# September 4, 2016

## Schedule Graph

<table>
<thead>
<tr>
<th>Type</th>
<th>Time of Beginning</th>
<th>Hemus Hall</th>
<th>Conferance Hall</th>
<th>Preslav Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee Break</td>
<td>09:00 AM - 09:30 AM</td>
<td>Opening</td>
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<tr>
<td>PL 1</td>
<td>09:30 AM - 10:40 AM</td>
<td>J. Kacprzyk (Poland)</td>
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<tr>
<td>PL 1</td>
<td>10:40 AM - 11:30 AM</td>
<td>G. Osipov (RU)</td>
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<tr>
<td>Lunch</td>
<td>11:30 AM - 01:50 PM</td>
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<td>S6-1</td>
<td>S5, S9</td>
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<tr>
<td>PL 1</td>
<td>01:50 PM - 02:50 PM</td>
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<td>S8, IS2</td>
<td>IS1, IS8, S10</td>
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<tr>
<td>Coffee Break</td>
<td>02:50 PM - 04:10 PM</td>
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<td>IS6, IS7, IS8</td>
<td>S10</td>
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<tr>
<td>PL 1</td>
<td>04:10 PM - 05:50 PM</td>
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<td>IS5</td>
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<td>T-4</td>
<td>05:50 PM - 06:45 PM</td>
<td>Huiyu Zhou (UK)</td>
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<td>06:45 PM - 07:30 PM</td>
<td>Discussion</td>
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</tbody>
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**09:00 AM-09:30 AM  Opening Ceremony**

Chair: Vassil Sgurev, Bulgaria

09:00 AM – Hall “Hemus”
Plenary SESSION
Part I

Session: PL 1
Chair: Vassil Sgurev, Bulgaria
TIME: September 4, 09:30 AM-11:10 AM
Hall “Hemus”

9:30 AM-10:10 AM Multiagent decisions under fuzziness: getting out of the status quo bias towards innovative solutions
Janusz Kacprzyk, Poland

10:10 AM-10:40 AM Coffee Break

10:40-11:20 AM Sign-Based Model as a Basis for Model of the World of a Subject of Activity
Gennady Osipov, Russia

SESSION: Autonomous and other Artificial Intelligence Systems

Session: S6-1
Chair: Boris Stilman, USA
TIME: September 4, 11:30 AM-12:50 PM
Hall “Hemus”

11:30 AM-11:50 AM Role of Graphs for Multi-Agent Systems and Generalization of Euler’s Formula
Qasim Ali, Sergio Montenegro, Germany

11:50 AM-12:10 AM A Model of Extended BDI Agent with Autonomous Entities. Integrating Autonomous Entities within BDI Agent
Lada Maleš, Slobodan Ribarić, Croatia

12:10 AM-12:30 AM Agent-Based Approach to Modelling, Analysing and Performance Evaluation of Discret-Event Systems
František Čapkovic, Slovakia

12:30 AM-12:50 PM Decomposition of Boolean Multi-Relational Data with Graded Relations
Martin Trnecka, Marketa Trneckova, Czech Republic

SESSION: Machine Learning

Session: S5
Chair: Alexander Gegov, United Kingdom
TIME: September 4, 11:30 AM-01:10 PM
Hall “Conferance”

11:30 AM-11:50 AM Wind Speed Prediction with Extreme Learning Machine
Elizabella Lazarevska, F.Y.R. Macedonia
SESSION: Control Systems

Session: S9
Chair: Mincho Hadjiski, Bulgaria
TIME: September 4, 11:30 AM-01:10 PM
Hall “Preslav”

11:30 AM-11:50 AM  Intelligent Arm Manipulation System in Life Science Labs Using H20 Mobile Robot and Kinect sensor
Mohammed M. Ali, Hui Liu, Norbert Stoll, Kerstin Thurow, Germany

