

SACI 2013 final program

Timetable

May 23, Thursday

09:00 – 09:30 Opening Ceremony
09:30 – 10:15 Plenary Session I
10:15 – 11:00 Plenary Session II
11:00 – 11:20 Coffee break
11:20 – 13:00 Parallel sessions **T1, T2, T3 and TP1**
13:00 – 15:00 Lunch break
15:00 – 16:40 Parallel sessions **T4, T5, T6 and TP2**
16:40 – 17:00 Coffee break
17:00 – 18:40 Parallel sessions **T7, T8, T9 and TP3**
19:00 Banquet

May 24, Friday

9:15 – 10:00 Plenary Session III
10:00 – 10:20 Coffee break
10:20 – 12:20 Parallel sessions **F1, F2 and F3**
12:20 – 14:00 Lunch break
14:00 – 15:20 Parallel sessions **F4, F5 and F6**
18:00 Cocktail

May 23, Thursday

8:00 – 13:00 and 15:00 – 18:20 **Registration** Room A 107

09:00 – 09:30 **Opening Ceremony** Room A 101 Aula

09:30 – 10:15 **Plenary Session I** Room A 101 Aula
Session Chair: Prof. Imre J. Rudas, Óbuda University, Budapest, Hungary
Speaker: Dr. Barnabas Bede, DigiPen Institute of Technology, Redmond, WA, USA
Approximation Properties and Continuous Differentiability of a Class of SISO Fuzzy Systems

10:15 – 11:00 **Plenary Session II** Room A 101 Aula
Session Chair: Prof. Vladimir-Ioan Crețu, “Politehnica” University of Timisoara, Romania
Speaker: Prof. Voicu Groza, University of Ottawa, Canada
Model-based Oscillometric Blood Pressure Estimation

11:00 – 11:20 **Coffee break**

11:20 – 13:00 **Parallel sessions**

11:20 – 13:00 **T1. Session on Optimization Algorithms and Applications** Room A 115
Session Chairs: Marius Marcu and Florin Dragan

Eneko Osaba, Roberto Carballedo, Fernando Díaz and Asier Perallos Analysis of the suitability of using blind crossover operators in genetic algorithms for solving routing problems

Mitsunori Miki, Hisanori Ikegami, Akihiko Emi, Takuro Yoshii, Yohei Azuma and Kenta Yoshida A Lighting Control System to Optimize Brightness Distribution on Working Places

Constantin Purcaru, Radu-Emil Precup, Daniel Ierican, Lucian-Ovidiu Fedorovici, Bogdan Dohangie and Florin Dragan
nRobotic Mobile Robot Navigation Using Traffic Signs in Unknown Indoor Environments

Elisa Moisi, Benedek Nagy and Vladimir Cretu Maximum flow minimum cost algorithm for reconstruction of images represented on the triangular grid

Adela Bascacov, Cosmin Cernazanu and Marius Marcu Using Data Mining for Mobile Communication Clustering and Characterization

11:20 – 13:00 **T2. Special Session on E-learning Technologies** Room A 109

Session Chairs: Rita Ósz and Ciprian-Bogdan Chirila

Istvan Simonics New wave for learning with Mentor Teachers

György Molnár The role of electronic and virtual learning support systems in the learning process

Ciprian-Bogdan Chirila A Dialog Based Game Component for a Competencies Based E-Learning Framework

Péter Tóth Adaptive Online Learning Environment and Web Usage Mining

Rita Osz and Mariann Váraljai New methods of the education in the E-learning's dimensions

Franciska Hegyesi Moodle in Higher Education and at Óbuda University

11:20 – 13:00 **T3. Session on Applied Mathematics in Computer Science and Engineering** Room A 204

Session Chairs: János Fodor and Adalbert Kovacs

Arpad Baricz, Szilard Andras and János Fodor New approximations for DQPSK transmission bit error rate

Dragana Jankov Masirevic, Tibor Pogany, Arpad Baricz and Aurel Galantai Sampling Bessel functions and Bessel sampling

Stefano-Niko Orzen Mathematical Expressiveness For Computational Network Interaction

Tamás Bérczes, Béla Almási, János Sztrik and Attila Kuki A contribution to modeling sensor communication networks by using finite-source queueing systems

Abaffy József and Galántai Aurél A new method for minimization of real Lipschitz functions

11:20 – 13:00 **TP1. Poster Session on Control and Modeling in Mechatronics** Ground floor

Session Chairs: József Gáti and Radu-Emil Precup

Jozef Novak-Marcincin, Miroslav Janak, Jozef Barna and Ludmila Novakova-Marcincinova Design and Verification of the Industrial Robot Effector with Use of Rapid Prototyping Method

