

# 2016 IEEE Symposium Series on Computational Intelligence (SSCI 2016)

December 6-9, 2016, Athens, Greece

## Program

Registration Open: Tuesday 10:00 - 18:00; Wednesday 8:00 - 19:00, Thursday 8:00 - 18:00 and Friday 8:00 - 12:00

### Tuesday, December 6, 2016

- 10:00 – 10:30 Coffee
- 10:30 - 12:00: PhD Workshop, Room 1A, *Chair: Stefanos Kollias*
- Tutorial 1**, Room 1B  
Astronomy Data Analysis using Deep Learning and Information Theoretical Learning,  
*Pablo A. Estevez*
- 12:00 – 14:00 Lunch break
- 14:00 – 15:30 **PhD Workshop**, Room 1A, *Chair: Andreas Stafylopatis*
- Tutorial 2**, Room 1B  
Medical Applications of Evolutionary Computation,  
*Stephen L. Smith*
- 15:30 – 16:00 Coffee break
- 16:00 – 17:30 **PhD Workshop**, Room 1A, *Chair: Yaochu Jin*
- 19:00 – 20:30 **Welcome reception**, Room Olympia Foyer

### Wednesday, December 7, 2016

- 8:30 – 8:45 **Opening Session, Room Olympia**  
*Chair: Stefanos Kollias, Yaochu Jin*
- 8:45 – 9:45 Plenary 1, Room Olympia**  
Computational Intelligence for Brain Computer Interface, *CT Lin, Uni. of Tech. Sydney*  
*Chair: Stefanos Kollias*
- 9:45 – 10:00 Coffee break

- 10:00 – 12:00**      **CIASG Session 1, Room 1A**  
*Chairs: Kumar Venayagamoorthy, Stefano Squartini*
- 10:00 – 10:20      *Andreia Carreiro, Carlos Henggeler Antunes and Humberto Jorge, Assessing the robustness of solutions to a multi- objective model of an energy management system aggregator*
- 10:20 – 10:40      *Roberto Bonfigli, Emanuele Principi, Stefano Squartini, Marco Fagiani, Marco Severini and Francesco Piazza, User-aided Footprint Extraction for Appliance Modelling in Non-Intrusive Load Monitoring*
- 10:40 – 11:00      *Lekhnath Kafle and Zhen Ni, Fuzzy Logic Adjustment for Power Sharing in Wind and PV-based Isolated Microgrid*
- 11:00 – 11:20      *Jörg Bremer and Sebastian Lehnhoff, A Hybrid CMA-ES Approach for Distributed Grid Compliant Energy Scheduling*
- 11:20 – 11:40      *Pramod Herath and G Kumar Venayagamoorthy, A Service Provider Model for Demand Response Management*
- 11:40 – 12:00      *Md Rahman and Ganesh Venayagamoorthy, Power System Distributed Dynamic State Prediction*
- 10:00 – 12: 00**      **SIS Session 1, Room 1B**  
*Chairs: Sanaz Mostaghim, Christopher Cleghorn*
- 10:00 – 10:20      *Kostas Hatalis, Basel Alnajjab, Shalinee Kishore, Rick Blum and Alberto Lamadrid, Particle Swarm Based Model Exploitation for Parameter Estimation of Wave Realizations*
- 10:20 – 10:40      *Leonardo Rundo, Andrea Tangherloni, Carmelo Militello, Maria Carla Gilardi and Giancarlo Mauri, Multimodal Medical Image Registration Using Particle Swarm Optimization: A Review*
- 10:40 – 11:00      *Rollie Goodman, Monica Thornton, Shane Strasser and John Sheppard, MICPSO: A Method for Incorporating Dependencies into Discrete Particle Swarm Optimization*
- 11:00 – 11:20      *Sanaz Mostaghim, Christoph Steup and Fabian Witt, Energy Aware Particle Swarm Optimization as Search mechanism for Aerial Micro-robots*
- 11:20 – 11:40      *Christiaan Scheepers and Andries Engelbrecht, Vector Evaluated Particle Swarm Optimization Archive Management: Pareto Optimal Front Diversity Sensitivity Analysis*
- 11:40 – 12:00      *Christopher Cleghorn and Andries Engelbrecht, Particle Swarm Optimizer: The Impact of Unstable Particles on Performance*
- 10:00 – 12: 00**      **CiFER Session 1, Room 2A**  
*Chairs: Robert Golan, Nikos Loukeris*
- 10:00 – 10:20      *Takanobu Mizuta, Yoshito Noritake, Satoshi Hayakawa and Kiyoshi Izum, Affecting Market Efficiency by Increasing Speed of Order Matching Systems on Financial Exchanges – Investigation using Agent Based Model*
- 10:20 – 10:40      *Radu Pruna, Maria Polukarov and Nicholas Jennings, An Asset Pricing Model with Loss Aversion and its Stylized Facts*
- 10:40 – 11:00      *Amer Bakhach, Edward P K Tsang, Wing Lon Ng and V L Raju Chinthalapati, Backlash Agent: A Trading Strategy Based On Directional Change*

- 11:00 – 11:20 *Xiaodi Zhu, Steve Y. Yang and Somayeh Moazeni, Firm Risk Identification Through Topic Analysis of Textual Financial Disclosures*
- 11:20 – 11:40 *Aparna Gupta, Majeed Simaan and Mohammed Zaki, Investigating Bank Failures Using Text Mining*
- 11:40 – 12:00 *Quetzali Madera, Oscar Castillo, Mario Garcia Valdez and Alejandra Mancilla, Interactive Evolutionary Computation with Adaptive Mutation for Increasing the Effectiveness of Advertisement Texts*
- 10:00 – 12: 00** **MCDM Session 1, Room 2B**  
*Chairs: Kaisa Miettinen and Sanaz Mostaghim*
- 10:00 – 10:20 *Heiner Zille, Hisao Ishibuchi, Sanaz Mostaghim and Yusuke Nojima, Mutation Operators based on Variable Grouping for Multi-objective Large-scale Optimization*
- 10:20 – 10:40 *Junko Hutahaean, Vasily Demyanov and Mike Christie, Many-Objective Optimization Algorithm Applied to History Matching*
- 10:40 – 11:00 *Sami Kaddani, Satya Tamby, Daniel Vanderpooten and Jean-Michel Vanpeperstraete, Partial Preference Models Using Translated Cones in Multi-Objective Optimization*
- 11:00 – 11:20 *Maroi Agrebi, Mourad Abed and Mohamed Nazih Omri, A new multi-actor multi-attribute decision-making method to select the distribution centers' location*
- 11:20 – 11:40 *Jussi Hakanen, Tinkle Chugh, Karthik Sindhya, Yaochu Jin and Kaisa Miettinen, Connections of Reference Vectors and Different Types of Preference Information in Interactive Multiobjective Evolutionary Algorithms*
- 11:40 – 12:00 *Maria João Alves and Carlos Henggeler Antunes, An illustration of different concepts of solutions in semivectorial bilevel programming*
- 10:00 – 12: 00** **FASLIP Session 1, Room 3A**  
*Chairs: Tomoyuki Hiroyasu, Supratik Mukhopadhyay*
- 10:00 – 10:20 *Manohar Karki, Saikat Basu, Robert Dibiano, Supratik Mukhopadhyay, Jerry Weltman and Malcolm Stagg. A Symbolic Framework for Recognizing Activities in Full Motion Surveillance Videos*
- 10:20 – 10:40 *Yuta Ichikawa, Shuji Tashiro, Hidetaka Ito and Hiroomi Hikawa, Real Time Gesture Recognition System with Gesture Spotting Function*
- 10:40 – 11:00 *Michał Dolecki, Paweł Karczmarek, Adam Kiersztyn and Witold Pedrycz, Utility Functions as Aggregation Functions in Face Recognition*
- 11:00 – 11:20 *Arjun Yogeswaran and Pierre Payeur, Biasing Restricted Boltzmann Machines using Gaussian Filters to Learn Invariant Visual Features*
- 11:20 – 11:40 *Rihab Ben Ameer, Lionel Valet and Didier Coquin, A Fusion System for Tree Species Recognition Through Leaves and Barks*
- 11:40 – 12:00 *Satoru Hiwa, Yuuki Kohri, Keisuke Hachisuka and Tomoyuki Hiroyasu, Region-of-Interest Extraction of fMRI data using Genetic Algorithms*

- 10:00 – 12: 00**     **CIES Session 1, Room 3B**  
*Chairs: Catherine Huang and Vladik Kreinovich*
- 10:00 – 10:20     *Ingrid Kovacs, Alexandra Iosub, Marina Topa, Andi Buzo and Georg Pelz, A Novel Entropy-Based Sensitivity Analysis Approach for Complex Systems*
- 10:20 – 10:40     *Christian Braune and Rudolf Kruse, Fuzzy Density Based Clustering with Generalized Centroids*
- 10:40 – 11:00     *Hannes Klee, Michael Buchholz, Torben Materna and Klaus Dietmayer, Towards Generic Communication Interfaces of Existing Applications*
- 11:00 – 11:20     *Christos Varytimidis, Georgios Tsatiris, Konstantinos Rapantzikos and Stefanos Kollias. A systemic approach to automatic metadata extraction from multimedia content*
- 11:20 – 11:40     *Matthias Gringard and Andreas Kroll, On the parametrization of APRBS and multisine test signals for the identification of nonlinear dynamic TS-models*
- 11:40 – 12:00     *Anthony Welte, Luc Jaulin, Martine Ceberio and Vladik Kreinovich, Robust Data Processing in the Presence of Uncertainty and Outliers: Case of Localization Problems*
- 10:00 – 12: 00**     **CIHLI Session 1, Special Session** on “Multitasking and Knowledge Transfer in Evolutionary Computation”  
Room 4A  
*Chairs: Ramon Sagarna, Yew-Soon Ong*
- 10:00 – 10:20     *Abhishek Gupta and Yew-Soon Ong, Genetic Transfer or Population Diversification? Deciphering the Secret Ingredients of Evolutionary Multitask Optimization*
- 10:20 – 10:40     *Lei Zhou, Liang Feng, Jinghui Zhong, Siwei Jiang, Yew-Soon Ong, Zexuan Zhu and Edwin Sha, Evolutionary Multitasking in Combinatorial Search Spaces: A Case Study in Capacitated Vehicle Routing Problem*
- 10:40 – 11:00     *Ramon Sagarna and Yew Soon Ong, Concurrently Searching Branches in Software Tests Generation through Multitask Evolution*
- 11:00 – 11:20     *Xiyang Du, Mengchen Ji, Zhengyang Li and Bo Liu, Scheduling of Stochastic Distributed Assembly Flowshop under Complex Constraints*
- 11:20 – 11:40     *Dawid Połap and Marcin Woźniak, On manipulation of initial population search space in heuristic algorithm through the use of parallel processing approach*
- 11:40 – 12:00     *Joe Allen and Ron Sun, Emotion Contagion in a Cognitive Architecture*
- 10:00 – 12: 00**     **CIVTS Session 1, Room 4B**  
*Chairs: Tobias Rodemann, Rémi Delassus*
- 10:00 – 10:20     *Tobias Rodemann, Lars Graening and Ken Nishikawa, Automatic Energy Management Controller Design for Hybrid Electric Vehicles*
- 10:20 – 10:40     *Touihri Alaa, Dridi Olfa and Krichen Saoussen, A multi Operator Genetic Algorithm For Solving The Capacitated Vehicle Routing Problem with Cross-Docking Problem*
- 10:40 – 11:00     *Rémi Delassus, Romain Giot, Raphaël Cherrier, Gabriele Barbieri and Guy Melançon, Broken Bikes Detection Using CitiBike Bikeshare System Open Data*
- 11:00 – 11:20     *Bernhard Schlegel and Bernhard Sick, Design and optimization of an autonomous feature*