11:50 AM-12:10 AM  An intelligent model predictive control-based strategy for plantwide optimization of degrading plants
Mincho Hadjiski, Alexandra Grancharova, Valeria Petrova, Kosta Boshnakov, Bulgaria

12:10 AM-12:30 AM  Intelligent Control of Uncertain Switched Nonlinear Plants: Output-feedback Control of Switched Fuzzy Time-delay Systems Revisited
Georgi M. Dimirovski, F.Y.R. Macedonia, Yi Liu, China Jun Zhao, China

12:30 AM-12:50 AM  Models and methods for multicriteria situational flexible reassignment of control functions in man-machine systems
Alexsander Pavlov, Boris Sokolov, Anton Pashchenko, Anatoly Shalyto, Gennady Maklakov, Russia

12:50 AM-01:10 PM  New Intelligent Control Systems Architectures based on Dynamic Intelligent Systems
Galina V. Rybina, Victor M. Rybin, Russia

01:10 PM - 01:50 PM  Lunch

SESSION: Emergent and Future Technologies

Session: S8
Chair: Petia Georgieva, Portugal
TIME: September 4, 01:50 PM-02:50 PM
Hall “Hemus”

01:50 AM-02:10 AM  Evaluation of the Freshness of Food Products by Predictive Models and Neural Networks – a Comparative Analysis
Miroljub Mladenov, Martin Dejanov, Stanislav Penchev, Bulgaria

02:10 AM-02:30 AM  Regression Approach for Automatic Detection of Attention Lapses
Krasimira Georgieva, Bulgaria, Petia Georgieva, Portugal, Olga Georgieva, Bulgaria, Maria J. Ribeiro, Portugal, Joana S. Paiva, Portugal

02:30 AM-02:50 AM  Sequence analysis to predict microRNA chemotherapy resistance
Muratcan İğdeli, Atıf Yılmaz, Hasan Oğul, Turkey

SESSION: Intelligent Pattern Recognition, Bio—metrics, Computational Intelligence and Security

Session: IS2
Chair: Patrick S. P. Wang, USA
TIME: September 4, 01:50 PM-03:10 PM
Hall “Conference”

01:50 PM-02:10 PM  Fuzzy collaborative clustering based ranking approach for factor granules
Xiaozhou Chen, China, Patrick S. P. Wang, USA

02:10 PM-02:30 PM  Challenges and Possible Solutions to Density Based Clustering
Fatma Günseli Yaşar, Gözde Ulutagay, Turkey

02:30 PM-02:50 PM  Optimal Component Selection for Image Segmentation via Parallel Analysis
Mehmet Cem Catalbas, Merve Yıldırım, Arif Gulten, Hasan Kurum, Turkey

02:50 PM-03:10 PM  Primi Speech Recognition Based on Deep Neural Network
Wenjun Hu, Meijun Fu, Wenlin Pan, China

SESSION: The Intelligent Systems of 2020: Theory and practice

Session: IS1
Chair: Ricardo Jardim-Gonçalves, Portugal
TIME: September 4, 01:50 PM-03:30 PM
Hall “Preslav”

01:50 PM-02:10 PM  An architecture to support responsive production in manufacturing companies
Maria Marques, Portugal, Carlos Agostinho, Portugal, Gregory Zacharewicz, France, Raul Poler, Spain, Ricardo Jardim-Gonçalves, Portugal

02:10 PM-02:30 PM  Search-space Sorting with Hidden Markov Models for Occluded Object Recognition
F. A. Guerrero-Peña, G. C. Vasconcelos, Brazil
02:30 PM-02:50 PM  Multi-sensorial Support for Disabled Users a Case Study With AutoCAD
Fernando Luís-Ferreira, Joao Sarraipa, Ricardo Jardim-Goncalves, Portugal

02:50 PM-03:10 PM  Smart Learning Environment for the Development of Smart City Applications
Manuella Kadar, Romania

