



IEEE



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SACI 2016

**11th IEEE International Symposium on
Applied Computational Intelligence and
Informatics**

Timișoara, Romania
May 12-14, 2016



FINAL PROGRAM

SACI 2016 TECHNICAL PROGRAM

May 12, Thursday

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

9:00 – 9:20 **OPENING CEREMONY** Room A 101 Aula

*Viorel-Aurel Serban, Liviu Ioan Cadariu-Brailoiu, Florin Dragan,
Imre J. Rudas, Nicolae Robu, Horia Ciocârlie, Radu-Emil Precup*

9:20 – 10:00 **PLENARY SESSION I** Room A 101 Aula

**Physiological Control Systems for High-Quality Interdisciplinary
Researches**

Levente Kovács

Research and Innovation Center of Óbuda University,
Physiological Controls Group, Óbuda University, Budapest,
Hungary

Session Chair: *Imre J. Rudas*

10:00 – 10:40 **PLENARY SESSION II** Room A 101 Aula

Issues about Autonomous Cars

Claudiu Pozna

Transilvania University of Brasov, Romania
Széchenyi István University, Győr, Hungary

Csaba Antonya

Transilvania University of Brasov Romania

Session Chair: **Radu-Emil Precup**

10:40 – 11:00 COFFEE BREAK _____

11:00 – 12:15 PARALLEL SESSIONS _____

11:00 – 12:15 [T1a] SESSION on Informatics I _____ **Room A 115**

Session Chairs: **Levente Kovács and Octavian Prostean**

11:00 – 11:15 Study on Computer Usage Patterns Depending on End Users' Contexts

Cristina-Maria Manitiu, Marius Marcu

Politehnica University of Timisoara, Timisoara, Romania

11:15 – 11:30 Indoor Navigation Linked Data at Óbuda University

Rita Fleiner *, Barnabás Szász **, Péter Piros *

* Óbuda University, Budapest, Hungary

** University of Debrecen, Debrecen, Hungary

11:30 – 11:45 Similarity of Business Process Models in a Modular Design

Maria Laura Sebu, Horia Ciocârlie

Politehnica University of Timisoara, Timisoara, Romania

11:45 – 12:00 A Bio-Cryptographic Framework for Securing Mobile Devices Content

Marius-Alexandru Velciu*, Victor-Valeriu Patriciu and Ion Bica*****

*, **, *** Military Technical Academy, Computer Science Department, Bucharest, Romania

* Advanced Technologies Institute, Bucharest, Romania

12:00 – 12:15 **Optimizing Business Processes by Learning from Monitoring Results**
Maria Laura Sebu, Horia Ciocârlie
Politehnica University of Timisoara, Timisoara, Romania

11:00 – 12:15 [T1b] SESSION on Intelligent Manufacturing Systems and Mechatronics Room A 109

Session Chairs: *Claudiu Pozna and Stefan Preitl*

11:00 – 11:15 **Multifunctional Engineering Space Supports Integration in Content Based Modeling**
László Horváth and Imre J. Rudas
Óbuda University, Budapest, Hungary

11:15 – 11:30 **Virtual Reference Feedback Tuning for Position Control of a Twin Rotor Aerodynamic System**
Elena-Lorena Hedrea, Mircea-Bogdan Radac and Radu-Emil Precup
Politehnica University of Timisoara, Timisoara, Romania

11:30 – 11:45 **Determination of Track Straightness and Parallelism of a Sandwich Producing Machine**
Gyula Hermann
Óbuda University, Budapest, Hungary

11:45 – 12:00 **Facial Expression Recognition System Based on a Face Statistical Model and Support Vector Machines**
Emil-Ioan Voisan, Radu-Emil Precup and Florin Dragan
Politehnica University of Timisoara, Timisoara, Romania

12:00 – 12:15 **Hierarchical Control System for Autonomous Vehicles Based on Robotic Formalism**
György Max*, Béla Lantos**
*Budapest University of Technology and Economics
**MTA-BME Control Engineering Research Group, Budapest, Hungary

