____ **Room A 109**

Organizer and Session Chair: *Kornélia Lazányi*

14:00 – 14:20 **Are We Ready for Self-Driving Cars – a Case of Principal-Agent Theory**

Kornélia Lazányi

Óbuda University, Budapest, Hungary

14:20 – 14:40 **Wireless Networks and Critical Information Infrastructure**

*Zsolt Illési**, *Áron Halász*** and *Péter János Varga***

* National College of Ireland, Ireland

** Óbuda University, Budapest, Hungary

14:40 – 15:00 **The Effects of Computer Games on Teenagers**

*Dávid János Fehér**, *Mónika Bartók**, *Lajos Fehér***

* Óbuda University, Budapest, Hungary

** Mihály Péchy Construction Industrial High School, Debrecen, Hungary

15:00 – 15:20 **Thermal Test of Mobile Devices in Normal Use**

*Péter János Varga**, *András Kálcz** and *Zsolt Illési***

* Óbuda University, Budapest, Hungary

** National College of Ireland, Ireland

15:20 – 15:40 **Security Concerns towards Security Operations Centers**

*Fehér Dávid János**, *Nguyen Huu Phuoc Dai***, *****

* Óbuda University, Budapest, Hungary

** Doctoral School on Safety and Security Sciences, Budapest, Hungary

*** Cantho Technical Economics College, Vietnam

14:00 – 15:20

[F2c] Session on Systems Engineering I _____

Room A 110

Session Chairs: *Mihaela-Hanako Matcovschi and Ioana Sora*

14:00 – 14:20

An Application to Robot Manipulator Joint Control by using Constrained PID based PSO

Cosmin Copot**, *Cristina Muresan, *Thoa Mac Thi***,*****, *Clara Ionescu******

* University of Antwerp, Antwerp, Belgium

** Technical University of Cluj-Napoca, Cluj Napoca, Romania

*** Ghent University, Ghent, Belgium

**** Hanoi University of Science and Technology, Vietnam

14:20 – 14:40

State Feedback Control Models for the Cardiovascular System in Constant Exercise Scenario

A. M. Dan and T. L. Dragomir

Politehnica University of Timisoara, Timisoara, Romania

14:40 – 15:00

Fractional Order PD Path-Following Control of an AR.Drone Quadrotor

Ricardo Cajo*,**,*, *Cosmin Copot*****,**

Clara M. Ionescu*,**,*, *Robin De Keyser*,**,****, *Douglas Plaza*****

* Ghent University, Zwijsnaarde, Belgium

** Escuela Superior Politecnica del Litoral, ESPOL, Ecuador, Guayaquil

*** Core Lab EEDT-Energy Efficient Drive Trains, Flanders Make

**** University of Antwerp, Antwerp, Belgium

15:00 – 15:20

Comments and Expansion of a Result on Common Diagonal Quadratic Lyapunov Functions for Sets of Positive LTI Systems

Octavian Pastravanu, Mihaela-Hanako Matcovschi

“Gheorghe Asachi” Technical University of Iasi, Iasi, Romania

14:00 – 16:00 **[F2P] POSTER SESSION** _____ Ground floor

Session chairs: *Krisztina Némethy and Monika Trojanová*

Cyber Security of Smart Grid Infrastructure

Balduino Estison Mugilila Camachi, Loretta Ichim, Dan Popescu

University POLITEHNICA of Bucharest, Bucharest, Romania

Designing and Implementing a Solution to Manipulate Signals in Automated Testing Using CANoe

Dan Georgescu, Loredana Stanciu

Politehnica University Timisoara, Timisoara, Romania

Wind Energy Conversion System – a Laboratory Setup

Cristian Vasar, Octavian Prostean, Ioan Filip, Iosif Szeidert

Politehnica University of Timisoara, Timisoara, Romania

Identification of DMSP-5 Fluidic Muscle Dynamics Using Hammerstein Model

Alexander Hošovský, Monika Trojanová, Ján Piteľ, Jozef Svetlík

Technical University of Košice, Slovakia

16:00 – 16:20 **COFFEE BREAK**

16:20 – 18:00 **PARALLEL SESSIONS**

16:20 – 18:00 **[F3a] Computational Intelligence II** Room A 115

Session chairs: *Claudia-Adina Bojan-Dragos and Jozef Svetlík*

16:20 – 16:40 **Parkinson Disease Identification using Residual Networks and Optimum-Path Forest**

*Leandro A. Passos**, *Clayton R. Pereira***, *Edmar R. S. Rezende****, *Tiago J. Carvalho*****, *Silke A. T. Weber******, *Christian Hook******, *João P. Papa***