03:10 PM-03:30 PM  An Architecture for Big Data Processing on Intelligent Transportation Systems. An Application Scenario on Highway Traffic Flows
Guilherme Guerreiro, Paulo Figueiras, Ricardo Silva, Ruben Costa, Ricardo Jardim-Goncalves, Portugal

SESSION: Intuitionistic Fuzzy Sets

Session: IS6
Chair: Krassimir Atanassov, Bulgaria
TIME: September 4, 02:50 PM-04:30 PM
Hall “Hemus”

02:50 PM-03:10 PM  Multidimensional Intuitionistic Fuzzy Quantifiers
Krassimir Atanassov, Bulgaria, Ivan Georgiev, Bulgaria, Eulalia Szmidt, Poland, Janusz Kacprzyk, Poland

03:10 PM-03:30 PM  Intuitionistic Fuzzy Evaluations for Analysis of a Student’s Knowledge of Mathematics in University e-Learning Courses
Evdokia Sotirova, Bulgaria, Taekyun Kim, Korea, Krassimir Atanassov, Bulgaria, Maciej Krawczak, Poland, Pedro Melo-Pinto, Portugal, Anthony Shannon, Australia, Beloslav Riečan, Slovakia

03:30 PM-03:50 PM  Partial Fuzzy Grid Models and Application to Condition Monitoring of Photovoltaic Systems
Gancho Vachkov, Valentin Stoyanov, Nikolinka Christova, Bulgaria

03:50 PM-04:10 PM  Coffee Break

04:10 PM-04:30 PM  Directed Intuitionistic Fuzzy Neighbourhoods
Evgeniy Marinov, Bulgaria, Peter Vassilev, Bulgaria, Krassimir Atanassov, Bulgaria, Jun Su, China

SESSION: Intercriteria Analysis

Session: IS7
Chair: Krassimir Atanassov, Bulgaria
TIME: September 4, 04:30 PM-05:50 PM
Hall “Hemus”

04:30 PM-04:50 PM  Value at Risk Backtesting Techniques: Intuitionistic Fuzzy Approach and InterCriteria Analysis
Diana Tisheva, Nikolay Netov, Bulgaria

04:50 PM-05:10 PM  Intercriteria analysis over public transport system data
SESSION: Generalized Nets

Session: IS8
Chair: Sotir Sotirov, Bulgaria
TIME: September 4, 03:10 PM-05:50 PM
Hall “Conferance”

03:10 PM-03:30 PM  A measurement process model implemented by generalized net
Nevena Radoeva, Rosen Iliev, Bulgaria

03:30 PM-03:50 PM  Generalized Net Models of Basic Sequential Logic Circuits
Lenko Erbakanov, Krassimir Atanassov, Sotir Sotirov, Stanislav Simeonov, Bulgaria

03:50 PM-04:10 PM  Coffee Break

04:10 PM-04:30 PM  Encrypting message in a sound using Self Organizing Map Neural Network
Todor Petkov, Semran Ahmed, Evdokia Sotirova, Sotir Sotirov, Bulgaria

04:30 PM-04:50 PM  Generalized Net Model of Cuckoo Search Algorithm
Olympia Roeva, Vassia Atanassova, Bulgaria

04:50 PM-05:10 PM  Modeling of the MiMa-algorithm for Crossbar Switch by Means of Generalized Nets
Tasho Tashev, Marin Marinov, Vladimir Monov, Radostina Tasheva, Bulgaria

05:10 PM-05:30 PM  A model of the process of Big Data with Generalized Net
Daniela Orozova, Milena Georgieva, Bulgaria

05:30 PM-05:50 PM  Generalized Net Model of Asymptomatic Osteoporosis Diagnosing
Simeon Ribagin, Russia, Olympia Roeva, Bulgaria, Tania Pencheva, Bulgaria

SESSION: Clustering and Recognition

Session: S10
Chair: Miroljub Mladenov, Bulgaria
TIME: September 4, 03:30 PM-05:50 PM
Hall “Preslav”