11:00 – 12:15 **[T1P] POSTER SESSION** Ground floor

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

Security Sandbox Based on RBAC Model

Ján Hurtuk, Anton Baláž, Norbert Ádám
Technical University of Košice, Slovak Republic

Optimizing Knowledge Transfer in Physics Education by Fitting Supplemental Materials to Individual Learners

Éva Stefánkó*, Tamás Orosz**
* Székesfehérvári Szakképzési Centrum Jáky József Középiskolája, Székesfehérvár, Hungary
** Óbuda University, Székesfehérvár, Hungary

Application for UDS Automated Test Generation

Anca Lupei, Loredana Stanciu
Politehnica University Timisoara, Timisoara, Romania

Computation of Electrical Generator Parameters Using Regression Functions

Iosif Szeidert, Ioan Filip, Cristian Vasar and Octavian Prostean
Politehnica University of Timisoara, Timisoara, Romania

12:15 – 14:00 **LUNCH BREAK** Casa Politehnicii 1

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*

14:00 – 14:15 **Developing Railway Interlocking Systems with Session Types and Event-B**

Tibor Kiss

Babes-Bolyai University, Cluj-Napoca

Katalin Tünde Jánosi-Rancz

Sapientia University, Targu-Mures

14:15 – 14:30 **Fuzzy Control of a Two-Wheeled Mobile Pendulum System**

*Ákos Odry**, *Ervin Burkus**, *István Kecskés**, *János Fodor**,
*Péter Odry***

* Óbuda University, Budapest, Hungary

** University of Dunaújváros, Dunaújváros, Hungary

14:30 – 14:45 **Blood Glucose Model for Liver Transplantation: Alteration of Physiological Parameters**

*József Homlok**, *J. Geoffrey Chase***, *Balázs Benyó**

*Budapest University of Technology and Economics, Budapest, Hungary

**University of Canterbury, Christchurch, New Zealand

14:45 – 15:00 **Automated Environment-Model Based Testing with an Adaptive Differential Evolution Algorithm for Reactive Systems**

Annamária Szenkovits, *Noémi Gaskó*

Babeş-Bolyai University, Romania

15:00 – 15:15 **Discrete Time State Feedback with Setpoint Control, Actual State Observer and Load Estimation for a Tumor Growth Model**
*Johanna Sápi**, *Dániel András Drexler***, *Levente Kovács**
* Óbuda University, Budapest, Hungary
** Budapest University of Technology and Economics, Budapest, Hungary

14:00 – 15:15 **[T2b] SPECIAL SESSION on Applied Mathematics I** Room A 109

Session Organizer and Session Chair: *Alexandru Kristály*

14:00 – 14:15 **On Kapteyn–Kummer Series' Integral Form**
Tibor K. Pogány, Árpád Baricz, Anikó Szakál

14:15 – 14:30 **On the Robustness of a Concept of Dichotomy with Different Growth Rates for Linear Discrete-Time Systems in Banach Spaces**
Violeta Crai
West University of Timișoara

14:30 – 14:45 **Generation of Floating Point 2D Scaling Operators for FPGA**
Ovidiu Sicoe, Mircea Popa
Politehnica University of Timisoara, Timisoara, Romania

14:45 – 15:00 **Two Solutions for a Singular Elliptic Problem Indefinite in Sign**
Francesca Faraci

15:00 – 15:15 **Zeros of Cross-Products of some Special Functions**
Árpád Baricz

14:00 – 15:15 **[TP2] POSTER SESSION** _____ **Ground floor**

Session chairs: *Cristina Stangaciu and Jan Pitel*

Logical Inference Modeled by Petri Nets

Adriana Albu

Politehnica University Timișoara, Timișoara, România

Knocking Combustion Characteristic of Large Gas Engine Based on the Coherence Wavelet Analysis of Vibration Signals