* UFSCAR - Federal University of São Carlos, São Carlos, Brazil

** UNESP - São Paulo State University, Bauru, Brazil

*** CTI Renato Archer - Campinas, Brazil

**** IFSP - Federal Institute of São Paulo, Campinas, Brazil

***** UNESP - São Paulo State University, Botucatu, Brazil

***** Ostbayerische Tech. Hochschule, Regensburg, Germany

16:40 – 17:00 **The Recognition of the Architectural Style using Data Mining Techniques**

Marina Adriana Mercioni, Stefan Holban

Politehnica University of Timisoara, Timisoara, Romania

17:00 – 17:20 **High Betweenness Nodes and Crowded Intersections: An Experimental Assessment by Means of Simulation**

Gabriel Baban, Alexandru Iovanovici, Cristian Cosariu, Lucian Prodan

POLITEHNICA University, Timisoara, Romania

17:20 – 17:40 **Software Solution for Monitoring and Analyzing Driver Behavior**

Alex Găvruta, Marius Marcu, Răzvan Bogdan

Politehnica University of Timisoara, Timisoara, Romania

17:40 – 18:00 **Water Cycle Algorithm for Solving Continuous p-Median Problem**

*Eva Tuba**, *Ivana Strumberger**, *Ira Tuba**, *Nebojsa Bacanin**, *Milan Tuba***

* Singidunum University, Belgrade, Serbia

** State University of Novi Pazar, Novi Pazar, Serbia

16:20 – 17:40 **[F3b] Session on Informatics II** Room A 109

Session Chairs: *Clara M. Ionescu and Andrey Savchenko*

16:20 – 16:40 **A Comparative Analysis of Monitoring Concerns
Implementation in Object Oriented Systems**

Grigoreta-Sofia Cojocar, Adriana-Mihaela Guran

Babeş-Bolyai University, Cluj-Napoca, Romania

16:40 – 17:00 **Assessment of Stereo Camera Calibration Technique**

Sebastian-Aurelian Stefaniga, Mihail Gaianu

West University of Timisoara, UVT, Timisoara, Romania

17:00 – 17:20 **Content Driven Engineering Model System for Cyber Physical
Systems**

László Horváth, Andrea Serester

Óbuda University, Budapest, Hungary

17:20 – 17:40 **CLEMI - Imputation Evaluation**

Anthony Chapman, Wei Pang, George Coghill

University of Aberdeen, Aberdeen, UK

16:20 – 17:40

[F3c] Session on Systems Engineering II

Room A 110

Session Chairs: *Doru Todinca and Loredana Stanciu*

16:20 – 16:40

Software System for Monitoring Data Traffic from a Smart Grid Network

Oana – Carmen N. – F.*, Valentin S.**, Adrian N. –F.***

* Technical University of Civil Engineering Bucharest, Bucharest, Romania

** Polytechnic University of Bucharest, Bucharest, Romania

*** Renault Technologie Rumanie, Bucharest, Romania

16:40 – 17:00

The IoT Connectivity Challenges

Ionel Petruț*, Marius Oteșteanu**

* Lasting Software and Faculty of Electronics and Telecommunications, Communications Dept., Timisoara, Romania,

** Faculty of Electronics and Telecommunications, Communications Dept., Timisoara, Romania

17:00 – 17:20

Control of the Isotopic Exchange for ¹⁸O Isotope Production

Vlad Mureșan, Mihail Abrudean, Mihaela-Ligia Ungureșan, Tiberiu Coloși

Technical University of Cluj-Napoca, Cluj-Napoca, Romania

17:20 – 17:40

Laboratory Evaluation and Calibration of Low-Cost Sensors for Air Quality Measurement

Marian-Emanuel Ionascu, Iasmina Gruicin, Marius Marcu

Politehnica University of Timisoara, Timisoara, Romania

16:20 – 18:00

[FP4] POSTER SESSION _____ **Ground floor**

Session chairs: *Franciska Hegyesi and Alexandra-Iulia Szedlak-Stinean*

Estimating the Heat Transfer Coefficient using Universal Function Approximator Neural Network

Sándor Szénási, Imre Felde, Gábor Nagy

Óbuda University, Budapest, Hungary

Augusto Deus

University of Lisboa, Portugal

Comparison of Feature Extraction Techniques for Handwriting Recognition

Gaye Ediboğlu Bartos*, Éva Hajnal**, Yaşar Hoşcan*

* Anadolu University, Eskişehir, Turkey

** Óbuda University, Székesfehérvár, Hungary

The Experiences of Online Education, MOOC Courses, at a University with Technical Training