03:30 PM-03:50 PM  Automated Aircraft Instrument Reading Using Real Time Video Analysis
Wasiq Khan, Darren Ansell, Kaya Kuru, Mahdi Amina, United Kingdom

03:50 PM-04:10 PM Coffee Break

04:10 PM-04:30 PM Advanced Linguistic Explanations of Classifier Decisions for Users’ Annotation Support
Edwin Lughofer, Roland Richter, Thomas Radauer, Austria

04:30 PM-04:50 PM Enhancing Texture Characteristics with Synthesis and Noise for Image Retrieval
Tuan D. Pham, Sweden

04:50 PM-05:10 PM Measures of Spatial Distortion using Kriging
Tuan D. Pham, Sweden

05:10 PM-05:30 PM Fuzzy Density Based Clustering Method: Soft DBSCAN-GM
Abir Smiti, Zied Elouedi, Tunisia

05:30 PM-05:50 PM Computer vision guidance system for indoor navigation of visually impaired people
Kabalan Chaccour, Georges Badr, Lebanon

05:50 PM-06:10 PM Guidelines for Developers of Smart Systems
Vasily Moshnyaga, Japan

TUTORIAL: T-4

Session: T-4
Chair: Huiyu Zhou, United Kingdom
TIME: September 4, 05:50 PM-06:40 PM
Hall “Hemus”

05:40 PM-06:40 PM Event Reasoning for Transport Video Surveillance
Huiyu Zhou, United Kingdom

SESSION: Hybrid Intelligent Systems

Session: IS5
Chair: Oscar Castillo, Mexico
TIME: September 4, 06:10 PM-08:30 PM
Hall “Preslav”

06:10 PM-06:30 PM Interval type-2 fuzzy logic for dynamic parameter adaptation in the Harmony search algorithm
Cinthia Peraza, Fevrier Valdez, Oscar Castillo, México

06:30 PM-06:50 PM Fuzzy differential evolution method with dynamic parameter adaptation using type-2 fuzzy logic
Patricia Ochoa, Oscar Castillo, José Soria, México
06:50 PM-07:10 PM  Bat Algorithm with Parameter Adaptation using Interval Type-2 Fuzzy Logic for Benchmark Mathematical Functions
Jonathan Perez, México, Fevrier Valdez, México, Oscar Castillo, México, Olympia Roeva, Bulgaria

07:10 PM-07:30 PM  An Improved Particle Swarm Optimization Algorithm applied to Benchmark Functions
Alfonso Uriarte, Patricia Melin, Fevrier Valdez, México

07:30 PM-07:50 PM  Bidding Strategies based on Type-1 and Interval Type-2 Fuzzy Inference Systems for Google Adwords Advertising Campaigns
Quetzali Madera, Oscar Castillo, Mario Garcia-Valdez, Alejandra Mancilla, México

07:50 PM-08:10 PM  Genetic Algorithm and Particle Swarm Optimization of Ensemble Neural Networks with Type-1 and Type-2 Fuzzy Integration for Prediction of the Taiwan Stock Exchange
Martha Pulido, Patricia Melin, México

08:10 PM-08:30 PM  A Fuzzy System for Dynamic Parameter Adaptation in Gravitational Search Algorithm
Frumen Olivas, Fevrier Valdez, Oscar Castillo, México
# September 5, 2016

## Schedule Graph

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<th>Poster Tutorial</th>
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<td>IS4</td>
<td>IS9</td>
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<tr>
<td>Coffee Break</td>
<td>02:10 PM-02:40 PM</td>
<td>T-2</td>
<td>T-1</td>
<td>P1 01:00 PM</td>
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<td>05:00 PM-05:30 PM</td>
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07:30 PM Cocktail