József Z. Szabó, Péter Bakucz

Óbuda University, Budapest, Hungary

On the Architecture of a Clustering Platform for the Analysis of Big Volumes of Data

Ioan-Daniel Borlea, Radu-Emil Precup and Florin Dragan

Politehnica University of Timisoara, Timisoara, Romania

TEEARTS: Time and Energy Efficiency Analysis for Real Time Systems Framework

Cristina S. Stangaciu, Valentin Stangaciu, Mihai V. Micea, Andrei Stoica,

Vladimir I. Cretu

Politehnica University, Timisoara, Romania

Metal Hardness Changing in Case of Explosive Welding

József Gáti, Tünde Kovács

Óbuda University, Budapest, Hungary

15:15 – 15:30 **Coffee break**

15:30 – 17:00 **Parallel sessions**

15:30 – 16:45 **[T3a] SPECIAL SESSION on Applied Mathematics II** Room A 115

Session Organizer and Session Chair: *Árpád Baricz*

15:30 – 15:45 **Sobolev Interpolation Inequalities on Hadamard Manifolds**

Csaba Farkas

Sapientia Hungarian University of Transilvania, Tg. Mureş, Romania,
and
Óbuda University, Budapest, Hungary

Alexandru Kristály

Babeş-Bolyai University, Cluj-Napoca, Romania, and
Óbuda University, Budapest, Hungary

Anikó Szakál

Óbuda University, Budapest, Hungary

15:45 – 16:00 **On Some Concepts of Exponential Stability for Skew-Evolution Semiflows in Banach Spaces**

Claudia-Luminița Mihiț and Diana Borlea

West University of Timișoara, Timișoara, Romania

16:00 – 16:15 **Generalized Exponential Trichotomy for Difference Equations**

Ioan-Lucian Popa

"1 Decembrie 1918" University of Alba Iulia, Alba Iulia, Romania

Traian Ceașu

West University of Timișoara, Timișoara, Romania

- 16:15 – 16:30 **Maxwell-Schrodinger Systems on Curved Spaces**
Csaba Farkas and Alexandru Kristály
- 16:30 – 16:45 **Generalizations of Some Dichotomyconcepts for Evolution Operators in Banach Spaces**
Nicolae Marian Seimeanu
- 15:30 – 16:45 **[T3b] SPECIAL SESSION on PhD Student Research in Applied Informatics and Numerical Mathematics I** Room A 109
- The session was organized by the Doctoral School of Applied Informatics and Applied Mathematics, Óbuda University, Budapest, Hungary*
- Session Organizer and Session Chair: *László Horváth*
- 15:30 – 15:45 **Supporting Health Smart System Applications in Scientific Gateway Environment**
Krisztián Karóczkai, Eszter Kail***, Péter Kacsuk**, Miklós Kozlovsky****
* MTA SZTAKI, Budapest, Hungary
** University of Westminster, London
*** Obuda University, Budapest, Hungary
- 15:45 – 16:00 **Selection of Kinematic Requirements for RFPT-based Adaptive Anaesthesia Control**
Bertalan Csanádi and József K. Tar
Óbuda University, Budapest, Hungary
- 16:00 – 16:15 **Evaluating the Reproducibility Cost of the Scientific Workflows**
Anna Bánáti, Péter Kacsuk**,***, Miklós Kozlovsky*,***
* Óbuda University, Budapest, Hungary
** MTA SZTAKI, Budapest, Hungary
*** University of Westminster, London
- 16:15 – 16:30 **Real-Time Interfacing for Fault Detection and Auralization with MED-EL Cochlear Implant Processors**

Artur M. Kuczapski, Gheorghe-Daniel Andreescu

Politehnica University of Timisoara, Romania

16:30 – 16:45 **Medical Device Software Risk Assessment Using FMEA and Fuzzy Linguistic Approach: Case Study**