- selection pipeline for high dimensional, heterogeneous feature spaces
- 11:20 – 11:40 *Yifu Liu, Paul Watta, Bochen Jia and Yi, Murphey*, Contextual Vehicle Position Detection using V2V Communication with Application to Pre-crash Detection and Warning
- 11:40 – 12:00 *Hamzah Al Najada and Imad Mahgoub*, Anticipation and Alert System of Congestions and Accidents in VANET Using Big Data Analysis for Intelligent Transportation Systems
- 10:00 – 12: 00** **ADPRL Session 1, Special Session** on “New daptive dynamic programming and reinforcement learning approaches for smart and complex cyber-physical systems”,  
**Room Olympia**  
*Chairs: Zhen Ni, Hao Xu*
- 10:00 – 10:20 *Hao Xu*, Finite Horizon Optimal Control and Communication Co-design for Uncertain Networked Control System with Transmit Power Constraint
- 10:20 – 10:40 *Avijit Das, Zhen Ni and Xiangnan Zhong*, Near Optimal Control for Microgrid Energy Systems Considering Battery Lifetime Characteristics
- 10:40 – 11:00 *Gokhan Cetin, M.Sami Fadali and Hao Xu*, Model-free Q-learning Optimal Resource Allocation in Uncertain Communication Networks
- 11:00 – 11:20 *Dongbin Zhao, Haitao Wang, Kun Shao and Yuanheng Zhu*, Deep Reinforcement Learning with Experience Replay Based on SARSA
- 11:20 – 11:40 *Tommaso Mannucci and Erik-Jan van Kampen*, A Hierarchical Maze Navigation Algorithm with Reinforcement Learning and Mapping
- 11:40 – 12:00 *Arryon Tijisma, Madalina Drugan and Marco Wiering*, Comparing Exploration Strategies for Q-learning in Random Stochastic Mazes
- 12:00 – 13:00 Lunch break
- 13:00 – 14:00 **Plenary 2, Room Olympia**  
Smart Buildings: a Platform for Computational Intelligence, *Marios Polycarpou, Univ. of Cyprus*  
*Chair: Andreas Stafylopatis*
- 14:00 – 16:00** **CIASG Session 2, Special Session on “Intelligent management of micro grids and buildings”**  
Room 1A  
*Chairs: Zita Vale and Oscar Garcia*
- 14:00 – 14:20 *Quoc-Tuan Tran, Ngoc-An Luu and Tung Lam Nguyen*, Optimal Energy Management Strategies of Microgrids
- 14:20 – 14:40 *Filipe Fernandes, Douglas Alves, Tiago Pinto, Fabricio Takigawa, Rubiapiara Fernandes, Hugo Morais, Zita Vale and Nelson Kagan*, Intelligent Energy Management using CBR: Brazilian Residential Consumption Scenario
- 14:40 – 15:00 *Eugenia Vinagre, Juan Francisco De Paz Santana, Tiago Pinto, Zita Vale, Juan M. Corchado and Oscar Garcia*, Intelligent Energy Forecasting based on the Correlation between Solar Radiation and Consumption patterns

- 15:00 – 15:20 *Dyego de Campos, Edison A. C. Aranha Neto, Rubiapiara C. Fernandes, Ines Hauer and André Richter*, Optimal tariff system for integration of distributed resources based on a comparison of Brazil's and Germany's system
- 15:20 – 15:40 *Isabel Praça, Joao Soares, Luis Gomes, Eugenia Vinagre, Zita Vale and Lamya Abdeljalil Belhaj*, Shared Intelligence for smart grids management - An EVESSI scenario for the Profitability of EV Frequency regulation in France
- 15:40 – 16:00 *João Spinola, Pedro Faria and Zita Vale*, Energy Resource Aggregator Managing Active Consumer Demand Programs

**14:00 - 16:00 SIS Session 2, Room 1B**

*Chairs: Jun Zhang, Antonino Di Stefano*

- 14:00 – 14:20 *Emer Bernal, Oscar Castillo and Jose Soria*, A fuzzy logic approach for dynamic adaptation of parameters in galactic swarm optimization
- 14:20 – 14:40 *Mohammed El-Abd*, Cooperative Coevolution using The Brain Storm Optimization Algorithm
- 14:40 – 15:00 *Frank Vanhoenshoven, Gonzalo Nápoles, Mathijs Creemers, Maikel Leon Espinosa and Koen Vanhoof*, Analyzing the Impact of the Adaptive Clearing Mechanism on Algorithm Accuracy
- 15:00 – 15:20 *Wen Shi, Wei-Neng Chen, Qiang Yang and Jun Zhang*, A Multi-optimizer Cooperative Coevolution Method for Large Scale Optimization
- 15:20 – 15:40 *Antonino Di Stefano, Alessandro Vitale, Vincenzo Cutello and Mario F. Pavone*, How long should Offspring Lifespan be in order to obtain a proper exploration?
- 15:40 – 16:00 *Mehmet D. Erbas*, On the Mechanisms of Imitation in Multi-Agent Systems

**14:00 – 16:00 CiFER Session 2, Room 2A**

*Chairs: Robert Golan, Nikos Loukeris*

- 14:00 – 14:20 *Vasilios Tsalavoutis, Constantinos Vrionis and Athanasios Tolis*, An Enhanced Real Coded Approach for the Optimization of the Unit Commitment Problem
- 14:20 – 14:40 *José M. Merigó, Fabio Blanco, Anna Maria Gil Lafuente and Ronald Yager*, A Bibliometric Analysis of the First Thirty Years of the International Journal of Intelligent Systems
- 14:40 – 15:00 *Petrônio Silva, Frederico Guimarães and Hossein Sadaei*, Interval Forecasting with Fuzzy Time Series
- 15:00 – 15:20 *Nalan Basturk, Rui Jorge Almeida, Robert Golan and Uzay Kaymak*, Multivariate Time-Varying Volatility Modeling using Probabilistic Fuzzy Systems
- 15:20 – 15:40 *Víctor Gerardo Alfaro-García, José María Merigó Lindahl and Anna Maria Gil-Lafuente*, Induced Generalized Ordered Weighted Logarithmic Aggregation Operators
- 15:40 – 16:00 *Hsin-Tsung Peng, William Hsu, Jan-Ming Ho and Min-Ruey Yu*, Homomorphic Encryption Application on FinancialCloud Framework

**14:00 – 16:00 DL, Room 2B**

*Chairs: Dongbin Zhao, Milos Manic*

- 14:00 – 14:20 *Le Lv, Dongbin Zhao and Qingqiong Deng, Image Clustering Based on the Deep Sparse Representations*
- 14:20 – 14:40 *Emmanuel Okafor, Pornntiwa Pawara, Faik Karaaba, Olarik Surinta, Valeriu Codreanu, Lambert Schomaker and Marco Wiering, Comparative Study Between Deep Learning and Bag of Visual Words for Wild-Animal Recognition*
- 14:40 – 15:00 *Zongqing Lu, Wenjian Zhang and Qingmin Liao, Pedestrian Detection Aided by Scale-Discriminative Network*
- 15:00 – 15:20 *Stanislau Semeniuta and Erhardt Barth, Image Classification with Recurrent Attention Models*
- 15:20 – 15:40 *Savitha Ramasamy, Kit Yan Chuan, Phyo Phyo San, Sai Ho Ling and Suresh Sundaram, A Hybrid Deep Boltzmann Functional Link Network for Classification Problems*

**14:00 – 16:00 FASLIP Session 2, Room 3A**

*Chairs: Bing Xue, Angelo Menezes*

- 14:00 – 15:00 **Keynote Speech**  
*Feature Grouping in Big Dimensionality, Yew Soon Ong*
- 15:00 – 15:20 *Andrew Lensen, Bing Xue and Mengjie Zhang, Particle Swarm Optimisation Representations for Simultaneous Clustering and Feature Selection*
- 15:20 – 15:40 *Gracieth Batista, Washington Silva and Angelo Menezes, Automatic Speech Recognition Using Support Vector Machine and Particle Swarm Optimization*
- 15:40 – 16:00 *Bing Xue, Mitchell Lane, Ivy Liu and Mengjie Zhang, Dimension Reduction in Classification using Particle Swarm Optimisation and Statistical Variable Grouping Information*

**14:00 – 16:00 IA, Room 3B**

*Chairs: Diego de Siqueira Braga, Alain-Jérôme Fougères*

- 14:00 – 14:20 *Franz Pieper and Sanaz Mostaghim, Influence of Dynamic Environments on Agent Strategies*
- 14:20 – 14:40 *Johannes Ponge, Diego de Siqueira Braga, Dennis Horstkemper, Bernd Hellingrath, Stephan Ludwig and Fernando Buarque de Lima Neto, Automated Scalable Modeling for Population Microsimulations*
- 14:40 – 15:00 *Alain-Jérôme Fougères, From quantum cognition to quantum agents: illustration of the superposition state property*
- 15:00 – 15:20 *Carlos Alberto Severiano Junior, Frederico Gadelha Guimarães and Miri Weiss Cohen, Very short-term solar forecasting using multi-agent system based on extreme learning machines and data clustering*
- 15:20 – 15:40 *Branko Miloradovic, Baran Çürüklü and Mikael Ekström, A genetic planner for mission planning of cooperative agents in an underwater environment*

15:40 – 16:00 *Mahdi Moeini, Daniel Schermer and Oliver Wendt, Swarm of Agents for Guarding an Art Gallery: A Computational Study*

**14:00 - 16:00 ICES Session 1, Room 4A**

*Chairs: Gianluca Tempesti, Jim Harkin*

14:00 – 14:20 *Matthew Rowlings, Andy Tyrrell and Martin Trefzer, Hardware Implementation of Social-Insect-Inspired Adaptive Many-Core Task Allocation*

14:20 – 14:40 *Žiga Rojec, Árpád Búrmen and Iztok Fajfar, An Evolution-Driven Analog Circuit Topology Synthesis*

14:40 – 15:00 *Jan Nevoral, Richard Ruzicka and Vojtech Mrazek, Evolutionary Design of Polymorphic Gates Using Ambipolar Transistors*

15:00 – 15:20 *Lukas Sekanina, Filip Vaverka and Radek Hrbacek, Evolving Component Library for Approximate High Level Synthesis*

15:20 – 15:40 *Zdenek Vasicek, Vojtech Mrazek and Lukas Sekanina, Evolutionary Functional Approximation of Circuits Implemented into FPGAs*

15:40 – 16:00 *Colin Bonney, Pedro Campos, Nizar Dahir and Gianluca Tempesti, Fault Tolerant Task Mapping on Many-Core Arrays*

**14:00 – 16:00 CIDM Session 1, Room 4B**

*Chairs: Marcin Woźniak, Dionisis Margaritis*

14:00 – 14:20 *Robertas Damasevicius, Remigijus Valys and Marcin Woźniak, Intelligent tagging of online texts using fuzzy logic*

14:20 – 14:40 *Xiaodi Huang, Weidong Huang and Wei Lai, UIP: Estimating True Rating Scores of Services through Online User Communities*

14:40 – 15:00 *Abdulrahman Al-Molegi, Mohammed Jabreel and Baraa Ghaleb, STF-RNN: Space Time Features-based Recurrent Neural Network for Predicting People Next Location*

15:00 – 15:20 *Dionisis Margaritis and Costas Vassilakis, Pruning and Aging for User Histories in Collaborative Filtering*

15:20 – 15:40 *Hajjat Salehinejad and Shahryar Rahnamayan, Customer Shopping Pattern Prediction: A Recurrent Neural Network Approach*

15:40 – 16:00 *Ali Idri and Ibtissam Abnane, Evaluating Fuzzy Analogy with Incomplete Software Projects data*

**14:00 – 16:00 CICS Session 1, Room Olympia**

*Chairs: Dipankar Dasgupta, Madalina Drugan*

14:00 – 14:20 *Julio Navarro-Lara, Pierre Parrend and Aline Deruyver, Morwilog: an ACO-based System for Outlining Multi-Step Attacks*

14:20 – 14:40 *Saeed M. Alqahtani and Robert John, A Comparative Study of Different Fuzzy Classifiers for Cloud Intrusion Detection Systems' Alerts*

14:40 – 15:00 *Madalina Drugan, A Bayesian model for anomaly detection in SQL databases for security systems*



- 15:00 – 15:20 *Hanan Hibshi, Travis D. Breaux and Christian Wagner, Improving Security Requirements Adequacy: An Interval Type 2 Fuzzy Logic Security Assessment System*
- 15:20 – 15:40 *Nitin Naik, Big Data Security Analysis Approach Using Computational Intelligence Techniques in R for Desktop Users*
- 16:00 – 16:15 Coffee break
- 16:15 – 18:15 CiDUE Session 1, Room 1A**  
*Chairs: Robi Polikar, Shengxiang Yang*
- 16:15 – 16:35 *Marta Vallejo and David Corne, Evolutionary Algorithms under Noise and Uncertainty: a location-allocation case study*
- 16:35 – 16:55 *Xingguang Peng and Zhe Shi, Finding Informative Collaborators for Cooperative Co-evolutionary Algorithms Using a Dynamic Multi-population Framework*
- 16:55 – 17:15 *Loukia Karanikola and Isambo Karali, Dempster-Shafer Logical Model for Fuzzy Description Logics*
- 17:15 – 17:35 *Aman Soni, Peter Lewis and Aniko Ekart, Offline and Online Time in Sequential Decision-Making Problems*
- 17:35 – 17:55 *Muhammad Umer, Christopher Frederickson and Robi Polikar, Learning Under Extreme Verification Latency Quickly: FAST COMPOSE*
- 17:55 – 18:15 *Shaaban Sahmoud and Haluk Topcuoglu, Sensor-Based Change Detection Schemes for Dynamic Multi-Objective Optimization Problems*
- 16:15 – 18:15 CIR2AT, Room 1B**  
*Chairs: Georgios Kouroupetroglou, Konstantinos Tsiakas*
- 16:15 – 16:35 *Eleni Efthimiou, Stavroula-Evita Fotinea, Theodore Goulas, Maria Koutsombogera, Panagiotis Karioris, Anna Vacalopoulou, Isidoros Rodomagoulakis, Petros Maragos, Costas Tzafestas, Yiannis Koumpouros, Alexandra Karavasili, Panagiotis Siavelis, Foteini Koureta and Despoina Alexopoulou, The MOBOT Rollator Human-Robot Interaction Model and User Evaluation Process*
- 16:35 – 16:55 *Otilia Kocsis, Lukas Smirek, Ignacio Peinado, Eva de Lera, Till Riedel, Gottfried Zimmermann, Nadia Fendrich and Gregg Vanderheiden, DSpace: an Inclusive Repository for Cost-Efficient Development of Accessible Control Interfaces*
- 16:55 – 17:15 *Jim Torresen, Andreas Høyer Iversen and Ralf Greisiger, Data from Past Patients used to Streamline Adjustment of Levels for Cochlear Implant for New Patients*
- 17:15 – 17:35 *Rami Khushaba, Ahmed Al-Ani, Ali Al-Timemy and Adel Al-Jumaily, A Fusion of Time-Domain Descriptors for Improved Myoelectric Hand Control*
- 17:35 – 17:55 *Tanvir Anwar and Adel Al Jumaily, Estimation of Angle Based on EMG Using ANFIS*
- 17:55 – 18:15 *Konstantinos Tsiakas, Maher Abujelala, Alexandros Lioulemes and Fillia Makedon, An Intelligent Interactive Learning and Adaptation Framework for Robot-Based Vocational Training*

