

General Information

Venue

The 5th International SOFA Workshop will be held at the Secretariat of the Regional Committees of the Hungarian Academy of Sciences (Szegedi Akadémiai Bizottság – SZAB) – 6720 Szeged, Somogyi u. 7.

Language

The official language of the workshop is English.

Registration Desk

The registration desk will be open during the whole event.

Presentations

Presentations can be made using data projectors. All authors are kindly asked to upload their presentation from a USB stick to the computer in the conference room during the breaks. Presenters should rather not use their own computers.

Posters

The size of the posters is expected to be 70 (width) x 110 (high) cm. The posters will be on display during the whole meeting. Authors are requested to set up their work on the 22nd before Lunch and to take it down on the 24th before Lunch. Discussions concerning the posters will be held during coffee breaks.

Best Student Paper Competition

All the papers submitted as student papers will participate in the Best Student Paper Competition. A committee will be evaluating them during the workshop. The award will be given after the last session on the 24th of August.

Internet

There will be free Internet facilities for the workshop participants at the meeting venue.

Lunches

Each registered participant is welcomed to lunch at the Alabardos Restaurant. Visitors can also go to lunch at the Alabardos Restaurant for an extra fee of 5 EUR/lunch. Visitors should announce at the registration desk that they would like to purchase a lunch ticket.

Social programs

Welcome Cocktail at the Secretariat of the Regional Committees of the Hungarian Academy of Sciences – 22 August evening.

Workshop Dinner at the Sótartó Restaurant – 23 August evening (Student fees do not include Conference Dinner – students can purchase a conference dinner ticket for 25 EUR/person).

Insurance

The Organizers of the Workshop do not provide insurance and do not take responsibility for any loss, accident or illness that might occur during the Workshop or in the course of travel to or from the meeting site. It is, therefore, the responsibility of the participants to check their coverage with their insurance provider.

Parking

Parking is available in front of the building of the Regional Committees of the Hungarian Academy of Sciences. Parking tickets cost about 7-8 EUR/day.

Voltage

The electricity supply is 230 V AC (50 Hz).

Program

Wednesday, August 22

- 8:00 REGISTRATION – SZAB, Szeged (Somogyi u. 7.)
- 8:45 OPENING
- 9:00 – 10:00 **KEYNOTE INVITED TALK**
Lotfi Zadeh, Outline of a Restriction-centered Theory of Reasoning and Computation (Video tape lecture)
- 10:00 – 11:00 **KEYNOTE INVITED TALK**
Michio Sugeno, On Structure of Uncertainties
Chair: VALENTINA E. BĂLAŞ
- 11:00 – 11:20 *Coffee break*
- 11:20 – 12:40 **METHODS AND APPLICATIONS IN ELECTRONICS**
Chair: MARIUS M. BĂLAŞ
Optimization of the Binary Adder Architectures Implemented in ASICs and FPGAs
Bojan Jovanović, Milun Jevtić
Memristor-Based Phase-Lead Controller Circuit Design
Tsung-Chih Lin, Wei-Nan Liao, Valentina E. Bălaş
CMOS-Integrated Temperature Relay Based on Widlar Mirror
M. A. Ciugudean, Marius Bălaş
A FPGA Floating Point Interpolator
M. M. Bălaş, M. Socaci, Onisifor Olaru
- 12:40 – 13:40 **SOFT COMPUTING AND FUSION ALGORITHMS IN BIOMETRICS**
Chair: ANTÓNIO E. RUANO
The Biometric Menagerie – A Fuzzy and Inconsistent Concept
N. Popescu-Bodorin, Valentina Bălaş, I.M. Moţoc
A Multi-algorithmic Colour Iris Recognition System
Petru Radu, K. Sirlantzis, G. Howells, S. Hoque, F. Deravi

Examples of Artificial Perceptions in Optical Character Recognition and Iris Recognition

Cristina Mădălina Noaica, R. Badea, I.M. Moțoc, C.G. Ghica, A.C. Rosoiu, N. Popescu-Bodorin

Noise Influence on the Fuzzy-Linguistic Partitioning of Iris Code Space

I. M. Moțoc, C. M. Noaica, R. Badea, C.G. Ghica

13:40 – 14:40 *Lunch*

14:40 – 16:20 **FUZZY THEORY AND FUZZY CONTROL**

Chair: DRAGAN RADOJEVIĆ

Excluded middle and graduation

Dragan Radojević

Models for Ranking Students: Selecting Applicants for a Master of Science Studies

Pavle Milošević, Ivan Nešić, Ana Poledica, Dragan Radojević, Bratislav Petrović

Modeling Candlestick Patterns with Interpolative Boolean Algebra for Investment Decision Making

Ivan Nesic, Pavle Milosevic, Aleksandar Rakicevic, Bratislav Petrovic, Dragan Radojević