Khulan Batbayar, Márta Takács, Miklos Kozlovsky

Obuda University, Budapest, Hungary

15:30 – 16:45 **[T3P] POSTER SESSION** Ground floor

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

An Adaptable Feedback Control Solution for a Drive System with Variable Parameters

Alexandra-Iulia Szedlak-Stinean, Stefan Preitl, Radu-Emil Precup and Claudia-Adina Bojan-Dragoş

Politehnica University of Timisoara, Timisoara, Romania

Development of a Special Setup for Path Tracking of RV-2AJ Robot

Marius-Florin Crainic, Stefan Preitl

Politehnica University of Timisoara, Timisoara, Romania

The Drawbacks of Statement Code Coverage Test Case Prioritization Related to Domain Testing

Ovidiu Banias

“Politehnica” University of Timisoara, Timisoara, Romania

Equivalent Power for a Wind Power System

Ciprian Sorandaru, Sorin Musuroi, Mihaela-Codruta Ancuti, Gheza-Mihai Erdodi, Doru-Ionut Petrescu

POLITEHNICA University of Timisoara, Timisoara, Romania

18:00

Banquet

Casa Politehnicii 2

Bd. M. Eminescu nr. 11

May 13, Friday

8:30 – 15:30 **REGISTRATION** _____ **Room A 107**

9:00 – 9:35 **PLENARY SESSION III** _____ **Room A 109**

Superior Vision: Always on Human-like Vision for Intelligent Devices

Valentin Mureşan

Movidius SRL, Timisoara

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

9:35 – 10:10 **PLENARY SESSION IV** _____ **Room A 109**

Steps on the Way to Automated Driving

Christian von Albrichsfeld

Continental Automotive Romania Session

Session Chair: ***Florin Dragan***

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*

10:30 – 10:45 **A Case Study on Algorithm Discovery from Proofs: The *Insert* Function on Binary Trees**

Isabela Drămnesc

West University, Timișoara, Romania

Tudor Jebelean

Johannes Kepler University, Linz, Austria

Sorin Stratulat

Université de Lorraine, Metz, France

10:45 – 11:00 **Artificial Neural Network-based Monthly Load Curves Forecasting**

Constantin Barbulescu, Stefan Kilyeni, Antheia Deacu, Gabriel Mihai Turi, Mirela Moga

Politehnica University Timisoara, Timisoara, Romania

11:00 – 11:15 **Gender Recognition from Mobile Biometric Data**

Margit Antal

Sapientia University, Tirgu Mures, Romania

Győző Nemes

Telekom Romania

11:15 – 11:30 **On Top-Down Aspect Mining for Monitoring Techniques Implementation**

Grigoreta-Sofia Cojocar

Babeș-Bolyai University, Cluj-Napoca, Romania

- 11:30 – 11:45 **A Generator of Sequences of Hierarchical Tests which Contain Specified Keywords**
Doru Popescu Anastasiu**, *Nicolae Bold and *Ovidiu Domşa******
 * University of Pitesti, Romania
 ** University of Agronomic Sciences and Veterinary Medicine Bucharest
 *** "1 Decembrie 1918" University of Alba Iulia, Romania
- 11:45 – 12:00 **Intelligent Estimation Method for Demographic Effect onto the Research and Development Sector in Hungary**
Éva Hajnal, Balázs Nagy, Valéria Varga
 Óbuda University, Székesfehérvár, Hungary
- 10:30 – 12:00 **[F1b] SESSION on Systems Engineering I Room A 109**
 Session Chairs: ***Dan Ionescu and Ciprian Sorandaru***
- 10:30 – 10:45 **On Switched Linear Copositive Lyapunov Function Method**
Octavian Pastravanu and Mihaela-Hanako Matcovschi
 "Gheorghe Asachi" Technical University of Iasi, Iasi, Romania
- 10:45 – 11:00 **Design of Open-Source Platform for Introducing Internet of Things in University Curricula**
Dalibor Dobrilovic, Stojanov Zeljko
 University of Novi Sad, Technical Faculty "Mihajlo Pupin", Zrenjanin, Serbia
- 11:00 – 11:15 **The Industrial Process Control Simulator with Programmable Logic Control**
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