- 16:15 – 18:15**      **CIEL, Room 2A**  
*Chairs: Yong Liu, Tao Ban*
- 16:15 – 16:35      *Matthias Sommer, Anthony Stein and Joerg Haehner, Local Ensemble Weighting in the Context of Time Series Forecasting Using XCSF*
- 16:35 – 16:55      *Ufuk Yolcu, Yaochu Jin and Erol Egrioglu, An Ensemble of Single Multiplicative Neuron Models for Probabilistic Prediction*
- 16:55 – 17:15      *Y. Liu, Negative Selections in Ensemble Learning*
- 17:15 – 17:35      *Michael Milliken, Yaxin Bi, Leo Galway and Glenn Hawe, Multi-objective optimization of base classifiers in StackingC by NSGA-II for intrusion detection*
- 17:35 – 17:55      *Petar Veličković, Duo Wang, Nicholas D. Lane and Pietro Liò, X-CNN: Cross-modal Convolutional Neural Networks for Sparse Datasets*
- 17:55 – 18:15      *Tao Ban and Daisuke Inoue, Feature Subset Selection by SVM Ensemble*
- 16:15 – 18:15**      **CICARE Session 1, Room 2B**  
*Chairs: Michael Lewis, Santosh Tirunagari*
- 16:15 – 16:35      *Christina Klüver, Steering Clustering of medical data in a Self-Enforcing Network (SEN) with a Cue Validity Factor*
- 16:35 – 16:55      *Chao-Hui Huang and Emarene Kalaw, Automated Classification for Pathological Prostate Images using AdaBoost-based Ensemble Learning*
- 16:55 – 17:15      *Santosh Tirunagari, Simon Bull, Aki Vehtari, Christopher Farmer, Simon De Lusignan and Norman Poh, Automatic Detection of Acute Kidney Injury Episodes from Primary Care Data*
- 17:15 – 17:35      *Farhana Zulkernine, Daniel Lafreniere, David Barber and Ken Martin, Using Machine Learning to Predict Hypertension from a Clinical Dataset*
- 17:35 – 17:55      *Marta Vallejo, Jeremy Cosgrove, Jane E. Alty, Stuart Jamieson, Stephen L. Smith, David Corne and Michael A. Lones, Exploring Diagnostic Models of Parkinson's Disease with Multi-Objective Regression*
- 17:55 – 18:15      *Anqi Li, Michael Lewis, Christian Lebiere, Katia Sycara, Shehzaman Khatib, Yuqing Tang, Matthew Siedsma and Don Morrison, A Computational Model Based on Human Performance for Fluid Management in Critical Care*
- 16:15 – 18:15**      **MBEA Session 1, Special Session on “Data-Driven Evolutionary Optimization of Computationally Expensive Problems”**  
**Room 3A**  
*Chairs: Yew Soon Ong, Chaoli Sun*
- 16:15 – 16:35      *Ahsanul Habib, Hemant Singh and Tapabrata Ray, A Study on the Effectiveness of Constraint Handling Schemes within Efficient Global Optimization Framework*
- 16:35 – 16:55      *Samineh Bagheri, Wolfgang Konen and Thomas Bäck, Online Selection of Surrogate Models for Constrained Black-Box Optimization*
- 16:55 – 17:15      *Pepijn van Heiningen, Bas van Stein and Thomas Bäck, A Framework for Evaluating Meta-models for Simulation-based Optimisation*

- 17:15 – 17:35 *Haibo Yu, Yin Tan, Chaoli Sun, Jianchao Zeng and Yaochu Jin*, An Adaptive Model Selection Strategy for Surrogate-Assisted Particle Swarm Optimization Algorithm
- 17:35 – 17:55 *Jie Tian, Yin Tan, Chaoli Sun, Jianchao Zeng and Yaochu Jin*, A Self-adaptive Similarity-based Fitness Approximation for Evolutionary Optimization
- 17:55 – 18:15 *Xingyi Zhang, Ye Tian, Ran Cheng and Yaochu Jin*, Empirical Analysis of A Tree-based Efficient Non-dominated Sorting Approach for Many-Objective Optimization
- 16:15 – 18:15 FOCI Session 1, Special Session on “Emerging techniques in Computational Intelligence”  
Room 3B**  
*Chairs: Swati Aggarwal, Pietro Oliveto*
- 16:15 – 16:35 *María Pérez Ortiz, Pedro Antonio Gutiérrez, Mariano Carbonero-Ruz and César Hervás-Martínez*, Adapting Linear Discriminant Analysis to the Paradigm of Learning from Label Proportions
- 16:35 – 16:55 *Said Broumi, Assia Bakali, Mohamed Talea and Florentin Smarandache*, Application of Dijkstra Algorithm for Solving Interval Valued Neutrosophic Shortest Path Problem
- 16:55 – 17:15 *Anna Sergeevna Bosman, Andries Engelbrecht and Marde Helbig*, Search Space Boundaries in Neural Network Error Landscape Analysis
- 17:15 – 17:35 *Ilanthenral Kandasamy and Florentin Smarandache*, Triple Refined Indeterminate Neutrosophic Sets for Personality Classification
- 17:35 – 17:55 *Stefan Zuin, Manuel Escudero López, Francesc Moll, Antonio Rubio, Ioannis Vourkas and Georgios Sirakoulis*, Experience on Material Implication Computing With an Electromechanical Memristor Emulator
- 17:55 – 18:15 *Sander van Rijn, Hao Wang, Matthijs van Leeuwen and Thomas Bäck*, Evolving the Structure of Evolution Strategies
- 16:15 – 18:15 CICA Session 1, Room 4A**  
*Chairs: Benson Christalin, Yoshihiko Miyasato*
- 16:15 – 16:35 *Enso Ikonen, Kaddour Najim and Alfonso Garcia-Cerezo*, MacPherson suspension system modeling and control with MDP
- 16:35 – 16:55 *Adèle Boche, Jean-Loup Farges and Henry De Plinval*, A continuous and discrete framework for reconfiguration of control of faulty systems
- 16:55 – 17:15 *Yoshihiko Miyasato*, Adaptive H-infinity Consensus Control of Euler-Lagrange Systems on Directed Network Graph
- 17:15 – 17:35 *Wufan Wang, Xiaming Yuan and Jihong Zhu*, Automatic PID Tuning via Differential Evolution for Quadrotor UAVs Trajectory Tracking
- 17:35 – 17:55 *Benson Christalin, Michele Colledanchise, Petter Ögren and Richard Murray*, Synthesis of Reactive Control Protocols for Switch Electrical Power Systems for Commercial Application with Safety Specifications
- 17:55 – 18:15 *Tsung Hsien Yu*, The Closed-Form Solution of the Control Related States of Deficient Gen-Left k-th order System (the essential element of non-sharing subnet) of Petri Nets

**16:15 – 18:15 CIDM Session 2, Room 4B**

*Chairs: Jose Gamez, Christian Braune*

- 16:15 – 16:35 *Milan Pospíšil, Vladimír Bartík and Tomáš Hruška, Analyzing Machine Performance Using Data Mining*
- 16:35 – 16:55 *Juan A Aledo, Jose Gamez, David Molina and Alejandro Rosete, FSS-OBOP: Feature subset selection guided by a bucket order consensus ranking*
- 16:55 – 17:15 *Alexander Dockhorn, Christian Braune and Rudolf Kruse, Variable Density Based Clustering*
- 17:15 – 17:35 *Anirudh Alampally, Uday Kiran R, Krishna Reddy P and Masaru Kitsuregawa, Memory Efficient Mining of Periodic-Frequent Patterns in Transactional Databases*
- 17:35 – 17:55 *Safouane Cherki, Parisa Rastin, Guénaël Cabanes and Basarab Matei, Improved Sparse Prototyping for Relational K-means*
- 17:55 – 18:15 *Ali Idri and Safae Cherradi, Improving Effort Estimation of Fuzzy Analogy using Feature Subset Selection*

**16:15 – 18:15 CIES Session 2, Special Session on “Computational Intelligence in for Industrial Applications”, Room Olympia**

*Chairs: Catherine Huang and Vladik Kreinovich*

- 16:15 – 16:35 *Razvan Andonie, Anne Johansen, Amy Mumma, Holly Pinkart and Szilard Vajda, Cost efficient prediction of Cabernet Sauvignon wine quality*
- 16:35 – 16:55 *Kailong Liu, Kang Li, Jianhua Zhang and Mingming Lin, Modeling of Organic Rankine Cycle for Waste Heat Recovery Using RBF Neural Networks*
- 16:55 – 17:15 *Bruno Cunha, Ana Madureira, Joao Paulo Pereira and Ivo Pereira, Evaluating the Effectiveness of Bayesian and Neural Networks for Adaptive Scheduling Systems*
- 17:15 – 17:35 *Ibrahim Hameed, Robin T. Bye and Ottar L. Osen, Grey wolf optimizer (GWO) for Automated Offshore Crane Design*
- 17:35 – 17:55 *Ilianna Kollia and Georgios Siolas, Using the IBM Watson Cognitive System in Educational Contexts*
- 17:55 – 18:15 *Martin Poellot, Dominic Springer, Ralph Schleifer, Dieter Niederkorn and André Kaup, Identification of Irregular Motion in Automotive Navigation Systems Using Novelty Detection*

**18:15 – 19:00 Poster Session 1, Room Foyer of Olympia,**

*Chair: Ran Cheng, George Alexandridis*

*Pekka Siirtola, Heli Koskimäki and Juha Röning, Personal models for eHealth - improving user-dependent human activity recognition models using noise injection*

*Heli Koskimäki and Pekka Siirtola, Model Update in Wearable Sensors Based Human Activity Recognition*

*George Moustris and Costas Tzafestas, Intention-Based Front-Following Control for an Intelligent Robotic Rollator in Indoor Environments*

*Dhivyaprabha T T, Subashini P and Krishnaveni M, Computational Intelligence Based Machine Learning Methods For Rule-Based Reasoning In Computer Vision Applications*

*Saeed Mirghasemi, Peter Andrae, Mengjie Zhang and Ramesh Rayudu, Severely Noisy Image Segmentation via Wavelet Shrinkage Using PSO and Fuzzy C-Means*

*Koichi Sato, Junbo Wang and Zixue Cheng, Detecting Real-time Events using Tweets*

*Cheng-Hsiung Hsieh, Chun-Yu Chen and You-Jun Dai, Single Image Dehazing Based on Pixel Minimum Channel*

*Matthias Becker, Larissa Chazette and Helena Szczerbicka, Basic Algorithms for Bee Hive Monitoring and Laser-based Mite Control*

*Hassan Ibrahim, Mahmoud A. Sakr and Walid M. Aly, Metro Timetable optimization From Passenger Perspective Based on Simulation Models And Incomplete Data of Passenger Flow*

*Amjad Ullah, Jingpeng Li, Yindong Shen and Amir Hussain, Genetic optimization of fuzzy membership functions for cloud resource provisioning*

*Thomas Forss and Peter Sarlin, From News to Company Networks: Co-occurrence, sentiment, and information centrality*

*Muddu Madakyaru, Fouzi Harrou and Ying Sun, Improved Anomaly Detection Using Multi-scale PLS and Generalized Likelihood Ratio Test*

19:30 – 21:00 *Reception for Women, Students and Young Professionals in CIS, **Panorama Hall***

### **Thursday, December 8, 2016**

- 8:30 – 9:30** **Plenary 3**, Room Olympia  
Cooperative Intelligence - Beyond Autonomy, *Bernhard Sendhoff, Honda Res. Inst. Europe*  
*Chair: Yaochu Jin*
- 9:30 – 10:00 Coffee Break
- 10:00 – 12:00** **CISDA Session 1, Room 1A**  
*Chairs: Rafael Falcon, Jason Rhineland*
- 10:00 – 10:20 *Anthony Pinar, Joseph Rice, Timothy Havens, Matthew Masarik, Joseph Burns and Derek Anderson, Explosive Hazard Detection with Feature and Decision Level Fusion, Multiple Kernel Learning, and Fuzzy Integrals*
- 10:20 – 10:40 *Fred Ma and Slawomir Wesolkowski, Estimating Force Mix Lower Bounds Using a Multi-*