Franciska Hegyesi, Gyula Kártyás, József Gáti

Óbuda University, Budapest, Hungary

Multivariable Control Structures of Hemodialysis Machines for Patient Fluid Balance Maintenance

József Klespitz, Levente Kovács

Óbuda University, Budapest, Hungary

18:30

Coctail _____ **Casa Politehnicii 2**

Bd. M. Eminescu nr. 11

May 19, Saturday

8:30 – 11:00 **REGISTRATION** Room A 107

9:00 – 10:40 **PARALLEL SESSIONS** _____

9:00 – 10:20 **[S1a] Computational Intelligence III** Room A 115

Session Chairs: *Vasile Stoicu Tivadar and Péter Varga*

9:00 – 9:20 **Fine Tuning Deep Boltzmann Machines through Meta-Heuristic Approaches**

*Leandro A. Passos**, *Douglas R. Rodrigues**, *João P. Papa***

* UFSCAR - Federal University of São Carlos, São Carlos, Brazil

** UNESP - São Paulo State University, Bauru, Brazil

9:20 – 9:40 **Embedded Solutions for Deep Neural Networks Implementation**

Adrian-Aliosa Erofei, Cristian-Filip Druță, Cătălin Daniel Căleanu

Politehnica University Timișoara, Timișoara, România

9:40 – 10:00 **Current Challenges in the Computer-Based Assessment of Speech Sound Disorders**

Emilian Erman Mahmut, Vasile Stoicu-Tivadar

Politehnica University Timișoara Timișoara, Romania

10:00 – 10:20 **QCjpp >: A Behavioral Quantum Computing Simulation Library**

Sebastian Mihai Ardelean, Mihai Udrescu

University "Politehnica" of Timișoara, Timișoara, Romania

9:00 – 10:40

[S1b] Session on Informatics III Room A 109

Session Chairs: *Antonio Luputi and Ionel Romeo Petrut*

9:00 – 9:20

Complex Networks with Applicability to the Structure and Dynamics of Stock Market Evolution

Renata Boar, Alexandru Iovanovici, Horia Ciocarlie

POLITEHNICA University, Timisoara, Romania

9:20 – 9:40

Security Survey of Dedicated IoT Networks in the Unlicensed ISM Bands

Eszter Kail, Anna Bánáti*, Erdődi László**, Miklós Kozlovsky**

* Óbuda University, Budapest, Hungary

** University of Oslo, Norway

9:40 – 10:00

Optimizing Pattern-Matching for Memory-Efficient Heterogeneous DNA Processing in Bioinformatics

Ciprian Pungila, Darius Galis**, Viorel Negru**

* West University of Timisoara

** Politehnica University of Timisoara

10:00 – 10:20

Investigating Attributes that Characterize Important Classes in Object Oriented Systems

Ioana Şora, Cosmin Cernăzanu-Glăvan

Politehnica University Timisoara, Romania

10:20 – 10:40

Modular and model-driven configurable approach for a centralized home-security system

Andrei Nicolae, Adrian Korodi, Ioan Silea

University Politehnica Timisoara, Romania

9:00 – 10:40

[SP1] POSTER SESSION _____ **Ground floor**

Session chairs: *Rita Fleiner and Andreea-Paula Robu*

New Software Tools for Hydrogel-based Bioprinting

Andreea Robu**, *Nicolae Robu**, *Adrian Neagu**

* Politehnica University of Timisoara, Timisoara, Romania

** Victor Babeş University of Medicine and Pharmacy, Center for Modeling Biological Systems and Data Analysis, Timișoara, Romania

Linking of Open Government Data

Rita Fleiner

Óbuda University, Budapest, Hungary

Indoor Navigation based on Linked Data at Honvéd Hospital, Budapest

Nidal Chalhoub*, *Gabriella Simon-Nagy

Obuda University, Budapest, Hungary

Vehicle Image Matching using Siamese Neural Networks with Multi-Directional Image Projections

Gábor Kertész*, *Sándor Szénási*, *Zoltán Vámosy

Óbuda University, Hungary

10:40 – 11:00

COFFEE BREAK _____

11:00 – 12:40

PARALLEL SESSIONS

11:00 – 12:40

[S2a] Computational Intelligence IV Room A 115

Session Chairs: *Marian-Emanuel Ionascu and Alin-Adrian Anton*

11:00 – 11:20

Software Tool for Audio Signal Analysis and Automatic Music Transcription

Lucian-Gheorghe Chis, Marius Marcu, Florin Drăgan

Politehnica University of Timisoara, Timisoara, Romania

11:20 – 11:40

A Solution for Air Quality Monitoring and Forecasting

Iasmina Gruicin, Marian-Emanuel Ionascu, Micea Popa

Politehnica University of Timisoara, Timisoara, Romania

11:40 – 12:00

P_FENP: A Multiprocessor Real-Time Scheduling Algorithm

Eugenia A. Capota, Cristina S. Stangaciu, Mihai V. Micea, Vladimir I. Cretu

Politehnica University, Timisoara, Romania

12:00 – 12:20

Granular Computing and Sequential Analysis of Deep Embeddings in Fast Still-to-Video Face Recognition