- 11:15 – 11:30 **Control of the ^{18}O Isotope Separation Process**
Vlad Mureşan, Mihail Abrudean, Mihaela-Ligia Ungureşan, Iulia Clitan, Tiberiu Coloş
 Technical University of Cluj-Napoca, Cluj-Napoca, Romania
- 11:30 – 11:45 **Automatic Generation Control of an Interconnected Multi-Area Reheat Thermal Power Systems with Conventional Proportional-Integral Controller Considering various Performance Indices**
K. Jagatheesan*, B. Anand**, Nillanjan Dey, Amira S. Ashour****, Cornel Barna*****, Valentina E. Balas********
 * Mahendra Institute of Engg. & Tech. Namakkal, Tamilnadu, India
 ** Hindusthan college of Engg. & Tech., Coimbatore, Tamilnadu, India
 *** Techno India College of Technology, West Bengal, India
 **** Tanta University, Egypt
 ***** Aurel Vlaicu University of Arad, Romania
- 11:45 – 12:00 **Comparison of Electric Current–Voltage Characteristics and Maximal Power Point Values of Differently and Artificially Aged Solar Panels**
Dániel Nagy*, Ervin Rácz**, Andrea Varga**, Holger Ruf, Erik Rene Neuchel******
 * Politehnica University of Timişoara, Timişoara, Romania
 ** Óbuda University, Budapest, Hungary
 *** Hochschule Ulm, Ulm, Germany

10:30 – 12:00 **[F1P] POSTER SESSION** _____ Ground floor

Session chairs: *Adriana Albu and Ovidiu Banius*

A Method Proposal of Scene Recognition for RGB-D Cameras

Gabriel-Mihail Danciu

Transilvania University Brasov

Integration of New Equipment by Advanced Process Optimization

Attila L. Bencsik, Marianna Lendvay, Adrienn Katalin Trimmel, Krisztina Némethy

Óbuda University, Budapest, Hungary

Online Higher Education

Franciska Hegyesi, Gyula Kártyás

Óbuda University, Budapest, Hungary

Intelligent Feature Selection for Regions of Interest Identification in Retinal Images

Loretta Ichim, Traian Caramihale, Dan Popescu

University Politehnica of Bucharest, Bucharest, Romania

Using Fuzzy Rules for Identifying Key Classes in Software Systems

Ioana Şora and Doru Todinca

Politehnica University of Timisoara, Romania

12:00 – 13:30 **LUNCH BREAK** _____ Casa Politehnicii 1

13:30 – 15:30 **PARALLEL SESSIONS** _____

13:30 – 15:30 **[F2a] SPECIAL SESSION on Safety and Security Sciences** _____ **Room A 115**

Session Organizer and Session Chair: **Zoltán Rajnai**

13:30 – 13:45 **The Smart Mobility Aspects of Intelligent Railway**

Daniel Tokody*, **György Schuster****

* Óbuda University, Budapest, Hungary

** University, Budapest, Hungary

13:45 – 14:00 **The Electronic Information Security Aspects of the Administration System**

Zoltan Nyikes*, **Zsolt Németh***, **Andras Kerti****

*Óbuda University, Budapest, Hungary

**National University of Public Service, Budapest, Hungary

14:00 – 14:15 **Analysis of the Topological Changes of an E-mailing Network Using Network-theory Methods**

Győző Attila Szilágyi, **Alexandra Vécsey**

Óbuda University, Budapest, Hungary

14:15 – 14:30 **Comparison of Biometric Identification Methods**

Csaba Otti

Doctoral School on Safety and Security Sciences, Budapest, Hungary

14:30 – 14:45 **Safety Consciousness of the Mobile Phone Users**

Pál Fehér-Polgár, **Zsolt Németh**

Óbuda University, Budapest, Hungary

14:45 – 15:00 **Who do You Trust? – Safety Aspect of Interpersonal Trust among Young Adults with Work Experience**