- objective Evolutionary Algorithm
- 10:40 – 11:00 *Robert Hammell, Timothy Hanratty and Sheng Miao*, Empirical Study on Combining Complementary and Contradictory Information in a Fuzzy-based System
- 11:00 – 11:20 *Abhinav Anand, Ruggero Donida Labati, Angelo Genovese, Enrique Muñoz, Vincenzo Piuri, Fabio Scotti and Gianluca Sforza*, Enhancing Fingerprint Biometrics in Automated Border Control with Adaptive Cohorts
- 11:20 – 11:40 *Jason Rhinelanders*, Feature Extraction and Target Classification of Side-Scan Sonar Images
- 11:40 – 12:00 *Mustafa Çöçelli and Ethem Arkin*, A Threat Evaluation Model for Small-Scale Naval Platforms with Limited Capability
- 10:00 – 12:00 ADPRL Session 2, Special Session on “Fundamental Theory and Applications of ADP and Reinforcement Learning to Smart Grid”**  
**Room 1B**  
*Chairs: Qiuye Sun and Marco Wiering*
- 10:00 – 10:20 *Wang Chong*, Frequency Stabilization Design for Interconnected Microgrid based on T-S Fuzzy Model with Multiple Time Delays
- 10:20 – 10:40 *Jingwei Hu, Qiuye Sun and Fei Teng*, A Game-Theoretic Pricing Model for Energy Internet in Day-Ahead Trading Market Considering Distributed Generations Uncertainty
- 10:40 – 11:00 *Yihui Zuo and Xiangjun Li*, Game Theory Applied in System of Renewable Power Generation with HVDC Out-sending Facilitated by Hundred Megawatts Battery Energy Storage Station
- 11:00 – 11:20 *Qinglai Wei, Ruizhuo Song and Derong Liu*, Iterative Q-Learning-Based Nonlinear Optimal Tracking Control
- 11:20 – 11:40 *Sahas Shyamsundar, Tommaso Mannucci and Erik-Jan van Kampen*, Reinforcement Learning based Algorithm with Safety Handling and Risk Perception
- 11:40 – 12:00 *Mathijs Pieters and Marco Wiering*, Q-learning with Experience Replay in a Dynamic Environment
- 10:00 – 12:00 CIHLI Session 2, Room 2A**  
*Chairs: Janusz Starzyk, Jacek Mańdziuk*
- 10:00 – 10:20 *Sébastien Harispe, Jacky Montmain and Massissilia Medjkoune*, Summarizing Conceptual Descriptions using Knowledge Representations
- 10:20 – 10:40 *Seng-Beng Ho and Fiona Liausvia*, A Ground Level Causal Learning Algorithm
- 10:40 – 11:00 *Yilan Li, Zhe Li and Qinru Qiu*, Assisting Fuzzy Offline Handwriting Recognition Using Recurrent Belief Propagation
- 11:00 – 11:20 *Janusz Starzyk, James Graham and Adrian Horzyk*, Trust in Motivated Learning Agents
- 11:20 – 11:40 *Jacek Mańdziuk and Maciej Świechowski*, Simulation-based approach to Vehicle Routing Problem with Traffic Jams
- 11:40 – 12:00 *Adrian Horzyk, Janusz A. Starzyk and Fnu Basawaraj*, Emergent creativity in declarative memories

- 10:00 – 12:00**      **MCDM Session 2, Special Session on “Evolutionary Multi-Objective Optimization”**  
**Room 2B**  
*Chairs: Sanaz Mostaghim, Kaisa Miettinen*
- 10:00 – 10:20      *Rui Wang, Hisao Ishibuchi, Yan Zhang, Xiaokun Zheng and Tao Zhang,* On the effect of localized PBI method in MOEA/D for multi-objective optimization
- 10:20 – 10:40      *Luciano Cruz, Flavia Bernardo, Roberto Freire, Leandro Coelho and Gilberto Reynoso-MezaRBF,* Neural Network combined with Self-Adaptive MODE and Genetic Algorithm to Identify Velocity Profile of Swimmers
- 10:40 – 11:00      *Zhun Fan, Wenji Li, Xinye Cai, Hui Li, Han Huang, Zhaoquan Cai and Caiming Wei,* An Improved Epsilon Constraint Handling Method Embedded in MOEA/D for Constrained Multi-objective Optimization Problems
- 11:00 – 11:20      *Shouyong Jiang, Shengxiang Yang and Miqing Li,* On The Use of Hypervolume for Diversity Measurement of Pareto Front Approximations
- 11:20 – 11:40      *Miriam Pescador-Rojas and Carlos A. Coello-Coello,* A Novel Local Search Mechanism Based on the Reflected Ray Tracing Method Coupled to MOEA/D
- 11:40 – 12:00      *Oded Maler and Abhinav Srivastav,* Double Archive Pareto Local Search
- 10:00 – 12:00**      **RiiSS Session 1, Special Issue on “Robot System Integration in Human Life”**  
**Room 3A**  
*Chairs: Chu Kiong Loo, Takenori Obo*
- 10:00 – 10:20      *Wei Quan and Kubota Naoyuki,* Stereo Surveillance System for Fall Detection
- 10:20 – 10:40      *Hossein Ghaffari Nik and Nathalia Peixoto,* Assessment of Evolutionary Processes - Experiments on Self-Organizing Behavior of E-pucks
- 10:40 – 11:00      *Pei-Wei Tsai, Jing Zhang, Yao He, Li-Hui Yang, Jui-Fang Chang and Wein-Duo Yang,* IABC Robotic Evolutionary Model for the Foreign Exchange Rate Prediction in Central America Trading Agreement Events
- 11:00 – 11:20      *Naoki Masuyama and Chu-Kiong Loo,* Growing Neural Gas with Correntropy Induced Metric
- 11:20 – 11:40      *Mutsumi Iwasa, Naoyuki Kubota and Takenori Obo,* Motion Generation of Multi-Legged Robot by using Knowledge Transfer in Rough Terrain
- 11:40 – 12:00      *Yoshifumi Kokubo, Eri Sato-Shimokawara and Toru Yamaguchi,* Movement Support System of Telepresence Robot Based on Operating Skill
- 10:00 – 12:00**      **FOCI Session 2, Special Session on “Unconventional Computing: From concepts to Prototypes”**  
**Room 3B**  
*Chairs: Georgios Sirakoulis, Pietro Oliveto*
- 10:00 – 10:20      *Jonathan Edwards and Simon O'Keefe,* Eager Recirculating Memory to Alleviate the Von Neumann Bottleneck
- 10:20 – 10:40      *Silvia Battistoni, Regina Burganova and Victor Erokhin,* Organic memristive device as transistor: working principle and possible applications

- 10:40 – 11:00 *Yiqi Deng, Peter Bentley and Momshad Dinuri Alvee, Improving Artificial-Immune-System-Based Computing by Exploiting Intrinsic Features of Computer Architectures*
- 11:00 – 11:20 *Kai Ming Chang, Maurits R. R. de Planque and Klaus-Peter Zauner, Fabricating Millifluidic Reaction-Diffusion Devices: Droplet-in-Oil Networks Structured by Laser Cutting*
- 11:20 – 11:40 *David Pelta, Virgilio C. Guzmán and Jose Luis Verdegay, Fuzzy maximal covering location models for fighting dengue*
- 11:40 – 12:00 *Arina Buzdalova, Irina Petrova and Maxim Buzdalov, Runtime Analysis of Different Approaches to Select Conflicting Auxiliary Objectives in the Generalized OneMax Problem*
- 10:00 – 12:00 ICES Session 2, Special Session on “Evolutionary Robotics”**  
**Room 4A**  
*Chairs: Jim Torresen, Kyrre Glette*
- 10:00 – 10:20 *Milan Jelisavcic, Matteo De Carlo, Evert Haasdijk and A.E. Eiben, Improving RL Power for On-Line Evolution of Gaits in Modular Robots*
- 10:20 – 10:40 *Boris Mocialov, Patricia A Vargas and Micael S Couceiro, Towards the Evolution of Indirect Communication for Social Robots*
- 10:40 – 11:00 *Vojtech Vonasek and Jan Faigl, Evolution of multiple gaits for modular robots*
- 11:00 – 11:20 *Anthony Clark, Byron Devries, Jared Moore, Betty Cheng and Philip Mckinley, An Evolutionary Approach to Discovering Execution Mode Boundaries for Adaptive Controllers*
- 11:20 – 11:40 *Else-Line Ruud, Eivind Samuelsen and Kyrre Glette, Memetic Robot Control Evolution and Adaption to Reality*
- 11:40 – 12:00 *Tønnes F. Nygaard, Jim Torresen and Kyrre Glette, Multi-objective Evolution of Fast and Stable Gaits on a Physical Quadruped Robotic Platform*
- 10:00 – 12:00 CIDM Session 3, Special Session on “Mining the sky: knowledge discovery in big and complex astronomical data sets and data streams”**  
**Room 4B**  
*Chairs: Erzsébet Merényi, George Djorgovski*
- 10:00 – 10:20 *Sven Dennis Kügler, Nikolaos Gianniotis and Kai Lars Polsterer, A Spectral Model for Multimodal Redshift Estimation*
- 10:20 – 10:40 *Kinjal Dhar Gupta, Renuka Pampana, Ricardo Vilalta, Emille Ishida and Rafael de Souza, Automated Supernova Ia Classification Using Adaptive Learning Techniques*
- 10:40 – 11:00 *Erzsébet Merényi, Joshua Taylor and Andrea Isella, Mining Complex Hyperspectral ALMA Cubes for Structure with Neural Machine Learning*
- 11:00 – 11:20 *Stefano Cavuoti, Massimo Brescia, Valeria Amaro, Civita Vellucci, Guiseppe Longo and Crescenzo Tortora, Probability density estimation of photometric redshifts based on machine learning*
- 11:20 – 11:40 *Aaron Pope, Daniel Tauritz and Alexander Kent, Evolving Random Graph Generators: A Case for Increased Algorithmic Primitive Granularity*
- 11:40 – 12:00 *Aaron Pope, Daniel Tauritz, A. Kent, Evolving Multi-level Graph Partitioning Algorithms*



- 10:00 – 12:00**      **SDE Session 1, Room Olympia**  
*Chairs: George Stamou, Jinliang Ding*
- 10:00 – 10:20      *Adam Viktorin, Roman Senkerik, Michal Pluhacek and Ales Zamuda, Steady Success Clusters in Differential Evolution*
- 10:20 – 10:40      *Hojjat Salehinejad and Shahryar Rahnamayan, Effects of Centralized Population Initialization in Differential Evolution*
- 10:40 – 11:00      *Xinran Ma and Jinliang Ding, A Preferred Learning Based Adaptive Differential Evolution Algorithm for Large Scale Optimization*
- 11:00 – 11:20      *Sedigheh Mahdavi, Shahryar Rahnamayan and Kalyanmoy Deb. Partial Opposition-based Learning Using Current Best Candidate Solution*
- 11:20 – 11:40      *Uroš Mlakar, Janez Brest, Iztok Jr. Fister and Iztok Fister, A study of Chaotic maps in Differential Evolution applied to gray-level Image Thresholding*
- 11:40 – 12:00      *Iztok Jr. Fister, Janez Brest, Uroš Mlakar and Iztok Fister, Towards the universal framework of stochastic nature-inspired population-based algorithms*
- 12:00 – 13:00      Lunch Break
- 13:00 – 14:00**      **Plenary 4, Room Olympia**  
*EC at Work: Opportunities and Challenges, K C Tan, National Univ. Singapore*  
*Chair: George Alexandridis*
- 14:00– 16:00**      **ISIC, Room 1A**  
*Chairs: Qiangfu Zhao, Cheng-Hsiung Hsieh*
- 14:00 – 14:20      *Evgeny Pyshkin and Matvei Pyshkin, Towards Better Requirement Definition for Multimedia Travel Guiding Applications*
- 14:20 – 14:40      *Evgeny Pyshkin, Maxim Mozgovoy, Alexander Chisler and Yulia Volkova, Striving with Online Addiction with a Self-Control Chrome Extension*
- 14:40 – 15:00      *Masato Hashimoto, Yuya Kaneda and Qiangfu Zhao, An ELM-Based Privacy Preserving Protocol for Cloud Systems*
- 15:00 – 15:20      *Yuya Kaneda, Qiangfu Zhao and Yong Liu, On-Line Training with Guide Data: Shall We Select the Guide Data Randomly or Based on Cluster Centers?*
- 15:20 – 15:40      *Yilang Wu, William Putnam, Junbo Wang and Zixue Cheng, A Wireless Peer-to-Peer Broadcast Model for Emergency Vehicles Using Automotive Networking*
- 15:40 – 16:00      *Nitin Naik, Applying Computational Intelligence for Enhancing the Dependability of Multi-Cloud Systems Using Docker Swarm*
- 14:00 – 16:00**      **SIS Session 3, Room 1B**  
*Chairs: Ashraf Abdelbar, Vaishali Kulkarni*
- 14:00 – 14:20      *J.B. Monteiro Filho, I.M.C. Albuquerque, F.B. Lima Neto and F.V.S. Ferreira, Optimizing multi-plateau functions with FSS-SAR (Stagnation Avoidance Routine)*