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### Plenary SESSION

**Part II**

**Session:** **PL 2**  
**Chair:** Mincho Hadjiski, Bulgaria  
**TIME:** September 5, 09:00 AM-10:20 AM  
Hall “Preslav”

9:00 AM-09:40 AM  Multi-Criteria Decision Making with Uncertainty  
Ronald R. Yager, USA

9:40 AM-10:20 AM  Computational Intelligence for Industrial and Environmental Applications  
Vincenzo Piuri, Italy

10:20 AM-10:40 AM  **Coffee Break**

### SESSION: Intelligent Systems for Industrial and Environmental Applications

**Session:** **IS4**  
**Chair:** Vincenzo Piuri, Italy  
**TIME:** September 5, 10:40 AM-12:00 AM  
Hall “Preslav”
Examining Nominal and Ordinal Classifiers for Forecasting Wind Speed
George Georgoulas, Petros Karvelis, Stavros Kolios, Chrysostomos Stylios, Greece

Intelligent Control of Uncertain Switched Nonlinear Plants: NFG Optimum Control of Switched Fuzzy Time-Delay Systems Revisited
Georgi M. Dimirovski, Jinming Luo, China, Huakua Li, China, Jun Zhao, China

Automatic Detection of Subsurface Defects in Composite Materials using Thermography and Unsupervised Machine Learning
Roberto Marani, Davide Palumbo, Umberto Galiotti, Ettore Stella, Tiziana D’Orazio, Italy

Adaptive Controller using Fuzzy Modeling and Sigmoid Generated Fixed Point Transformation
Adrienn Dineva, Hungary, József K. Tary, Hungary, Annamária Várkonyi-Kóczyz, Slovakia, Vincenzo Piuri, Italy

SESSION: Data-driven Decision Making: Methodology and Applications

Session: IS3
Chair: Veselka Boeva, Bulgaria
TIME: September 5, 12:00 AM-01:00 PM
Hall “Preslav”

Identifying a Group of Subject Experts Using Formal Concept Analysis
Veselka Boeva, Bulgaria, Milena Angelova, Bulgaria, Lilyana Boneva, Bulgaria, Elena Tsiporkova, Belgium

Energy consumption profiling using Gaussian Processes
Christiaan Leysen, Mathias Verbekey, Pierre Dagnely, Wannes Meert, Belgium

Pattern Frequency Representation for Time Series Classification
Sergey Milanov, Olga Georgieva, Bulgaria

SESSION: Intelligent Control and Optimization
Part I

Session: IS9
Chair: Yancho Todorov, Bulgaria
TIME: September 5, 10:40 AM-12:00 AM
Hall “Conferance”

Decoupling Neuro-Fuzzy Model Predictive Controllers Applied to Quadruple Tanks
Sevil Ahmed, Ivan Ganchev, Albena Taneva, Michail Petrov, Bulgaria

Intuitionistic Neo-Fuzzy Network for Modeling of Nonlinear Systems Dynamics
Margarita Terziyska, Yancho Todorov, Bulgaria

Control of the Flight of a Small Quadrotor using Gestural Interface
Vasil L. Popov, Kostadin B. Shiev, Andon V. Topalov, Nikola G. Shakev, Sevil A. Ahmed, Bulgaria

11:40-12:00 AM   Industrial Implementation of a Fuzzy Logic Controller for Brushless DC Motor Drives using the PicoMotion Control Framework
Sevil Ahmed, Bulgaria, Andon Topalov, Bulgaria, Nikolay Dimitrov, Bulgaria, Eugene Bonev, USA

01:00 PM - 02:10 PM   Lunch

Poster SESSION
Part I

Session: P1
Chair: Kosta Boshnakov, Bulgaria
TIME: September 5, 01:40 PM-02:10 PM
Room: Poster*

Data Science Applications to Improve Accuracy of Thermocouples
Hu Zhengbing, China, Su Jun, China, Vladimir Jotsov, Bulgaria, Orest Kochan, Ukraine, Mykola Mykyichuk, Ukraine, Roman Kochan, Ukraine, Taras Sasiuk, Ukraine