Kornélia Lazányi

Óbuda University, Budapest, Hungary

- 15:00 – 15:15 **Occupational Safety and Health: An Overview**
Lourdes Ruiz Salvador, Duong Van Thinh
Óbuda University, Budapest, Hungary
- 15:15 – 15:30 **Electric Vehicles' Battery Parameter Tolerances Analysis by Fuzzy Logic**
László Pokorádi, József Menyhárt
Óbuda University, Budapest, Hungary
- 13:30 – 15:30 **[F2b] SESSION on Systems Engineering II**
Room A 109
- Session Chairs: *Octavian Pastravanu and Zoran Nesic*
- 13:30 – 13:45 **The Linear and Nonlinear Behavior Analysis for RC-Filters**
C. Festila, R. Rusu-Both, E-H. Dulf, M. Secara
Technical University of Cluj-Napoca, Cluj-Napoca, Romania
- 13:45 – 14:00 **Energy Efficiency of Raw Sensor Data Collection on Mobile Devices**
Mircea-Gabriel Tihu, Daniel-George Telbis, Cristian-Nicolae Babău, Marius Marcu
Politehnica University of Timisoara, Timisoara, Romania
- 14:00 – 14:15 **MICE: Monitoring High-Level Events in Cloud Environments**
Gabriel-Cosmin Apostol, Florin Pop
University Politehnica of Bucharest
- 14:15 – 14:30 **Controllable Loads in the Smart Grid: Stress Relief for the Power Grid through Rescheduling; Test Implementation in Sewage Treatment Facility**
Tuncer Haslak
Hof University, Hof, Germany

- 14:30 – 14:45 **Common Open Telemedicine Hub and Infrastructure with Interface Recommendation**
Adamkó Attila, Ábel Garai, István Péntek
University of Debrecen, Debrecen, Hungary
- 14:45 – 15:00 **Performance of Parallel ChaCha20 Stream Cipher**
Radu Velea, Florina Gurzău, Laurențiu Mărgărit, Ion Bica, Victor-Valeriu Patriciu
Military Technical Academy of Bucharest, Bucharest, Romania
- 15:00 – 15:15 **Improving Quality of Service Indicators in Distribution Network by Applying Modern LV Network Management System**
Peter Holcsik
Óbuda University, Budapest, Hungary
- 15:15 – 15:30 **Multimodal Biophysical Data Visualization for Patient Monitoring**
Miklos Kozlovszky, Khulan Batbayar, Zoltán Garaguly, Krisztián Karózkai
Obuda University, Budapest, Hungary