- 14:20 – 14:40 *Vaishali Kulkarni, Veena Desai and Raghavendra Kulkarni*, Multistage Localization in Wireless Sensor Networks using Artificial Bee Colony Algorithm
- 14:40 – 15:00 *Zhicheng Zhou, Biao Yuan, Pengfei Xiao and Chaoyong Zhang*, A modified honey bees mating optimization algorithm for assembly line balancing problem
- 15:00 – 15:20 *Hadi Nobahari, Mohsen Raoufi and Alireza Sharifi*, A Heuristic Filter Based on Firefly Algorithm for Nonlinear State Estimation
- 15:20 – 15:40 *Ashraf Abdelbar and Khalid Salama*, Ant Colony Optimization Applied to the Optimization Process of a High Order Neural Network
- 15:40 – 16:00 *Dalia Bouallouche, Jean-Baptiste Vioix, Eric Busvelle and Stéphane Millot*, Drivers-Inspired Ants for Solving the Vehicle Routing Problem with Time Windows

**14:00 – 16:00** **CiFER Session 3, Room 2A**  
*Chairs: Nikos Loukeris, Robert Golan*

- 14:00 – 15:00 **Keynote Speech**  
 Directional Changes: a new way to look at market dynamics, *Edward Tsang*
- 15:00 – 15:20 *Luis Jairo Montesdeoca Bermudez and Mahesan Niranjan*, Extending the feature set of a data-driven artificial neural network model of pricing financial options
- 15:20 – 15:40 *Ernesto Leon Castro, Ezequiel Aviles Ochoa, José M. Merigó and Anna Maria Gil Lafuente*, Forgotten effects and heavy moving averages in exchange rate
- 15:40 – 16:00 *Andrew Todd, Peter Beling, William Scherer and Steve Yang*, Agent-based financial markets: A review of the methodology and domain

**14:00– 16:00** **CIVTS Session 2, Room 2B**  
*Chairs: Tobias Rodemann, Yi Lu Murphy*

- 14:00 –15:00 **Keynote Speech**  
 Computational Intelligence in Vehicles and Transportation Systems, *Yi Lu Murphy*
- 15:00 – 15:20 *Manuel Acosta, Stratis Kanarachos and Mike Blundell*, Vehicle agile maneuvering: From rally drivers to a finite state machine approach
- 15:20 – 15:40 *Elnaz Limouchi and Imad Mahgoub*, BEFLAB: Bandwidth Efficient Fuzzy Logic-Assisted Broadcast for VANET
- 15:40 – 16:00 *Yue Dai, Qianyi Wang, Yi Murphey, Shiqi Qiu, Johannes Kristinsson and Jason Meyer*, Dynamic Prediction of Drivers’ Personal Routes through Machine Learning

**14:00 – 16:00** **MBEA Session 2, Special session on “Data-Driven Evolutionary Optimization of Computationally Expensive Problems”**  
**Room 3A**  
*Chairs: Chaoli Sun, Ran Cheng*

- 14:00 – 14:20 *Dan Guo, Tianyou Chai, Jinliang Ding and Yaochu Jin*, Small Data Driven Evolutionary Multi-objective Optimization of Fused Magnesium Furnaces
- 14:20– 14:40 *Xuhua Shi, Chudong Tong and Li Wang*, Evolutionary Optimization with Adaptive Surrogates and its Application in Crude Oil Distillation

- 14:40– 15:00 *Anqi Pan, Lei Wang, Weian Guo and Dongyang Li*, A multi-swarm approach to multiobjective synthesis of linear antenna array design
- 15:00– 15:20 *Nikolaos Makrymanolakis, Magdalene Marinaki and Yannis Marinakis*, Data Mining Parameters' Selection Procedure Applied to a Multi-Start Local Search Algorithm for the Permutation Flow Shop Scheduling Problem
- 15:20– 15:40 *Tao Lin, Ke Zhang, Naigang Cui, Zhenbiao Tu and Hu Zhang*, Path Planning of Aircraft Based on Adaptive Multiobjective Estimation of Distribution Algorithm
- 15:40– 16:00 *Oksana Shadura and Federico Carminati*, Stochastic performance tuning of complex simulation applications using unsupervised machine learning

**14:00– 16:00 CIPLS, Room 3B**

*Chairs: Julia Pahl, Erwin Pesch*

- 14:00 – 14:20 *Erwin Pesch, Mikhail Y. Kovalyov, Dominik Kress and Sebastian Meiswinkel*, Decentralized Sequencing of Jobs on a Single Machine
- 14:20 – 14:40 *Sophie Jacquin, Emilie Allart, Fanny Dufossé and Laetitia Jourdan*, Decoder-based Evolutionary Algorithm for bi-objective Just-in-Time Job-shop
- 14:40 – 15:00 *Mustapha Haouassi, Chloé Desdouits, Rodolphe Giroudeau and Claude Le Pape*, Production scheduling with a piecewise-linear energy cost function
- 15:00 – 15:20 *El Houssein Chouaib Harik, François Guérin, Frédéric Guinand, Jean-François Brethé and Hervé Pelvillain*, Towards An Autonomous Warehouse Inventory Scheme
- 15:20 – 15:40 *Julia Pahl and Stefan Voss*, Load Dependent Lead Times and Sustainability
- 15:40 – 16:00 *Oliver Meyer and Claus Weihs*, Statistical Analysis of sequential Process Chains based on Errors-in-Variables Models

**14:00– 16:00 CICA Session 2, Room 4A**

*Chairs: Mehrdad Saif, Karam Sallam*

- 14:00 – 14:20 *Tim Oliver Heinz and Oliver Nelles*, Efficient Pole Optimization of Nonlinear Laguerre Filter Models
- 14:20 – 14:40 *Julian Belz, Tim Oliver Heinz and Oliver Nelles*, Automated Order Determination Strategies for Nonlinear Dynamic Models
- 14:40 – 15:00 *José A. R. Vargas, Emerson Grzeidak and Sadek C. A. Alfaro*, Identification of unknown nonlinear systems based on multilayer neural networks and Lyapunov theory
- 15:00 – 15:20 *Fouzi Harrou, Muddu Madakyaru and Ying Sun*, Nonlinear Partial Least Squares with Hellinger Distance for Nonlinear Process Monitoring
- 15:20 – 15:40 *Maryam Farajzadeh-Zanjani, Roozbeh Razavi-Far and Mehrdad Saif*, Efficient Sampling Techniques for Ensemble Learning and Diagnosing Bearing Defects under Class Imbalanced Condition
- 15:40 – 16:00 *Karam Sallam, Saber Elsayed, Ruhul Sarker and Daryl Essam*, Two-phase Differential Evolution Framework for Solving Optimization Problems

- 14:00 – 16:00**     **CIDM Session 4, Special Session on “Computational Intelligence Applications in Bioinformatics”**  
**Room 4B**  
*Chairs: Ali Reza Khanteymoori, Syoji Kobashi*
- 14:00 – 14:20     *Abeer Alzubaidi, Georgina Cosma, David Brown and A. Graham Pockley, A New Hybrid Global Optimization Approach for Selecting Clinical and Biological Features that are Relevant to the Effective Diagnosis of Ovarian Cancer*
- 14:20 – 14:40     *Samaneh Kouchaki, Santosh Tirunagari, Avraam Tapinos and David L Robertson, Local Binary Patterns as a Feature Descriptor in Alignment-Free Visualisation of Metagenomic Data*
- 14:40 – 15:00     *Zhun Fan, Jiewei Lu and Yibiao Rong, Automated Blood Vessel Segmentation of Fundus Images Using Region Features of Vessels*
- 15:00 – 15:20     *Sinem Sav, David J. D. Hampson and Herbert H. Tsang, SIMARD: A Simulated Annealing Based RNA Design Algorithm with Quality Pre-Selection Strategies*
- 15:20 – 15:40     *Lin Zhang, Steffen Walter, Xueyao Ma, Philipp Werner, Ayoub Al-Hamadi, Harald C. Traue and Sascha Gruss, “BioVid Emo DB”: A Multimodal Database for Emotion Analyses validated by Subjective Ratings*
- 15:40 – 16:00     *Anwar Saeed, Ayoub Al-Hamadi and Sebastian Handrich, Advancement in the head pose estimation via depth-based face spotting*
- 14:00 – 16:00**     **CICS Session 2, Room Olympia**  
*Chairs: Gerry Dozier, Mustafa Hajeer*
- 14:00 – 14:20     *Kul Prasad Subedi, Dipankar Dasgupta and Bo Chen, Security Analysis on InfiniBand Protocol Implementations*
- 14:20 – 14:40     *Neal Wagner, Cem Sahin, Michael Winterrose, James Riordan, Jaime Pena, Diana Hanson and William Streilein, Towards Automated Cyber Decision Support: A Case Study on Network Segmentation for Security*
- 14:40 – 15:00     *Stefan Burschka and Benoit Dupasquier, Tranalyzer: Versatile High Performance Network Traffic Analyser*
- 16:00 – 16:15     Coffee Break
- 16:15 – 18:15**     **CiDUE Session 2, Room 1A**  
*Chairs: Shengxiang Yang, Robi Polikar*
- 16:15 – 16:35     *Joseph Alexander Brown and Daniel Ashlock, Multiple Worlds Model of Evolution for Demographic Appropriate Radio Playlists*
- 16:35 – 16:55     *Jayne Eaton and Shengxiang Yang, Railway Platform Reallocation After Dynamic Perturbations Using Ant Colony Optimisation*
- 16:55 – 17:15     *Darren Chitty, Mario Gongora and Shengxiang Yang, Evolutionary Dynamic Optimisation of Airport Security Lane Schedules*

- 17:15 – 17:35 *Roozbeh Razavi-Far and Mehrdad Saif*, Ensemble of extreme learning machines for diagnosing bearing defects in non-stationary environments under class imbalance condition
- 17:35 – 17:55 *Jessica Bonson, Andy McIntyre and Malcolm Heywood*, On Novelty Driven Evolution in Poker
- 17:55 – 18:15 *Jaspreet Bassan and Marcus Dos Santos*, Classifying Streaming Data using Grammar-based Immune Programming
- 16:15 – 18:15 ADPRL Session 3, Room 1B**  
*Chairs: Dongbin Zhao, Madalina Drugan*
- 16:15 – 17:15 **Keynote Speech**  
Robust Adaptive Dynamic Programming with Applications to Power Systems and Neuroscience, *Zhongping Jiang*,
- 17:15 – 17:35 *Simone Parisi, Alexander Blank, Tobias Viernickel and Jan Peters*, Local-utopia Policy Selection for Multi-objective Reinforcement Learning
- 17:35 – 17:55 *Toru Hishinuma and Kei Senda*, Robust and Explorative Behavior in Model-based Bayesian Reinforcement Learning
- 17:55 – 18:15 *Zhentao Tang, Dongbin Zhao, Kun Shao and Le Lv*, ADP with MCTS algorithm for Gomoku
- 16:15 – 18:15 CiFER Session 4, Room 2A**  
*Chairs: Nikos Loukeris, Robert Golan*
- 16:15 – 16:35 *Felipe B. Oriani and Guilherme P. Coelho*, Evaluating the Impact of Technical Indicators on Stock Forecasting
- 16:35 – 16:55 *Vasco Grossmann and Manfred Schimmler*, Portfolio-based Contract Selection in Future Commodity Markets
- 16:55 – 17:15 *Gobind Preet Singh, Ruppa Thulasiram and Parimala Thulasiraman*, Non-Dominant Sorting Firefly Algorithm for Pricing American Option
- 17:15 – 17:35 *Amer Bakhach, Edward P K Tsang and Hamid Jalalian*, Forecasting Directional Changes in the FX Markets
- 17:35 – 17:55 *Haizhou Qu and Dimitar Kazakov*, Quantifying Correlation between Financial News and Stocks
- 16:15 – 18:15 CICARE Session 2, Room 2B**  
*Chairs: Tatiana Tambouratzis, Babagana Modu*
- 16:15 – 17:15 **Keynote Speech**  
*Collective classification: fundamentals and applications*, Kaizhu Huang
- 17:15 – 17:35 *Zeynep Didem Unutmaz Durmusoglu and Pinar Kocabey ÇİfÇİ*, Classification of Smoking Status: The Case of Turkey
- 17:35 – 17:55 *Ward van Breda, Mark Hoogendoorn, Gusz Eiben, Gerhard Andersson, Heleen Riper, Jeroen Ruwaard and Kristofer Vernmark*, A feature representation learning method for temporal datasets