Andrey V. Savchenko

National Research University Higher School of Economics
Nizhny Novgorod, Russia

12:20 – 12:40

About Some Zero-Sum Problems

József Borbély

Óbuda University, Székesfehérvár, Hungary

11:00 – 12:40

[S2b] Session on Informatics IV Room A 109

Session Chairs: *Radmila Gerov and Nicolae Dicu*

11:00 – 11:20

PillHelper - an Application for Treatment Administration

*Răzvan Bolintis**, *Răzvan Bogdan***, *Mihaela Crisan-Vida***,
*Lăcrămioara Stoicu-Tivadar***

* S.C. F&F IT SERVICES S.R.L, Timisoara, Romania

** University Politehnica Timisoara, Timisoara, Romania

11:20 – 11:40

Analyzing the Impact of Protein Representation on Mining Structural Patterns from Protein Data

Silvana Albert, Gabriela Czibula, Mihai Teletin

Babeş-Bolyai University

11:40 – 12:00

Using Cryptography in the Cloud for Lightweight Authentication Protocols based on QR Codes

Iulian Aciobanitei, Iulian Catalin Buhus, Mihai-Lica Pura

Military Technical Academy, Bucharest, Romania

12:00 – 12:20

Privacy of Clients' Locations in Big Data and Cloud Computing

Imad Ali Hassoon, Nicolae Tapus, Anwar Chitheer Jasim

University "Politehnica" of Bucharest, Bucharest, Romania

12:20 – 12:40

Relationship Mining in PISA CBA 2012 Problem Solving Dataset using Association Rules

*Aleksandar Pejić**, *Piroška Stanić Molcer***

* University of Szeged, Szeged, Hungary

** Subotica Tech, Subotica, Serbia

11:00 – 12:40

[SP2] POSTER SESSION _____ **Ground floor**

Session chairs: *György Györök and Elena-Lorena Hedrea*

Determination of Customer Number by Matrix Operations in Case of Network Failure

Péter Holcsik, Judith Pálfi, László Pokorádi

Óbuda University, AD&TE Research Team, Budapest, Hungary

PID Tuning for Unstable Processes with Time Delay Based on Gain Margin

Radmila Gerov', Zoran Jovanović

University of Nis, Nis, Serbia

Performance Analysis of Uncertain Changes in Parameters of an Unstable Time Delay Process Regulated with a PID Controller

Zoran Jovanović, Radmila Gerov

University of Nis, Nis, Serbia

Optimizing Workspace for Homogeneous Assemblies of Rotational Motion Modules

Jozef Svetlík, Alexander Hošovský, Monika Trojanová, Peter Demeč, Tomáš Stejskal, Miroslav Štofa

Technical University of Košice, Slovakia

Evidence of Detection of High-Energy Microwave Radiation in Electronic Equipments

György Györök

Óbuda University, Székesfehérvár, Hungary

The Functioning of a Wind System at its Maximum Power

Ioan Zaharie, Geza-Mihai Erdodi, Marius Dudu

POLITEHNICA University, Timișoara, Romania

Experimental Setup for an Optical Micrometer with a Polygonal Mirror-based Laser Scanner

Antonio-Marius-Flavius Lupuți**, *Corina-Anca Mnerie,
*Virgil-Florin Duma***, *******

* „Politehnica” University of Timisoara, Romania

** „Aurel Vlaicu” University of Arad, Romania

Control Solutions for Vertical Three-Tank Systems

Claudia-Adina Bojan-Dragos**, *Alexandra-Iulia Szedlak-Stinean**, *Radu-Emil Precup**, *Lucia Gurgui**, *Elena-Lorena Hedrea**, *Ion-Cornel Mituletu**, ***

* Politehnica University of Timisoara, Timisoara, Romania

** “Eftimie Murgu” University of Resita, Resita, Romania

Feedback Control Solutions for an Electromechanical Process with Rigid Body Dynamics

***Alexandra-Iulia Szedlak-Stinean**, *Radu-Emil Precup**,
*Claudia-Adina Bojan-Dragos** and *Ion-Cornel Mituletu**, ******

* Politehnica University of Timisoara, Timisoara, Romania

** “Eftimie Murgu” University of Resita, Resita, Romania