13:30 – 15:30 **[F2P] POSTER SESSION** _____ Ground floor

Session chairs: *Krisztina Némethy and Csaba Szász*

New Mixed Models of Optimal Saving

Irina Georgescu

Academy of Economic Studies, Bucharest, Romania

Jani Kinnunen

IAMSR, Turku, Finland

Sensor Fusion with Enhanced Kalman Filter for Altitude Control of Quadrotors

Dániel Hetényi, Márton Gótz, László Blázovics

Budapest University of Technology and Economics, Budapest, Hungary

On-Line Verification of Finger Drawn Signatures

Margit Antal, László Zsolt Szabó

Sapientia University, Tîrgu Mures, Romania

Analyzing .NET Serialization Components

Akos Nagy, Bence Kovari

Budapest University of Technology and Economics, Budapest, Hungary

Localization of Faults in Low Voltage Networks by the Graph Method

Judith Pálfi

Óbuda University, Budapest, Hungary

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, Grigoreta-Sofia Cojocar*

- 15:45 – 16:00 **Drug-Target Interaction Prediction with Hubness-aware Machine Learning**
Krisztian Buza
Brain Imaging Center, Research Center for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary
- 16:00 – 16:15 **A Microservices Architecture for Collaborative Document Editing Enhanced with Face Recognition**
Cristian Gadea, Mircea Trifan, Dan Ionescu
University of Ottawa, Ottawa, Ontario, Canada
Marius Cordea, Bogdan Ionescu
Mgestyk Technologies Inc., Ottawa, Ontario, Canada
- 16:15 – 16:30 **A Fuzzy Decision Tree-based Method For Skeletal Sex Determination**
Ioan Gabriel Mircea
Babeş-Bolyai University, Cluj-Napoca, Romania
- 16:30 – 16:45 **How You Type Is Who You Are**
*Krisztian Buza**, *Dora Neubrandt***
* Brain Imaging Center, Research Center for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary
** Budapest University of Technology and Economics, Hungary
- 16:45 – 17:00 **Machine Learning Techniques for Age at Death Estimation from Long Bone Lengths**
Vlad-Sebastian Ionescu, Mihai Teletin and Estera-Maria Voiculescu
Babeş-Bolyai University, Cluj-Napoca, Romania
- 17:00 – 17:15 **A PSO FPGA-based Architecture to Optimize Constrained Functions**
Leonardo Sarraff Nunes de Moraes, Dionne Cavalcante Monteiro, Daniel Leal Souza, Jefferson Magalhães de Morais, Roberto Célio Limão de Oliveira
Federal University of Pará, Belém, Pará, Brazil

15:45 – 17:00 [F3b] SPECIAL SESSION on PhD Student Research in Applied Informatics and Numerical Mathematics II Room A 109

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

Session Organizer and Session Chair: *László Horváth*

15:45 – 16:00 Evaluation Criteria for Application Life Cycle Management Systems in Practice

József Klespitz*, Miklós Bíró**, Levente Kovács*

** Óbuda University, Budapest, Hungary*

*** Software Competence Center Hagenberg, Hagenberg, Austria*

16:00 – 16:15 Structured Organization of Engineering Objects in the Information Content of PLM System

Yatish Bathla

Óbuda University, Budapest, Hungary

16:15 – 16:30 Performance Issues of in-Memory Databases in OLTP Systems

Patrik Szpisják, Levente Rádai

Óbuda University, Székesfehérvár, Hungary

16:30 – 16:45 Robot Obstacle Avoidance Using Bumper Event

Neerendra Kumar*, Zoltán Vámosy **, Zsolt Miklós Szabó-Resch**

** Obuda University, Budapest, Hungary*

** Central University of Jammu, India*

*** Obuda University, Budapest, Hungary*

16:45 – 17:00 Multiprocessing of an Individual-Cell Based Model for Parameter Testing

Gábor Kertész*, Dániel Kiss**, Anna Lovrics**, Sándor Szénási*, Zoltán Vámosy*

**John von Neumann Faculty of Informatics, Óbuda University*

***Institute of Enzymology, Research Centre for Natural Sciences, Hungarian Academy of Sciences*

Session chairs: *Ioan Virag and Daniel Bogdan*

Testing of Two Types of Membership Functions in Fuzzy Adaptive Controller of Pneumatic Muscle Actuator

Mária Tóthová, Ján Piteľ

Technical University of Košice, Prešov, Slovakia

Delta Flashing of an ECU in the Automotive Industry

Daniel Bogdan, Razvan Bogdan, Mircea Popa

“Politehnica” University of Timisoara, Timisoara, Romania

Drone Sound Detection by Correlation

József Mezei, András Molnár

Óbuda University, Budapest, Hungary

Gesture-based Interaction in Medical Interfaces

Ioan Virag, Lăcrămioara Stoicu-Tivadar, Mihaela Crișan-Vida

Politehnica University of Timisoara, Timisoara, Romania

Mathematical Model Development for Faults Simulation in Current-source PWM Inverters

Szász Csaba, Eva-H. Dulf

Technical University of Cluj