Mircea-Bogdan Radac, Razvan-Alexandru Achimescu, Radu-Emil Precup, Stefan Preitl, Claudia-Adina Dragos and Alexandra-Iulia Stinean Design and Experiments for Model-Free PI Control of DC Drives

József Gáti – Gyula Kártyás: Theory and Practice in Multi-Discipline Representations for Engineering Education

Alexandra-Iulia Stinean, Stefan Preitl, Radu-Emil Precup, Claudia-Adina Drago, Mircea-Bogdan Radac and Emil Petriu 2-DOF Control Solutions for an Electric Drive System under Continuously Variable Conditions

Pescaru Dan Urban Traffic Congestion Prediction Based on Routes Information

Corina Anca Mnerie, Stefan Preitl and Virgil-Florin Duma Performance Enhancement of Galvanometer Scanners Using Extended Control Structures

13:00 – 15:00 **Lunch break**

15:00 – 16:40 **Parallel sessions**

15:00 – 16:40 **T4. Session on Control Systems** Room A 115

Session Chairs: Radu VasIU and Gheorghe-Daniel Andreescu

Amélie Chevalier, Cosmin Copot, Stefana Cristescu, Clara Ionescu and Robin De Keyser Emulation of a Highway Bottleneck Using Leader-Follower Formation Control

Mitsunori Miki, Kenta Yoshida, Yuya Hirano and Hisanori Ikegami Estimation of Illuminance Sensor Positions and Improvement of Energy Efficiency in the Distributed Control Lighting System

Gheorghe Mulec, Radu VasIU and Flaviu Mihai Frigura-Iliasa Distributed Flow Controller for Mobile Ad-hoc Networks

Cristina-Elena Coman, Sorin-Cristian Agarlita and Gheorghe-Daniel Andreescu V/f Control Strategy with Constant Power Factor Angle for Low Cost SPMSM Drives

Adrian Cioloca, Roxana Both and Rodica Festila Model validation, simulation and control for ammonia synthesis column

15:00 – 16:40 **T5. Session on Pattern Recognition and Image Processing** Room A 109

Session Chairs: Dan Ionescu and Catalin Căleanu

Catalin Căleanu Face Expression Recognition: a Brief Overview of the Last Decade

Emil Voisan, Oscar Marginean, Radu-Emil Precup, Florin Dragan and Constantin Purcaru Performance Evaluation of a Face Detection Algorithm Running on General Purpose Operating Systems

Ana-Andreea Nagat and Catalin Căleanu Face Identification Using Kinect Technology

Oana Astrid Vătămanu and Mircea Jivulescu Image Classification Using Local Binary Pattern Operators for Static Images

Dan Ionescu, Viorel Suse, Cristian Gadea, Bogdan Solomon, Bogdan Ionescu and Shahidul Islam A New NIR Camera for Gesture Control of Electronic Devices

15:00 – 16:40 **T6. Session on Applied Mathematics in Nonlinear Systems** Room A 204

Session Chairs: Imre Fekete and Adalbert Kovacs

Csaba Farkas, Robert Fuller and Alexandru Kristály A sublinear differential inclusion on strip-like domains

Imre Fekete and István Faragó A stability approach for reaction-diffusion problems

András London and Tibor Csendes HITS based network algorithm for evaluating the professional skills of wine tasters

Olivia Mihaela Bundau, Adina Juratoni and Adalbert Kovacs Hopf bifurcations in a mathematical model of HIV-1 infection with delay

Zsannett Orlovits and László Gerencsér A martingale approximation result for GARCH processes

15:00 – 16:40 **TP2. Poster Session on Modeling, Monitoring and Prediction** Ground floor

Session Chairs: Gyula Hermann and Mirela Toth-Taşcău

Diana Andrei, Dan Nemes, Mirela Toth-Taşcău and Dan Ioan Stoia Diagnosis parameters used in treatment prediction of the lumbar spine

Loredana Ghiormez and Octavian Prostean Parameters Influence in Electric Arc Modeling

József Tick and Andrea Tick Business Process Modeling for Administrative Activities – Analyzing Dynamic Behavior

Peter Bednár and Peter Smatana Integrated OCOPOMO toolset for open collaboration in policy modelling

Norbert Csík Open source plethysmographic application for monitoring of cardiovascular parameters

Cosmin Koch-Ciobotaru, Radu Boraci and Octavian Prosteau Voltage Control in a Microgrid Using Demand Response