Using Fuzzy Logic to determine if the traffic is constant or not in DTF Method

Emanuel Ciprian Sasu, Octavian Proștean

Experimental application of a pragmatic method to design control strategy for low power wind energy conversion system

Radu Boraci, Cristian Vasar

16:20 – 16:40 *Coffee Break*

16:40 – 18:20 METHODS AND TOOLS FOR MODELLING AND APPLICATIONS

Chair: OCTAVIAN PROȘTEAN

Model Predictive Control for inside temperature of an energy efficient building

Cosmin Koch-Ciobotaru

Optimization of the Power Transfer Control Between the Ports of a Double Bridge DC – DC Power Converter Type Gyrator

Ildikó Tatai, Marian Greconici

Maximization of the Energy and Flattening of Fluctuations for the Power Generated into the Network at an Wind Driven Electro Energetic System

Ovidiu Gana, O. Proștean, M. Babescu

A Brief Outline of Computational Limitations on Actual Wireless Sensor Networks

Gabriel Gîrban, Mircea Popa

The Quality of Following the Welding Path With Arc Sensors

Gheorghe Sima

18:30 – 20:00 WELCOME RECEPTION (SZAB ground floor)

Thursday, 23 August

9:00 – 11:00 KEYNOTE INVITED TALKS

Chair: JÓZSEF DOMBI

Michał Baczynski, On the Applications of Fuzzy Implication Functions

László B. Kish, Information Theoretic Security by the Laws of Classical Physics

R. Mingesz, L. B. Kish, Z. Gingl, C. G. Granqvist, H. Wen, F. Peper, T. Eubanks, G. Schmera

11:00 – 11:20 *Coffee Break*

11:20 – 12:40 KNOWLEDGE-BASED TECHNOLOGIES FOR WEB APPLICATIONS, CLOUD COMPUTING AND SECURITY ALGORITHMS I

Chair: IÑIGO MONEDERO

Achieving Semantic Integration of Medical Knowledge for Clinical Decision Support Systems

Daniel Dragu, V. Gomoï, and V. Stoicu-Tivadar

Similarity Measurement of Web Sites

Popescu Doru Anastasiu, Dragoş Nicolae

Transmission of Unsolicited E-mails with Hidden Sender Identity

Ioan Virag, Antoanela Luciana Naaji, Marius Popescu

The Evaluation of the Detected Distributed Denial of Service (DDoS) Attacks in Eucalyptus Private Cloud

Alina Mădălina Lonea, Daniela Elena Popescu, Octavian Proştean, Huaglorry Tianfield

12:40 – 14:00 *Lunch*

14:00 – 15:00 KNOWLEDGE-BASED TECHNOLOGIES FOR WEB APPLICATIONS, CLOUD COMPUTING AND SECURITY ALGORITHMS II

Chair: DANIELA ELENA POPESCU

Private Cloud Set Up Using Eucalyptus open source

Alina Mădălina Lonea,

Mathematical Model and Formalization for DTF Method

Emanuel Ciprian Sasu

Contribution to Watermarking Techniques

Crina Anina Raţiu, D. Bucerzan, M. Crăciun

15:00 – 15:50 PLENARY TALK

János C. Fodor, Information Aggregation in Intelligent Systems
János C. Fodor and Imre J. Rudas

Chair: MARIA G. RUANO

15:50 – 16:20 Coffee Break

16:20 – 17:40 BIOMEDICAL APPLICATIONS

Chair: MIHAELA COSTIN

Characterization of Temperature-Dependent Echo-Shifts and Backscattered Energy Induced by Thermal Ultrasound

Maria Ruano, César A. Teixeira, Javid J. Rahmati

On the use of Artificial Neural Networks for Biomedical Applications

Maria Ruano, António E. Ruano

Optic Disc Localization in Retinal Images

Silviu Ioan Bejinariu, Florin Rotaru, Cristina Diana Niță, Mihaela Costin

Parallel Multiclass Support Vector Interpretation of Haemodynamic Parameters for Manifestation of Aortic and Arterial Occlusive Diseases

Sunil Karamchandani, V. K. Madan, P. M. Kelkar, S. N. Merchant, U. B. Desai

17:40 – 19:00 NEURAL NETWORKS AND APPLICATIONS

Chair: ANNAMARIA R. VÁRKONYI-KÓCZY

An Expert System to Improve the Energy Efficiency of the Reaction Zone of a Petrochemical Plant

Iñigo Monedero, Félix Biscarri, Carlos León, Juan Ignacio Guerrero

Estimation Aspects of Signal Spectral Components using Neural Networks

Viorel Nicolau, Mihaela Andrei

On-line Operation of an Intelligent Seismic Detector

Guilherme Madureira, António E. Ruano, M. Graça Ruano

Exploiting the Functional Training Approach in Takagi-Sugeno Neuro-Fuzzy Systems

Cristiano L. Cabrita, António E. Ruano, Pedro M. Ferreira, László T. Kóczy

19:15 **Departure for Dinner** (5 minutes walk) – meeting in front of the SZAB building