- 17:55 – 18:15 *Babagana Modu, A. Taufiq Asyhari and Yonghong Peng, Data Analytics of Climatic Predictor Influence on the Impact of Malaria Incidence*
- 16:15 – 18:15 FASLIP Session 3, Room 3A**  
*Chairs: Juha Karhunen, Bing Xue*
- 16:15 – 16:35 *Evgenia Papavasileiou and Bart Jansen, A comparison between FS-NEAT and FD-NEAT and an investigation of different initial topologies for a classification task with irrelevant features*
- 16:35 – 16:55 *Chen Zhao, Mark van Heeswijk and Juha Karhunen, Air Quality Forecasting using Neural Networks*
- 16:55 – 17:15 *Yuanlong Yu, Liyan Xie and Zhiyong Huang, An Object Tracking Method Using Extreme Learning Machine with Online Learning*
- 17:15 – 17:35 *Binh Tran, Mengjie Zhang and Bing Xue, Multiple Feature Construction in High-Dimensional Data Using Genetic Programming*
- 17:35 – 17:55 *Huy Quang Pham, Alioune Ngom and Luis Rueda, PAFS – an efficient method for classifier-specific feature selection*
- 17:55 – 18:15 *Pierre Willaume, Pierre Parrend, Aline Deruyver and Etienne Gancel, Harmony Search: Graph Matching Optimization for thin object recognition in Pick and Place tasks*
- 16:15 – 18:15 CIES Session 3, Room 3B**  
*Chairs: Vladik Kreinovich, Catherine Huang*
- 16:15 – 17:15 **Keynote Speech**  
*Challenges and Opportunities in Cybersecurity Intelligence, Catherine Huang, Intel USA*
- 17:15 – 17:35 *Camilo Caraveo, Fevrier Valdez, Oscar Castillo and Patricia Melin, A new metaheuristic algorithm based on the self-defense process of the plants in nature*
- 17:35 – 17:55 *María Pérez Ortiz, Pedro Antonio Gutierrez, José Manuel Peña, Jorge Torres-Sánchez, Francisca López-Granados and César Hervás-Martínez, Machine Learning paradigms for Weed Mapping via Unmanned Aerial Vehicles*
- 17:55 – 18:15 *Petr Dolezel, Pavel Škrabánek and Lumir Gago Pattern Recognition Neural Network as a Tool for Pest Birds Detection*
- 16:15 – 18:15 CIBD, Room 4A**  
*Chairs: Spencer Thomas, Seiichi Ozawa*
- 16:15 – 16:35 *Yosuke Kamikawaji, Haruki Matsuyama, Ken-Ichi Fukui, Shigeki Hosoda and Satoshi Ono, Decision Tree-based Feature Function Design in Conditional Random Field Applied to Error Detection of Ocean Observation Data*
- 16:35 – 16:55 *Spencer Thomas, Alan M. Race, Rory T. Steven, Ian S. Gilmore and Josephine Bunch, Dimensionality Reduction of Mass Spectrometry Imaging Data using Autoencoders*
- 16:55 – 17:15 *Mustafa Hajeer and Dipankar Dasgupta, Distributed Genetic Algorithm to Big Data Clustering*

- 17:15 – 17:35 *Andreas Antoniadis, Clive Cheong Took and Yaochu Jin, An improved mini-batching technique: Sample-and-Learn*
- 17:35 – 17:55 *Tuan Pham, Entropy Rates of Physiological Aging on Microscopy*
- 17:55 – 18:15 *Seiichi Ozawa, Shun Yoshida, Jun Kitazono, Takahiro Sugawara and Tatsuya Haga, A Sentiment Polarity Prediction Model Using Transfer Learning and Its Application to SNS Flaming Event Detection*

**16:15 – 18:15 CIDM Session 5, Room 4B**

*Chairs: Friedhelm Schwenker, Andreas Nürnberger*

- 16:15 – 16:35 *Erik Zamora and Humberto Sossa, Dendrite Morphological Neurons Trained by Stochastic Gradient Descent*
- 16:35 – 16:55 *Siamak Mehrkanoon and Johan A.K. Suykens, Scalable Semi-Supervised Kernel Spectral Learning using Random Fourier Features*
- 16:55 – 17:15 *Ali Haidar and Brijesh Verma, A Genetic Algorithm Based Feature Selection Approach for Rainfall Forecasting in Sugarcane Areas*
- 17:15 – 17:35 *Giovanni Acampora, Genoveffa Tortora and Autilia Vitiello, Comparison of Multi-objective Evolutionary Algorithms for Prototype Selection in Nearest Neighbor Classification*
- 17:35 – 17:55 *Lei Zhu, Tao Ban, Kazushi Ikeda, Paul Pang and Abdolhossein Sarrafzadeh, Distributed Incremental wLPSVM Learning*
- 17:55 – 18:15 *Willem S. van Heerden and Andries P. Engelbrecht, An Investigation into the Effect of Unlabeled Neurons on Self-Organizing Maps*

**16:15 – 18:15 CIASG Session 3, Room Olympia**

*Chairs: Kumar Venayagamoorthy, Zita Vale*

- 16:15 – 17:15 **Keynote Speech**  
A multi-agent based platform for effective management and real-time simulation of smart grids, *Zita Vale, P.*
- 17:15 – 17:35 *Andre Gensler, Bernhard Sick and Stephan Vogt, A Review of Deterministic Error Scores and Normalization Techniques for Power Forecasting Algorithms*
- 17:35 – 17:55 *Usman Sanusi and David Corne, Improving forecast accuracy for grid demand and renewables supply with pattern-match features*
- 17:55 – 18:15 *Denise M. Case and Chrysostomos D. Stylios, Introducing Fuzzy Cognitive Map Modeling Power Market Auction Behavior*

**20:30 – 23:00 Conference Banquet, Caravel Hotel**

## Friday, December 9, 2016

- 8:30– 9:30**      **Plenary 5, Room Olympia**  
Cognitive Dialog Systems, *Lazaros Polymenakos, IBM, USA*  
*Chair: Stefanos Kollias*
- 9:30– 10:00      Coffee Break
- 10:00 – 12:00**      **FOCI Session 3, Room 1A**  
*Chairs: Ojeda Aciego, Pietro Oliveto*
- 10:00 – 10:20      *Ryouei Takahashi, Empirical Evaluation of Changing Crossover Operators to Solve Function Optimization Problems*
- 10:20– 10:40      *Xiao-Bing Hu, Ming-Kong Zhang and Jian-Qin Liao, A Ripple-Spreading Algorithm for Network Performance Assessment*
- 10:40 – 11:00      *Emanuel Diamant, Computational Intelligence: are you crazy? Since when has intelligence become computational?*
- 11:00 – 11:20      *Antonio M. Durán-Rosal, Juan C. Fernández, Pedro A. Gutiérrez and César Hervás-Martínez, Hybridization of neural network models for the prediction of extreme significant wave height segments*
- 11:20 – 11:40      *Tatyana Polevaya and Maxim Buzdalov, Preserving Diversity in Auxiliary Objectives Provably Speeds Up Crossing Plateaus*
- 11:40 – 12:00      *David Shorten and Geoff Nitschke, Neutral Network Assortativity Shapes Whether Selective Pressure Promotes or Hinders Robustness*
- 10:00 – 12:00**      **SIS Session 4, Room 1B**  
*Chairs: Andreas Stafylopatis, Parimala Thulasiram*
- 10:00– 11:00      **Keynote Speech**  
Total Memory Optimiser: Concept and Compromises, *Maurice Clerc*
- 11:00 – 11:20      *Han-Yu Xie, Qiang Yang, Xiao-Min Hu and Wei-Neng Chen, Cross-Generation Elites Guided Particle Swarm Optimization for Large Scale Optimization*
- 11:20 – 11:40      *Michal Pluhacek, Tomas Kadavy, Roman Senkerik, Adam Viktorin and Ivan Zelinka, Comparing Selected PSO Modifications on CEC 15 Benchmark Set*
- 11:40 – 12:00      *Wayne Franz and Parimala Thulasiram, A Dynamic Cooperative Hybrid MPPO+GA on Hybrid CPU+GPU fused Multicore*
- 10:00 – 12:00**      **CIHLI Session 3, Room 2A**  
*Chairs: Jacek Mańdziuk, Janusz Starzyk*
- 10:00– 11:00      **Keynote Speech**  
Towards Human-Level Intelligence in Image Classification, *Lipo Wang,*
- 11:00 – 11:20      *Kathryn Merrick, Medria Hardhienata, Kamran Shafi and Jiankun Hu, Using Game Theory with Intrinsic Motivation to Examine Anti-Hacking Policies for Autonomous Systems*



- 11:20 – 11:40 *Xuejie Liu, Kathryn Merrick and Hussein Abbass, Designing Artificial Agents to Detect the Motive Profile of Users in Virtual Worlds and Games*
- 11:40 – 12:00 *Israel Dunk and Hussein Abbass, Emergence of Autonomy in Leader-Follower Bio-Inspired Systems*
- 10:00 – 12:00 MCDM Session 3, Room 2B**  
*Chairs: Kaisa Miettinen, Marde Helbig*
- 10:00 – 11:00 **Keynote Speech**  
Multi-objective Evolutionary Algorithms assisted by Artificial Neural Networks and Dimensionality Reduction Techniques – Industrial Applications, *Kyriakos Giannakoglou*
- 11:00 – 11:20 *Cristian Ramirez-Atencia, Gema Bello Orgaz, Maria D. R-Moreno and David Camacho, MOGAMR: A Multi-Objective Genetic Algorithm for Real-Time Mission Replanning*
- 11:20 – 11:40 *Marde Helbig, Padding the Dimensions for Knowledge Transfer in the Dynamic Vector Evaluated Particle Swarm Optimisation Algorithm*
- 11:40 – 12:00 *Daniel Horn and Bernd Bischl, Multi-Objective Parameter Configuration of Machine Learning Algorithms using Model-Based Optimization*
- 10:00 – 12:00 MBEA Session 3, Room 3A**  
*Chairs: Ran Cheng, Aimin Zhou*
- 10:00 – 10:20 *Bing Dong, Aimin Zhou and Guixu Zhang, A Hybrid Estimation of Distribution Algorithm with Differential Evolution for Global Optimization*
- 10:20 – 10:40 *Martin Hyrš and Josef Schwarz, Advanced Parallel Copula Based EDA*
- 10:40 – 11:00 *Dimitrios Kapsoulis, Kostantinos Tsiakas, Varvara Asouti and Kyriakos Giannakoglou, The use of Kernel PCA in Evolutionary Optimization for Computationally Demanding Engineering Applications*
- 11:00 – 11:20 *Fergal Lane, R. Muhammad Atif Azad and Conor Ryan, Principled Evolutionary Algorithm Search Operator Design and the Kernel Trick*
- 11:20 – 11:40 *Fernando Arce Vega, Erik Zamora Gomez, Juan Humberto Sossa Azuela and Ricardo Barrón Fernández, Dendrite Morphological Neural Networks Trained by Differential Evolution*
- 11:40 – 12:00 *Valérian Guivarch, Juan Francisco De Paz Santana, Gabriel Villarrubia, Javier Bajo, André Péninou and Valerie Camps, Hybrid system to analyze user's behaviour*
- 10:00 – 12:00 CIES Session 4, Room 3B**  
*Chairs: Catherine Huang and Vladik Kreinovich*
- 10:00 – 10:20 *Ferenc Leichsenring, Wolfgang Graf and Michael Kaliske, Spiking Response Model for Uniaxial Carbon Concrete Experimental Data*
- 10:20 – 10:40 *Aleksandar Josifovic and Jonathan Corney, Development of industrial process characterisation through data analysis*
- 10:40 – 11:00 *Isabela Maria Carneiro de Albuquerque, João Monteiro, Fernando B. De Lima Neto and Alany M. de Oliveira Silva, Solving assembly line balancing problems with Fish School Search algorithm*

- 11:00 – 11:20 *Erik H.A. Duisterwinkel, Gijs Dubbelman, Libertario Demi, Elena Talnishnikh, Jan W.M. Bergmans and Heinrich J. Woertche*, Mapping Swarms of Resource-Limited Sensor Motes: Solely Using Distance Measurements and Non-Unique Identifiers
- 11:20 – 11:40 *Sebastian Feld, Martin Werner and Claudia Linnhof-Popien*, Approximated Environment Features With Application to Trajectory Annotation
- 11:40 – 12:00 *Ádám Bukovics, István Á. Harmati and László T. Kóczy*, Modelling twofold uncertainty in the condition assessment of residential buildings using interval valued fuzzy signatures

**10:00 – 12:00 ICES Session 3, Room 4A**

*Chairs: Martin Trefzer, Lukas Sekanina*

- 10:00 – 10:20 *Jônata Tyska Carvalho and Stefano Nolfi*, Affordance Generation Enables Behavioral Plasticity and Cognitive Offloading in Evolving Robots
- 10:20– 10:40 *Kazi Shah Nawaz Ripon, Eirik Jakobsen, Christopher Tannum and Jean-Marc Montanier*, Assessing the Effect of Self-Assembly Ports in Evolutionary Swarm Robotics
- 10:40 – 11:00 *Roland Dobai, Jan Korenek and Lukas Sekanina*, Adaptive Development of Hash Functions in FPGA-Based Network Routers
- 11:00 – 11:20 *Alexander Erlank and Christopher Bridges*, The Satellite Stem Cell Architecture
- 11:20 – 11:40 *Matthew Dale, Julian Miller, Susan Stepney and Martin Trefzer*, Reservoir Computing in Materio: An Evaluation of Configuration through Evolution
- 11:40 – 12:00 *Dragana Laketic and Gunnart Tufte*, A Hierarchical View on Evolution-In-Materio Computations