Marius Babescu, Ciprian Sorandaru, Sorin Musuroi, Marcus Svoboda and Nicola Olarescu An Approach on Mathematical Modeling of Photovoltaic Solar Panels

16:40 – 17:00 **Coffee break**

17:00 – 18:40 **Parallel sessions**

17:00 – 18:40 **T7. Session on Manufacturing and Automotive Applications** Room A 115

Session Chairs: László Horváth and Stefan Holban

László Horváth-Imre J. Rudas: Situation Based Feature Definition on Product Behavior Level

Briciu Catalin-Virgil, Filip Ioan and Heininger Franz A new trend in automotive software: AUTOSAR concept

Mihai Popescu, Dan Ungureanu - Anghel and Ioan Filip Designing Complex Petri Nets using Submodels with Application in Flexible Manufacturing Systems

Pavol Bauer and Raul Ionel LabVIEW Remote Panels and Web Services in Solar Energy Experiment – A Comparative Evaluation

Iulia Maria Haragos, Cosmin Cernazanu-Glavan and Stefan Holban A model to estimate the throughput value for a transport network

17:00 – 18:20 **T8. Special Session on PhD Student Research in Applied Informatics I** Room A 109

Session Chairs: Mihai Micea and Vladimir-Ioan Crețu

Cristina Stangaciu, Mihai Micea and Vladimir Cretu Energy Efficiency in Real-Time Systems: A Brief Overview

Gelu Laurentiu Ioanas and Toma Leonida Dragomir Common-rail Pressure Estimation using a Neuro-Fuzzy architecture with Local Hammerstein Models

Mihai Pomarlan Visibility based planners for kinematically constrained vehicles

Rajesh Piryani, Ashraf Uddin, Pranav Waila, Vivek Kumar Singh and Manoj Kumar Singh Blog Text Analytics using Topic Modeling, Named Entity Recognition and Sentiment Classifier Combine

17:00 – 18:20 **T9. Session on Modeling and Optimization Applications** Room A 204

Session Chairs: Levente Kovács and János Fülöp

János Fülöp An optimization approach for the eigenvector method

Tibor Illes and Gabor Lovics Approximation of the Whole Pareto-Optimal Solution Set for Vector Optimization Problems

Tamas Szantai and Edith Kovacs Cluster Analysis by Exploiting Conditional Independences

Johanna Sápi, Dániel András Drexler, István Harmati, Annamária Szeles, Zoltán Sápi and Levente Kovács Tumor growth model identification and analysis in case of C38 colon adenocarcinoma and B16 melanoma

17:00 – 18:20 **TP3. Poster Session on Hardware and Software Applications** Ground floor
Session Chairs: Peter Butka and Gabriela Ioana Prostean

Martin Sarnovsky and Zdeno Ulbrik Cloud-based clustering of text documents using the GHSOM algorithm on the GridGain platform

György Györök, Tamás Orosz, Margit Mako and Tamás Treiber To Achieve Circuit Robustness by Co-operation of FPAA and Embedded Microcontroller

László Erdődi Finding dispatcher gadgets for jump oriented programming code reuse attacks

Serban Popa and Gabriela Ioana Prostean Improving Management of Utilities Payment with Web – based Solution

Peter Butka, Jana Pocsova and Jozef Pocs Use of Generalized One-sided FCA Approach for Joining of Simple Object-attribute Models

Peter Butka and Jana Pocsova Hybrid approach for visualization of documents clusters using GHSOM and Sammon projection

19:00 **Banquet** Restaurant Universitar, Aleea FC Ripensia no. 1

May 24, Friday

8:00 – 13:00 **Registration** Room A 107

9:15 – 10:00 **Plenary Session III** Room A 109
Session Chair: Prof. Radu-Emil Precup, “Politehnica” University of Timisoara, Romania
Speaker: Dr. Gerald Schaefer, Loughborough University, UK
Evolutionary Optimisation of Classifiers and Classifier Ensembles for Cost-Sensitive Pattern Recognition

10:00 – 10:20 **Coffee break**

10:20 – 12:20 **Parallel sessions**

10:20 – 12:20 **F1. Session on Control Theory and Applications in Mechatronics** Room A 115
Session Chairs: Darko Mitic and Vlad Muresan

Darko Mitic, Miodrag Spasic, Morten Hovd and Dragan Antic An Approach to Design of Sliding Mode Based Generalized Predictive Control

Andreea Morosan and F. Sisak An intelligent system designed for controlling the manufacturing process in a flexible manufacturing system