A Data-Driven Approach Based on LDA for Identifying Duplicate Bug Report
Chen Jingliang, Ming Zhe, Su Jun, China

A Dictionary Based Approach to JPEG Anti-Forensics
Nasser Afshin, Farbod Razzazi, Mohammad-Shahram Moin, Iran

On the Optimization of Material Usage in Power Transformer Manufacturing
Georgios Chasparis, Werner Zellinger, Verena Haunschmid, Markus Riedenbauer, Reinhard Stumptner, Austria

Application of Firefly Algorithm to Train Operation
Kemal Keskin, Abdurrahman Karamancioglu, Turkey

ECG as Biometric Using Autocorrelation of normalized R-R interval
Hafiza Saira Javaid, Shahzad Amin Sheikh, Pakistan

Tourism Demand Forecasting using Ensembles of Regression Trees
Selcuk Cankurt, Iraq

Intelligent Automated Intrusion Response System based on Fuzzy Decision Making and Risk Assessment
Samaneh Berenjian, Mehdi Shajari, Nadieh Farshidy, Majid Hatamian, Iran

Heart Arrhythmias Classification via a Sequential Classifier Using Neural Network, Principal Component Analysis and Heart Rate Variation
Seyed Saleh Mohseni, Matiar Mohamadyari, Iran

A Fragile Watermarking Algorithm for Image Tamper Detection Based on Chaotic Maps
Nikodim Lazarov, Zlatoliliya Ilcheva, Bulgaria
**TUTORIAL: T-2**

Session: **T-2**  
Chairs: Han Liu, Alexander Gegov, United Kingdom  
TIME: September 5, 02:10 PM-03:10 PM  
Hall “Preslav”

02:10 PM-03:10 PM  Rule Based Systems and Networks: Deterministic and Fuzzy Approaches  
Han Liu, Alexander Gegov, United Kingdom

**TUTORIAL: T-1**

Session: **T-1**  
Chair: Petia Georgieva, Portugal  
TIME: September 5, 02:10 PM-03:10 PM  
Hall “Conferance”

02:10 PM-03:10 PM  Tutorial on Noninvasive Brain Computer Interfaces  
Petia Georgieva, Portugal

**03:10 PM-03:30 PM  Coffee Break**

**SESSION: Autonomous and other Artificial Intelligence Systems**

Session: **S6-2**  
Chair: Andon Topalov, Bulgaria  
TIME: September 5, 03:30 PM-05:10 PM  
Hall “Preslav”

03:30 PM-03:50 PM  How to assess quality of BMF algorithms?  
Radim Belohlavek, Jan Outrata, Martin Trnecka, Czech Republic

03:50 PM-04:10 PM  The Effect Of A Semi-Autonomous Robot On Children  
M. de Haas, Netherlands, A. Mois Aroyo, Italy, E. Barakova, Netherlands, W. Haselager, Netherlands, I. Smeekens, Netherlands

04:10 PM-04:30 PM  Curious Cat. Conversational Crowd based and Context Aware Knowledge Acquisition Chat Bot  
Luka Bradeško, Slovenia, Janez Starc, Slovenia, Michael Witbrock, USA

04:30 PM-04:50 PM  Modeling of Computational Systemic Mind Under Uncertainty  
Ben Khayut, Lina Fabri, Maya Avikhana, Israel

04:50 PM-05:10 PM  A New Cognitive Model for Autonomous Ontology Learning  
Dehai Zhang, Bin Wang, Naiyao Wang, Zhonghao Yang, Hang Zhao, China

**SESSION: Neural Networks**

Session: **S3**
Chair: Patricia Melin, Mexico
TIME: September 5, 03:30 PM-04:50 PM
Hall “Conferance”

03:30 PM-03:50 PM  Evolving Polynomial Neural Networks for Detecting Abnormal Patterns
N. Nyah, L. Jakaite, V. Schetinin, P. Sant, A. Aggoun, United Kingdom