**10:00 – 12:00 CIDM Session 6, Room 4B**

*Chairs: Lin Zhang, Friedhelm Schwenker*

- 10:00 – 11:00 **Keynote Speech**  
Adaptive Exploration of Information Spaces: Supporting Searching, Learning and Sensemaking, *Andreas Nürnberger*
- 11:00 – 11:20 11:00 – 11:20 *Johannes Pflug and Stefanie Rinderle-Ma*, Optimizing resource management during business process execution: A case study
- 11:20 – 11:40 *Dimitrios Koutsoukos, Georgios Alexandridis, Giorgos Siolas and Andreas Stafylopatis*, A new approach to session identification by applying fuzzy c-means clustering on web logs
- 11:40 – 12:00 *Fereshteh Jafariakinabad and Ken A. Hua*, Maximal Sequence Mining Approach for Topic Detection from Microblog Streams

**10:00 – 12:00 CIMSIVP, Room Olympia**

*Chairs: Khan Iftekharuddin, Ali Haider*

- 10:00 – 10:20 *Martin Velas, Thomas Fülhammer, Michal Spanel, Markus Vincze and Michael Zillich*, Improving Multi-view Object Recognition by Detecting Changes in Point Clouds
- 10:20– 10:40 *Rolando Miragaia*, Cartesian genetic programming applied to pitch estimation of piano notes

- 10:40 – 11:00 *Fatma Shaheen and Brijesh Verma*, An Ensemble of Deep Learning Architectures for Automatic Feature Extraction
- 11:00 – 11:20 *Nesrine Amor, Nidhal Bouaynaya, Petia Georgieva, Roman Shterenberg and Souad Chebbi*, EEG Dynamic Source Localization using Constrained Particle Filtering
- 11:20 – 11:40 *Dimitrios Kollias, Athanasios Tagaris and Andreas Stafylopatis*, On Line Emotion Detection Using Retractable Deep Neural Networks
- 11:40 – 12:00 *Pingling Deng and Lei Zhang*, Olfactory Target/Background Odor Detection via Self-expression Model
- 12:00 – 13:00 Lunch Break
- 13:00 – 15:00 FOCI Session 4, Room 1A**  
*Chairs: Ojeda Aciego, Pietro Oliveto*
- 13:00 – 14:00 **Keynote Speech**  
From complexity theory to better algorithms, *Benjamin Doerr*
- 14:00 – 14:20 *Emmanuel Liossis*, Bigram Constrained Linear Chain Conditional Random Fields
- 14:20 – 14:40 *José M. Merigó, Nabil Alrajeh and Marta Peris-Ortiz*, Induced Aggregation Operators in the Ordered Weighted Average Sum
- 14:40 – 15:00 *Inma P. Cabrera, Pablo Cordero and Manuel Ojeda-Aciego*, On fuzzy relations, functional relations, and adjunctions
- 13:00 – 15:00 FASLIP Session 4, Room 1B**  
*Chairs: Hiroomi Hikawa, Muhammad Ahmad*
- 13:00 – 13:20 *Masayoshi Ota, Yuto Kurosaki, Hidetaka Ito and Hiroomi Hikawa*, Effect of Grouping in Vector Recognition System Based on SOM
- 13:20 – 13:40 *Beatriz Gonzalez, Patricia Melin, Fevrier Valdez and German Prado-Arechiga*, Interval Type-2 Fuzzy Gravitational Search Algorithm for the Optimization of Modular Neural Networks in Echocardiogram Recognition
- 13:40 – 14:00 *Muhammad Ahmad*, Unsupervised Geometrical Feature Learning from Hyperspectral Data
- 14:00 – 14:20 *Faiza Bukenya, Joseph Ehling, Abdu Kalema, Imo Eyoh, John Robert and Li Bai*, 3D Segmentation of the Whole Heart Vasculature Using Otsu Thresholding and White Top-Hat Scale Space Hessian Based Vessel Enhancement Filter
- 14:20 – 14:40 *Óscar García, Ricardo S. Alonso, Fabio Guevara, Juan F. de Paz, Gabriel Villarrubia, Juan M. Corchado, Omid Abrishambaf and Zita Vale*, Use of Context-aware Social Computing to Improve Energy Efficiency in Public Buildings
- 13:00 – 15:00 CIHLI Session 4, Room 2A**  
*Chairs: Jacek Mańdziuk, Janusz Starzyk*
- 13:00 – 13:20 *Shinji Kikuchi, Keizo Kato, Junya Saito, Seiji Okura, Kentaro Murase, Takaya Yamamoto and Akira Nakagawa*, Deep Haiku: Quality Estimation for Japanese Short Poems by Deep Learning

- 13:20 – 13:40 *Noritsugu Nakamura, Michimasa Inaba, Kenichi Takahashi, Fujio Toriumi, Hirotaka Osawa, Daisuke Katagami and Kousuke Shinoda*, Constructing a Human-like agent for the Werewolf Game using a psychological model based multiple perspectives
- 13:40 – 14:00 *Maciej Swiechowski, Janusz Kacprzyk and Slawomir Zadrozny*, A novel game playing based approach to the modeling and support of consensus reaching in a group of agents
- 14:00 – 14:20 *Larissa Müller and Arne Bernin*, Physiological Data Analysis for an Emotional Provoking Exergame
- 14:20 – 14:40 *Sherif Abdelfattah, Kathryn Merrick and Hussein Abbass*, Eye Movements as Information Markers in EEG Data
- 14:40 – 15:00 *Faiyaz Doctor, Charalampos Karyotis, Rahat Iqbal and Anne James*, An Intelligent Framework for Emotion Aware E-Healthcare Support Systems
- 13:00 – 15:00** **CIVTS Session 3, Special Session on “Computational Intelligence in Aerospace Sciences & Engineering”**  
**Room 2B**  
*Chairs: Annalisa Riccardi, Christie Maddock*
- 13:00 – 13:20 *Víctor Rodríguez Fernández, Antonio Gonzalez-Pardo and David Camacho*, Finding Behavioral Patterns of UAV Operators using Multichannel Hidden Markov Models
- 13:20 – 13:40 *Alessandro Mogavero*, Configurational optimizer of Combined Cycle Propulsion using Genetic Programming.
- 13:40 – 14:00 *Massimiliano Vasile and Lorenzo Ricciardi*, A Direct Memetic Approach to the Solution of Multi-Objective Optimal Control Problems
- 14:00 – 14:20 *Emmanuel Kieffer, Gregoire Danoy, Pascal Bouvry and Anass Nagih*, Hybrid Mobility Model with Pheromones for UAV detection task
- 14:20 – 14:40 *Cheryl Sze Yin Wong, T.K. Venugopalan and S. Suresh*, A Multi-Objective Approach for 3D Airspace Sectorization: A Study on Singapore Regional Airspace
- 14:40 – 15:00 *Rolando Armas, Hernan Aguirre, Fabio Daolio and Kiyoshi Tanaka*, An effective EA for short term evolution with small population for traffic signal optimization
- 13:00 – 15:00** **MCDM Session 4, Special Session on “Evolutionary Multi-Objective Optimization”**  
**Room 3A**  
*Chairs: Sanaz Mostaghim, Zhi-Hui Zhan*
- 13:00 – 13:20 *Wang Zi-Jia, Zhi-Hui Zhan and Jun Zhang*, Parallel Multi-Strategy Evolutionary Algorithm Using Message Passing Interface for Many-Objective Optimization
- 13:20 – 13:40 *Miyako Sagawa, Hernán Aguirre, Fabio Daolio, Arnaud Liefoghe, Bilel Derbel, Sébastien Verel and Kiyoshi Tanaka*, Learning Variable Importance to Guide Recombination
- 13:40 – 14:00 *Toshiki Kondoh, Tomoaki Tatsukawa, Akira Oyama, Takeshi Watanabe and Kozo Fujii*, Effects of Discrete Design-variable Precision on Real-Coded Genetic Algorithm
- 14:00 – 14:20 *Asep Maulana, Valerio Gametto, Diego Garlaschelli, Iryna Yevesyeva and Michael Emmerich*, Modularities Maximization in Multiplex Network Analysis Using Many-Objective Optimization
- 14:20 – 14:40 *David J. D. Hampson, Sinem Sav and Herbert H. Tsang*, Investigation of Multi-Objective Optimization Criteria for RNA Design

- 14:40 – 15:00 *Christiaan Scheepers and Andries Engelbrecht, Misleading Pareto Optimal Front Diversity Metrics: Spacing and Distribution*
- 13:00 – 15:00** **RiiSS Session 2, Room 3B**  
*Chairs: Hiroyuki Masuta, Takenori Obo*
- 13:00 – 13:20 *Justinas Miseikis, Kyrre Glette, Ole Jakob Elle and Jim Torresen, Multi 3D Camera Mapping for Predictive and Reflexive Robot Manipulator Trajectory Estimation*
- 13:20 – 13:40 *Amirhossein Shantia, Francesco Bidoia, Lambert Schomaker and Marco Wiering, Dynamic Parameter Update for Robot Navigation Systems through Unsupervised Environmental Situational Analysis*
- 13:40 – 14:00 *Hiroyuki Masuta, Tatsuo Motoyoshi, Ken'ichi Koyanagi, Kei Sawai and Toru Oshima, Plane Extraction using Point Cloud Data for Service Robot*
- 14:00 – 14:20 *Wei Hong Chin, Chu-Kiong Loo and Naoki Masuyama, Multi-Channel Bayesian ART for Robot Fusion Perception*
- 14:20 – 14:40 *Dalin Zhou, Yinfeng Fang, Janos Botzheim, Naoyuki Kubota and Honghai Liu, Bacterial Memetic Algorithm based Feature Selection for Surface EMG based Hand Motion Recognition in Long-term Use*
- 13:00 – 15:00** **ICES Session 4, Room 4A**  
*Chairs: Andy Tyrrell, Michal Bidlo*
- 13:00 – 14:00 **Keynote Speech**  
 From Biophysical Models of Brain Repair to Highly Adaptive Hardware, *Liam McDaid*
- 14:00 – 14:20 *Anju Johnson, David Halliday, Alan Millard, Andy Tyrrell, Jon Timmis, Junxiu Liu, Jim Harkin, Liam McDaid and Shvan Karim, An FPGA-based Hardware-Efficient Fault-Tolerant Astrocyte-Neuron Network*
- 14:20 – 14:40 *Sabre Didi and Geoff Nitschke, Hybridizing Novelty Search for Transfer Learning*
- 14:40 – 15:00 *George Martin, Jim Harkin, Liam McDaid, John Wade, Junxiu Liu and Fearghal Morgan, Astrocyte to Spiking Neuron Communication using Networks-on-Chip Ring Topology*
- 13:00 – 15:00** **CIDM Session 7, Room 4B**  
*Chairs: George Siolas, Hemant Singh*
- 13:00 – 13:20 *Mohammed Oussama Kherbouche, Nassim Laga and Pierre-Aymeric Masse, Towards a better assessment of event logs quality*
- 13:20 – 13:40 *Cong Liu, Boudewijn van Dongen, Nour Assy and Wil M.P. van der Aalst, Component Behavior Discovery from Software Execution Data*
- 13:40 – 14:00 *Niek Tax, Natalia Sidorova, Wil van der Aalst and Reinder Haakma, Heuristic Approaches for Generating Local Process Models through Log Projections*
- 14:00 – 14:20 *Quang Huynh, Hemant Singh and Taparata Ray, Improving Symbolic Regression through a Semantics Driven Framework*
- 14:20 – 14:40 *Yanzhu Liu, Xiaojie Li, Adams Wai Kin Kong and Chi Keong Goh, Learning from small data: a pairwise approach for ordinal regression*

14:40 – 15:00 *Klaus Ulmschneider and Birte Glimm, Semantic Exploitation of Implicit Patent Information*

**13:00 – 15:00 CICS Session 3, Special Session on “Cyber Security Measurement and Management”  
Room Olympia**

*Chairs: Frederick Sheldon, Ananth Abhishek Jillepalli*

13:00 – 13:20 *Dean Rogers, Orthus Authentication Protocol: Background Services*

13:20 – 13:40 *Alexander Krall, Michael Kuhl, Stephen Moskal and Shanchieh Yang, Assessing the Likelihood of Cyber Network Infiltration Using Rare-Event Simulation*

13:40 – 14:00 *Ananth Abhishek Jillepalli, Daniel Conte de Leon, Stu Steiner and Frederick Sheldon, HERMES: A High-Level Policy Language for High-Granularity Enterprise-wide Secure Browser Configuration Management*

14:00 – 14:20 *Nahla Murtada Ahmed, Measuring Cloud Security Risk by Mean Failure Cost*

14:20 – 14:40 *Daniel Conte de Leon, Venkata Anirudh Bhandari, Ananth Abhishek Jillepalli and Frederick Sheldon, Using a Knowledge and Policy-based Security Orchestration Tool to Reduce the Risk of Browser Compromise*

14:40 – 15:00 *Alejandro Martín, Alejandro Calleja, Héctor Menéndez, Juan Tapiador and David Camacho, ADROIT: Android malware detection using meta-information*

15:00 – 15:15 Coffee Break

**15:15 – 16:00 Poster Session 2, Room Foyer of Olympia**

*Chair: George Alexandridis, Ran Cheng*

*Pierfrancesco Cervellini, Angelo Menezes and Vijay Kumar Mago, Finding Trendsetters on Yelp*