Vlad Muresan, Mihail Abrudean and Tiberiu Colosi Modeling and Simulation of the Automatic Control System of the Residual Water Blunting Process from a Metallurgical factory

Florina Moldovan, Dolga Valer and Cristian Pop Synthesis of an articulated ten bar mechanism for building a walking robot

Péter Bakucz Spline Filtering in Accordance to ISO/TS 16610: ANSI C-Code for Engineers

Gyula Hermann: Problems and Solutions in Submicron Displacement Measurement

10:20 – 12:00 **F2. Special Session on Renewable Energy and Power System Optimization** Room A 109
Session Chairs: Octavian Proştean and Stefan Kilyeni

Ioan Luminosu and Aldo De Sabata Feasibility of a Solar Swimming Pool in the Western Part of Romania

Emil Guran High Efficiency Power Converters for Renewable Sources of Energy

Ovidiu Gana, Octavian Prostean, Cristian Vasar and Marius Babescu PV Control System Based On Short-Circuit Current

Dan Cristian, Constantin Barbulescu, Stefan Kilyeni, Oana Pop and Florin Solomonesc Artificial Intelligence Based TNEP. Part 1: Mathematical Models

Florin Solomonesc, Constantin Barbulescu, Stefan Kilyeni, Pop Oana and Dan Cristian Artificial Intelligence Based TNEP. Part 2: Case Studies

10:20 – 12:00 **F3. Special Session on PhD Student Research in Applied Informatics II** Room A 204

Session Chairs: László Horváth and Vladimir-Ioan Crețu

Diana Andrei, Dan V. Poenaru, Dan Nemes, Mihaela Vida, Lacramioara Stoicu-Tivadar and Norbert Gal Process modeling and assisted diagnosis in spinal recovery

Andrea Varga, Ervin Racz and Peter Kadar New Experimental Method for Measuring Power Characteristics of Photovoltaic Cells at Given Light Irradiation

Krisztián Kósi, János F. Bitó and József K. Tar Fine Tuning with Sigmoid Functions in Robust Fixed Point Transformation

Monika Pogatsnik Intelligent Vehicle Systems in the Light of the Technical Regulations

12:20 – 14:00 **Lunch break**

14:00 – 15:20 **Parallel sessions**

14:00 – 15:20 **F4. Session on Complex Systems** Room A 115

Session Chairs: Gerald Schaefer and Voicu Groza

Bartosz Krawczyk and Gerald Schaefer An Improved Ensemble Approach for Imbalanced Classification Problems

Bartosz Krawczyk, Gerald Schaefer and Michal Wozniak A cost-sensitive ensemble classifier for breast cancer classification

Hassan Charafeddine and Voicu Groza Wideband Adaptive LMS Beamforming Using QMF Subband Decomposition for Sonar

Lucian Mihet-Popa, Xue Han, Jens Pihl-Andersen and Jasmin Mehmedalic Development and Modeling of Different Scenarios for a Smart Distribution Grid

14:00 – 15:20 **F5. Session on Software Algorithms and Applications** Room A 109

Session Chairs: Vesna Jevtic and Levente Kovács

Tamás Ferenci, Levente Kovács and Zsuzsanna Almássy Diabetes, prediabetes and their indicators among Hungarian obese adolescents

Nadia Ghiata, Vladimir Cretu and Marius Marcu Using Data Mining for Mobile Users' Context Detection

Alecsandru Pătrașcu and Victor-Valeriu Patriciu Beyond Digital Forensics. A Cloud Computing Perspective Over Incident Response and Reporting

Zeljko Stojanov, Dalibor Dobrilovic, Jelena Stojanov and Vesna Jevtic Context dependent maintenance effort estimation: Case study in a small software company

14:00 – 15:20 **F6. Session on Networks and Communications** Room A 204

Session Chairs: Dan Ionescu and Doru Todinca

Doru Todinca and Cosmin Cernazanu-Glavan Novel Network Selection Algorithm Based on Fuzzy Inference

Dorel Nasui, Valentin Sgarciu and Alexandra Cernian Cloud-Based Application Development Platform for Secure, Intelligent, Interlinked and Interactive Infrastructure

Doru Todinca and Cosmin Cernazanu-Glavan OMNeT++ Framework for Efficient Simulation of Vertical Handover Decision Algorithms

Bogdan Solomon, Dan Ionescu, Cristian Gadea, Stejarel Veres and Marin Litoiu Leaky Bucket Model for Autonomic Control of Distributed, Collaborative Systems

18:00 **Cocktail** Casa Politehnicii 2, Bd. M. Eminescu nr. 11