03:50 PM-04:10 PM  Simplified Information Neural Cell Model And Its Basic Properties
Valeri Ilchev, Svetozar Ilchev, Bulgaria

04:10 PM-04:30 PM  Speech Recognition Using Principal Components Analysis and Neural Networks
Shaham Shabani, Italy, Yaser Norouzi, Iran

04:30 PM-04:50 PM  Neuro-Fuzzy based Identification of Meat Spoilage using an Electronic Nose
Vassilis S. Kodogiannis, Abeer Alshejari, United Kingdom

SESSION: Autonomous and other Artificial Intelligence Systems

Session: S6-3
Chair: Patrick S. P. Wang, USA
TIME: September 5, 05:10 PM-07:10 PM
Hall “Preslav”

05:10 PM-05:30 PM  Mixture-based Clustering Non-gaussian Data with Fixed Bounds
Ivan Nagy, Evgenia Suzdaleva, Tereza Mlynárová, Czech Republic

05:30 PM-05:50 PM  Decision Making in Intelligent Resource Networks under Risk
Vasil Sgurev, Stanislav Drangajov, Bulgaria

05:50 PM-06:10 PM  Formulae, Tautologies, and Equipotences in the Complex S-Logic
Vasil Sgurev, Bulgaria

06:10 PM-06:30 PM  A Conceptual Framework for Building a Mobile Services’ Recommendation Engine
Ivan Ganchev, Zhanlin Ji, Máirtín O’Droma, Ireland

06:30 PM-06:50 PM  A Service Recommendation Model for the Ubiquitous Consumer Wireless World
Haiyang Zhang, Ivan Ganchev, Nikola S. Nikolov, Máirtín O’Droma, Ireland

06:50 PM-07:10 PM  Use of Intelligent Planning for Integrated Expert Systems Development
Galina V. Rybina, Yury M. Blokhin, Russia

SESSION: Data Science Applications

Session: S7
Chair: Panagiotis Chountas, United Kingdom
TIME: September 5, 05:00 PM-06:20 PM
Hall “Conferance”

05:00 PM-05:20 PM  A Data-driven Fuzzy Modelling Framework for the Classification of Imbalanced Data
Adrian Rubio-Solis, George Panoutsos, Steve Thornton, United Kingdom

05:20 PM-05:40 PM  Expert-based Initialization of Recursive Mixture Estimation
Evgenia Suzdaleva, Ivan Nagy, Tereza Mlynářová, Czech Republic

05:40 PM-06:00 PM  Puzzle Methods for Data Science Applications
Vladimir Jotsov, Pepa Petrova, Evtim Iliev, Bulgaria

06:00 PM-06:20 PM  An Outranking-Based Approach for Skyline Refinement
Mohamed Haddache, Djamal Belkasmi, Allel Hadjali, Hamid Azzoune, France
# September 6, 2016

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<tr>
<td>Coffee Break</td>
<td>09:00 AM-09:40 AM</td>
<td>PL-3</td>
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<td>09:40 AM-10:20 AM</td>
<td>N. Kasabov (NZ)</td>
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<td>01:35 PM-04:10 PM</td>
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### Plenary SESSION

**Part III**

Session: **PL 3**  
Chair: Maciej Krawczak, Poland  
TIME: September 6, 09:00 AM-10:20 AM  
Hall “Hemus”

9:00 AM-09:40 AM  
Spiking Neural Networks and Spatio-Temporal Data Machines: Methods, Systems, Applications  
Nikola Kasabov, New Zealand

9:40 AM-10:20 AM  
Randomized Machine Learning  
Yuri S. Popkov, Russia

**10:20 AM-11:00 AM  Coffee Break**

### Poster SESSION

**Part II**

Session: **P 2**  
Chair: Orest Kochan, Ukraine  
TIME: September 6, 10:40 AM-11:10 AM  
Room: Poster*