*Stavros Nousias, John Lakoumentas, Aris Lalos, Dimitrios Kikidis, Konstantinos Moustakas, Konstantinos Votis and Dimitrios Tzovaras, Monitoring asthma medication adherence through content based audio classification*

*Feng Liu, Tao Zheng and Xia Hua, A Multi-Criteria Value Iteration Algorithm for POMDP problems*

*Weisheng Qian, Quan Liu, Zongzhang Zhang, Zhiyuan Pan and Shan Zhong, Policy Graph Pruning and Optimization in Monte Carlo Value Iteration for Continuous-State POMDPs*

*Yvonne Chueh, Angel Cataron and Razvan Andonie, Mortality Rate Modeling of Joint Lives and Survivor Insurance Contracts Tested by A Novel Unilateral Dependence Measure*  
*Edgar Galvan-Lopez and Ouassim Ait Elhara, Using Fitness Comparison Disagreements as a Metric for Promoting Diversity in Dynamic Optimisation Problems*

*Cheryl Sze Yin Wong and Suresh Sundaram, Preliminary study: Qualitative indicators in Multi-objective DIRECT framework*

*Mustafa Ayas and Ismail Altas, A Redundantly Actuated Ankle Rehabilitation Robot and Its Control Strategies*

*Emma Sloan, Marguerite Mcdaniel, William Nick, James Mayes and Albert Esterline, Structure and Evidence in Identity Cases*

*Muhammad Rizwan Tanweer, Abdullah Al-Dujaili and Suresh Sundaram, Multi-Objective Self Regulating Particle Swarm Optimization Algorithm for BMOBench Platform*

*Ryota Hanyu, Qiangfu Zhao and Yuya Kaneda, A New Protocol for On-line User Identification Based on Hand-writing Characters*

*Sriparna Saha, Rimita Lahiri, Amit Konar and Atulya K. Nagar, A Novel Approach To American Sign Language Recognition Using MAdaline Neural Network*

*Daniel L. Marino, Kasun Amarasinghe and Milos Manic, Simultaneous Generation-Classification Using LSTM*

*Ricardo Faia, Tiago Pinto and Zita Vale, GA Optimization Technique for Portfolio Optimization of Electricity Market Participation*

*Aria Jozi, Tiago Pinto, Isabel Praça, Francisco Silva, Brigida Teixeira and Zita Vale, Energy Consumption Forecasting based on Hybrid Neural Fuzzy Inference System*

*João Spinola, Pedro Faria and Zita Vale, Aggregation Validation Approach for the Management of Resources in a Smart Grid*

**16:00 – 18:00**

**CISDA Session 2, Room 1A**

*Chairs: Rafael Falcon, Vasileios Gkioulos*

16:00 – 16:20 *Martin Ussath, Feng Cheng and Christoph Meinel, Automatic Multi-Step Signature Derivation from Taint Graphs*

16:20 – 16:40 *Vasileios Gkioulos, Stephen Wolthusen, Adam Flizikowski, Anna Stachowicz, Dariusz Nogalski, Kamil Gleba and Joanna Sliwa, Interoperability of Security and Quality of Service Policies Over Tactical SOA*

16:40 – 17:00 *Duc C. Le, A. Nur Zincir-Heywood and Malcolm I. Heywood, Data Analytics on Network Traffic Flows for Botnet Behaviour Detection*

17:00 – 17:20 *Frank Vanhoenshoven, Gonzalo Nápoles, Rafael Falcon, Koen Vanhoof and Mario Koeppen, Detecting Malicious URLs using Machine Learning Techniques*

17:20 – 17:40 *Nicole Nichols, Mark Greaves, William Smith, Ryan Lamothe, Gianluca Longoni and Jeremy Teuton, Identification of Program Signatures From Cloud Computing System Telemetry Data*

17:40 – 18:00 *Rafael Falcon, Benjamin Desjardins, Rami Abielmona and Emil Petriu. Context-Driven Dynamic Risk Management for Maritime Domain Awareness*

**16:00 – 18:00 Hybrid Session 1 (SIS+CICA), Room 1B**

*Chairs: Haibin Duan, Mustafa Ayas*

- 16:00 – 16:20 *Rui Pinto, Joana Gonçalves, Henrique Lopes Cardoso, Eugénio Oliveira, Gil Gonçalves and Bruno Carvalho, A Facility Layout Planner Tool Based on Genetic Algorithms*
- 16:20 – 16:40 *David C. Alvarez-Charris, Héctor F. Satizábal, Andrés Pérez-Urbe and Jesús A. López, EvoBoids: Co-Design of a Physical and Virtual Game using Artificial Evolution*
- 16:40 – 17:00 *Zhuqing Liu, Haibin Duan, Yijun Yang and Xiaoguang Hu, Pendulum-like Oscillation Controller for UAV Based on Lévy-flight Pigeon-inspired Optimization and LQR*
- 17:00 – 17:20 *Christina Klüver and Jürgen Klüver, A Regulatory Algorithm (RGA) for Optimizing Examination Timetabling*
- 17:20 – 17:40 *Haitham Baomar and Peter Bentley, An Intelligent Autopilot System that Learns Flight Emergency Procedures by Imitating Human Pilots*
- 17:40 – 18:00 *Mustafa Ayas and Seddik Djouadi, Undetectable Sensor and Actuator Attacks for Observer Based Controlled Cyber-Physical Systems*

**16:00 – 18:00 CIVTS Session 4, Special session on “Computational Intelligence in Aerospace Sciences & Engineering”**

**Room 2A**

*Chairs: Annalisa Riccardi, Massimiliano Vasile*

- 16:00 – 16:20 *Carlos Sánchez-Sánchez, Dario Izzo and Daniel Hennes, Learning the optimal state-feedback using deep networks*
- 16:20 – 16:40 *Joerg H. Mueller, Carlos Sánchez-Sánchez, Luís F. Simões and Dario Izzo, Optimal Orderings of k-subsets for Star Identification*
- 16:40 – 17:00 *Daniel Hennes, Dario Izzo and Damon Landau, Fast approximators for optimal low-thrust hops between main belt asteroids*
- 17:00 – 17:20 *Aram Vroom, Marilena Di Carlo, Juan Manuel Romero Martin and Massimiliano Vasile, Optimal Trajectory Planning for Multiple Asteroid Tour Mission by Means of an Incremental Bio-Inspired Tree Search Algorithm*
- 17:20 – 17:40 *Manon Raap, Martin Zsifkovits and Stefan Pickl, Trajectory Optimization under Kinematical Constraints for Moving Target Search*
- 17:40 – 18:00 *Christie Maddock and Edmondo Minisci, Spaceplane Trajectory Optimisation with Evolutionary-Based Initialisation*

**16:00 – 18:00 CICARE Session 3, Room 2B**

*Chairs: Ilianna Kollia, Aki Härmä*

- 16:00 – 16:20 *Aki Härmä and Rim Helaoui, Probabilistic Scoring of Validated Insights for Personal Health Services*
- 16:20 – 16:40 *Mohammad Wedyan and Adel Al-Jumaily, Upper Limb Motor Coordination based Early Diagnosis in High Risk Subjects for Autism*



- 16:40 – 17:00 *Souhir Ben Souissi, Mourad Abed, Lahcen Elhiki, Philippe Fortemps and Marc Pirlot, Categorizing the suitability of an alternative for a subject*
- 17:00 – 17:20 *Francisco Javier Navarro Barron, Christian Wagner, Uwe Aickelin, Lynsey Green and Robert Ashford, Measuring Agreement on Linguistic Expressions in Medical Treatment Scenarios*
- 17:20 – 17:40 *Santosh Tirunagari, Simon Bull, Samaneh Kouchaki, Deborah Cooke and Norman Poh, Visualisation of Survey Responses using Self-Organising Maps: A Case Study on Diabetes Self-care Factors*
- 17:40 – 18:00 *Georgios Drakopoulos and Vasilis Megalooikonomou, A Higher Order Scheduling Policy With An Application To Biosignal Processing*
- 16:00 – 18:00 Hybrid Session 2 (CIComms + CIPLS), Room 3B**  
*Chairs: Andre Voß, Adrian Lauf*
- 16:00 – 16:20 *Andre Voß, Gabriel Guckenbiehl, Holger Schütt and Tobias Buer, An online storage strategy with dynamic bay reservations for container terminals*
- 16:20 – 16:40 *Adrian Emanoil Serbencu and Viorel Minzu, Hybridized Ant Colony System for Tasks to Workstations Assignment*
- 16:40 – 17:00 *Christopher Lowrance, Adrian Lauf and Mehmed Kantardzic, A Fuzzy-Based Machine Learning Model for Robot Prediction of Link Quality*
- 17:00 – 17:20 *Andrew Gravett, Mathys Du Plessis and Timothy Gibbon, Hybridising Ant Colony Optimisation with a Upper Confidence Bound algorithm for Routing and Wavelength Assignment in an Optical Burst Switching network*
- 17:20 – 17:40 *Ha Bui Van, Christophe Craeye and Shambhu Nath Jha, Fast Optimization of Large Antenna Arrays on Dielectric Layers using Surrogate Macro-Basis-Function Representations*
- 17:40 – 18:00 *Arash Nasrollahishirazi, Meghan Steinhaus, Matthew Agostinelli and Manbir Sodhi, Fuzzy Cell Genetic Algorithm Approach for Flexible Flow-Line Scheduling Model*
- 16:00 – 18:00 CISND, Room 4A**  
*Chairs: Rafael Falcon, Ruibin Bai*
- 16:00 – 16:20 *Jianjun Chen, Ruibin Bai, Haibo Dong, Rong Qu and Graham Kendall, A Dynamic Truck Dispatching Problem in Marine Container Terminal*
- 16:20 – 16:40 *Dzmitry Makatun, Jerome Lauret, Hana Rudova and Michal Sumbera, Network Flows for Data Distribution and Computation*
- 16:40 – 17:00 *Ruibin Bai, John R Woodward and Nachiappan Subramanian, A New Fast Large Neighbourhood Search for Service Network Design with Asset Balance Constraints*
- 17:00 – 17:20 *Huw Lloyd and Martyn Amos, A Highly Parallelized and Vectorized Implementation of Max-Min Ant System on Intel Xeon Phi*
- 17:20 – 17:40 *Fawaz Alanazi, Adaptive Thompson Sampling for Hyper-heuristics*
- 17:40 – 18:00 *Ken Reid, Jingpeng Li, Alistair McCormick and Gilbert Owusu, Variable Neighbourhood Search: A Case Study for a Highly-Constrained Workforce Scheduling Problem*
- 16:00 – 18:00 Hybrid Session 3 (CIEG+IntECS), Room 4B**  
*Chairs: Xin Ye, Yanzhang Wang*

- 16:00 – 16:20 *Xuehua Wang, Chang Liu, Wenjun Zhou, Jiaqi Liu, Xuezhi Qin and Ning Wang, A Cellular Automata Model for Forest Fire Spreading Simulation*
- 16:20 – 16:40 *Huaiming Li, Fei Wang, Fangfang Song and Lianqing Wang, Crowd counting method on sparse scene*
- 16:40 – 17:00 *Jiangnan Qiu, Wenjin Gu, Qian Kong, Jilei Hu and Qiuyan Zhong, The Emergency Response Management Based on Bayesian Decision Network*
- 17:00 – 17:20 *Mimmo Parente, Carlo Blundo and Francesco Orciuoli, A Private Intelligent Shopping Mall*
- 17:20 – 17:40 *Georgios Milis, Demetrios Eliades, Christos Panayiotou and Marios Polycarpou, A Cognitive Agent Architecture for Feedback Control Scheme Design*
- 17:40 – 18:00 *Stavros Ntalampiras and Manuel Roveri, An Incremental Learning Mechanism for Human Activity Recognition*

**16:00 – 18:00 Hybrid Session 4 (SNCI+EALS), Room Olympia**

*Chairs: Huajin Tang, Alexander Vandesompele*

- 16:00 – 16:20 *Ibrahim Ozturk and David Halliday, Mapping Spatio-temporally Encoded Patterns by Reward-Modulated STDP in Spiking Neurons*
- 16:20 – 16:40 *Garibaldi Pineda García, Patrick Camilleri, Qian Liu and Steve Furber, pyDVS: An Extensible, Real-time Dynamic Vision Sensor Emulator using Off-the-Shelf Hardware*
- 16:40 – 17:00 *Alexander Vandesompele, Florian Walter and Florian Röhrbein, Neuro-Evolution of Spiking Neural Networks on SpiNNaker Neuromorphic Hardware*
- 17:00 – 17:20 *Xu Xiaoliang, Jin Xin, Yan Rui and Cao Xun, A Hierarchical Visual Recognition Model with Precise-Spike-Driven Synaptic Plasticity*
- 17:20 – 17:40 *Achyut Mani Tripathi and Rashmi Dutta Baruah, Anomaly Detection in Data Streams Based on Graph Coloring Density Coefficients*
- 17:40 – 18:00 *Plamen Angelov and Xiaowei Gu, Local Modes-based Free-Shape Data Partitioning*

**18:00 – 18:15 Closing Session, Olympia**