Friday, 24 August

- 8:30 – 9:30** **KEYNOTE INVITED TALK**
Kay Chen Tan, Advances in Evolutionary Multi-objective Optimization
Chair: VALENTINA E. BĂLAȘ
- 9:30 – 11:10** **IMAGE PROCESSING**
Chair: VIOREL NICOLAU
Reconstruction of Binary Images Represented on Equilateral Triangular Grid Using Evolutionary Algorithms
Elisa Moisi, Vladimir Ioan Crețu, Benedek Nagy
Morphological Wavelets for Panchromatic and Multispectral Image Fusion
Silviu Ioan Bejinariu, Florin Rotaru, Cristina Diana Niță
Image Categorization Based on Computationally Economic Lab Colour Features
Adrian Ciobanu, Mihaela Costin, Tudor Barbu
Some Results on Ultrasonic Image Generation with Biomimetic Sonar Head and Focused Narrow Beams
Dorel Aiordăchioaie, Laurențiu Frangu
Using License Plates Recognition for Automate Cruise Control
Marius Bălaș, N. A. Chira, S. A. Matisan, F. M. Suciu
- 11:10 – 11:30** *Coffee break*
- 11:30 – 12:20** **PLENARY TALK**
Annamaria R. Várkonyi-Kóczy, Neural Network Applications Using an Improved Performance Training Algorithm
Chair: JÁNOS C. FODOR
- 12:20 – 14:00** **BUSSINESS PROCESS MANAGEMENT**
Chair: GABRIELA PROȘTEAN
Analysis of the Bankruptcy Prediction Model in the Present Economic Situation
Crina Anina Rațiu, D. Bucerzan, M. Crăciun
Monitoring Help Desk Process Using KPI
Diana Betina Mirsu
Optimizing E-Business Using Learning-based Systems
Sorin Stroe, Irina-Steliana Stan

The Efficiency in Time And Financial Resources Management of an Individual by Developing an Informatics Support

Șerban Popa, Gabriela Proștean

Planning Business Process Management Implementation by a Human Resources Development Support Initiative

Cristian Olariu, Alexandru Canda, Anca Draghici, Tomislav Rozman

14:00

Lunch (during Lunch: closing and best student paper award)

POSTERS

Linguistic Hedges Fuzzy Feature Selection for Differential Diagnosis of Erythematous-Squamous Diseases

Ahmad Taher Azar, Shaimaa A. El-Said, Valentina E. Balas, Teodora Olariu

Design an Optimal Fuzzy PID Controller for Herbal Machine Harvester with Gripping-Belt Speed

Behnam Yavari, Seyed Hamidreza Abbasi, Faridoon Shabaninia

Android Personal Digital Life Software Agent

Amna Altaf, F. Khan

Automated Sleep Staging using Detrended Fluctuation Analysis of Sleep EEG

Amr Fawzy, Shereen M. El-Metwally, Ahmed Abdel Aal Morsy

Dynamic Modeling and Control of a Multi-Fingered Robot Hand for Grasping Task

Rim Boughdiri, Hala Bezinea, Nacer K. M'Sirdib, Aziz Naamaneb, Adel M. Alimi

Automatic Classification of Liver Diseases from Ultrasound Images Using GLRLM Texture Features

Raghesh Krishnan, R. Sudhakar

Comparative Study between Tank's Water Level Control Using PID and Fuzzy Logic Controller

Davood Mohammadi Souran, Seyyed Hamidreza Abbasi, Feridoon Shabaninia

Design of MIMO Mamdani Fuzzy Logic Controllers For Wall Following Mobile Robot

Nasim Paykari, Faridoon Shabaninia, Seyed Hamidreza Abbasi

Incidents management process improvement of IT systems

Gabriela Proștean, Diana Betina Mirsu, Anca Drăghici

Models for Sharing Resources in Agile Project Management

Adrian Adam, Gabriela Proștean

A Multicriteria Approach in the Selection of a SAP UI Technology

Adela Diana Berdie, M. Osaci, N. Budișan

Studies on Efficientisation of the Data Access By ABAP Programming

M. Osaci, Adela Diana Berdie, A. D. Hammes

Modeling of the Electric Arc Behavior of the Electric Arc Furnace

Manuela Panoiu, Caius Panoiu, Loredana Ghiormez

The Comparative Analysis of the Innovation Level for the Entrepreneurial Education

Matei Tămășilă, Ilie Mihai Tăucean

Live Steam Temperature Control Loop 1035 t/h Benson Boiler

Onisifor Olaru, Marius Bîzga