A Self Configured And Hybrid Fusion Approach For an Electric Wheelchair Control  
Fatma Ben Taher, Nader Ben Amor, Mohamed Jallouli, Tunisia
Particle Filter Localization and Real Time Obstacle Avoidance Control Based on 3D Perception for Wheelchair Mobile Robot
Emna Baklouri, Nader Ben Amor, Mohamed Jallouli, Tunisia

Automatic generation of test questions by software agents using ontologies
Nina Stancheva Stancheva, Asya Stoyanova-Doycheva, Ivan Popchev, Stanimir Stoyanov, Bulgaria

Architecture of a Module for Analyzing Electronic Test Results
I. Kehayova, V. Valkanov, P. Malinov, E. Doychev, Bulgaria

Learning Intelligent System for Student Assistance – LISSA
J. Todorov, B. Daskalov, S. Stoyanov, I. Popchev, V. Valkanov, Bulgaria

The Model of Intelligent Autonomous Hybrid Renewable Energy System Based on Bayesian Network
D.G. Arseniev, V.P. Shkodyrev, V.A. Yarotsky, K.I. Yagafarov, Russia

Expansion of a CNN-Based Image Classifier's Scope Using Transfer Learning and k-NN. Technical Report
Georgi Kadrev, Georgi Kostadinov, Petko Ruskov, Bulgaria

Time Series Reconstruction Analysis
Vladimir Kurbalija, Brankica Bratić, Serbia

Decision Support System for Assessment of Vocational Aptitude of Man-Machine Systems Operators
Igor Petukhov, Pavel Kurasov, Luydmila Steshina, Ilya Tanryverdiev, Russia

Request Generation and Intelligent Scheduling for Cloud Educational Resource Datacenter
Petr N. Polezhaev, Alexander E. Shukhman, Irina P. Bolodurina, Yuri A. Ushakov, Leonid V. Legashev, Russia

TUTORIAL: T-3

Session: T-3
Chair: Boris Stilman, USA
TIME: September 6, 11:10 AM-01:10 PM
Hall “Hemus”

11:10 AM-01:10 PM Linguistic Geometry: A Strategic Guide to Battles, From Ancient to Modern Ones
Boris Stilman, USA

SESSION: Intelligent Control and Optimization
Part II

Session: IS10
Chair: Petia Koprinkova-Hristova, Bulgaria
TIME: September 6, 11:10 AM-12:50 AM
Hall “Conferance”
11:10 AM-11:30 AM  Intuitionistic Neo-Fuzzy Predictive Control
Margarita Terziyska, Yancho Todorov, Bulgaria

11:30 AM-11:50 AM  An Intelligent System for Resource Allocation Optimization of Medical Teams in Mass Casualty Incidents
Nina Dobrinkova, Bulgaria, Ioannis Galatas, Greece, Geert Seynaeve, Belgium

11:50 AM-12:10 AM  Action Unit Recognition in Still Images Using Graph-Based Feature Selection
Teodora Sechkova, Krasimir Tonchev, Agata Manolova, Bulgaria

12:10 AM-12:30 AM  Neuro-Fuzzy Tuning of Kalman Filter
Petia Koprinkova-Hristova, Kiril Alexiev, Bulgaria

12:30 AM-12:50 AM  Self-Organization Types for Autonomous Investment Portfolio
Angel Marchev, Jr., Angel Marchev, Sr., Bulgaria

01:10 PM-01:35 PM  Lunch

01:35 PM-01:50 PM  Closing Ceremony

Chair: Vassil Sgurev, Bulgaria
Hall “Hemus”

IEEE Summer School on Intelligent Systems

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Chairs: Ronald R. Yager, USA, Vladimir Jotsov, Bulgaria, Yancho Todorov, Bulgaria
TIME: September 6, 01:50 PM-04:10 PM
Hall “Hemus”