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Xiaofang Hu, Gang Feng, Hai Li, Yiran Chen and Shukai Duan

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Efficacy of Memristive Crossbars for Neuromorphic Processors  
Chris Yakopcic, Raqibul Hasan and Tarek Taha

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Enabling Back Propagation Training in Memristor Crossbar Neuromorphic Processors  
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Sahar Araghi, Abbas Khosravi and Creighton Douglas

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1:50PM  
Learning the Deterministically Constructed Echo State Networks  
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2:10PM  
Inconsistent Sensor Data Detection/Correction: Application to Environmental Systems  
Miquel A. Cuguero, Joseba Quevedo, Vicenc Puig and Diego Garcia

2:30PM  
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2:10PM  Parallel Tempering with Equi-Energy Moves for Training of Restricted Boltzmann Machines
Nannan Ji and Jianguang Zhang

2:30PM  EOG-Based Drowsiness Detection Using Convolutional Neural Networks
Xuemin Zhu, Wei-Long Zheng, Bao-Liang Lu, Xiaoping Chen, Shanguang Chen and Chunhui Wang

2:50PM  Using Recurrent Networks for Non-Temporal Classification Tasks
Saurav Biswas, Muhammad Zeshan Afzal and Thomas Breuel

3:10PM  Computation of Deep Belief Networks Using Special-Purpose Hardware Architecture
Byungik Ahn

MoN1-5 Ensemble and Meta Learning, Chair: Robi Polikar, Room: 305D

1:30PM  Neural Networks and AdaBoost Algorithm Based Ensemble Models for Enhanced Forecasting of Nonlinear Time Series
Yilin Dong, Jianhua Zhang and Jonathan Garibaldi

1:50PM  An Improved Boosting Scheme Based Ensemble of Fuzzy Neural Networks for Nonlinear Time Series Prediction
Yilin Dong and Jianhua Zhang

2:10PM  On Optimal Wavelet Bases for Classification of Skin Lesion Images through Ensemble Learning
Grzegorz Surowka and Maciej Ogorzalek

2:30PM  From Low Negative Correlation Learning to High Negative Correlation Learning
Liu Yong

2:50PM  An Algorithmic Framework Based on the Binarization Approach for Supervised and Semi-Supervised Multiclass Problems
Ayon Sen, Md. Monirul Islam and Kazuyuki Murase

3:10PM  A Hierarchical Learning Approach to Calibrate Allele Frequencies for Snp Based Genotyping of Dna Pools
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MoN1-6 Time Series Analysis I, Chair: Andrea Burattin, Room: 305E

1:30PM  Multi-Objective Cooperative Coevolution of Neural Networks for Time Series Prediction
Shelvin Chand and Rohitash Chandra

1:50PM  Multivariate Time Series Prediction Based on Multiple Kernel Extreme Learning Machine
Xinying Wang and Min Han

2:10PM  Cooperative Coevolution of Feed Forward Neural Networks for Financial Time Series Problem
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2:30PM  Forecasting Time Series - A Layered Ensemble Architecture
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2:50PM  Sets with Incomplete and Missing Data - NN Radar Signal Classification
Ivan Jordanov and Nedyalko Petrov

3:10PM  Application of Artificial Neural Network and Multiple Linear Regression Models for Predicting Survival Time of Patients with Non-Small Cell Cancer Using Multiple Prognostic Factors Including FDG-PET Measurements
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MoN1-7 Approximate Dynamic Programming and Reinforcement Learning, Chair: Qinglai Wei, Room: 303

1:30PM  Near-Optimal Online Control of Uncertain Nonlinear Continuous-Time Systems Based on Concurrent Learning
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1:50PM Finite Horizon Stochastic Optimal Control of Nonlinear Two-Player Zero-Sum Games under Communication Constraint
Hao Xu and Jagannathan Sarangapani

2:10PM Neural-Network-Based Optimal Control for a Class of Complex-Valued Nonlinear Systems with Input Saturation
Ruizhuo Song and Qinglai Wei

2:30PM Policy Iteration Approximate Dynamic Programming Using Volterra Series Based Actor
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2:50PM Online Adaptation of Controller Parameters Based on Approximate Dynamic Programming
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3:10PM LASOM: Location Aware Self-Organizing Map for Discovering Similar and Unique Visual Features of Geographical Locations
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3:30PM Algorithmic Trading Behavior Identification Using Reward Learning Method
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P102 A Supervised Neighborhood Preserving Embedding for Face Recognition
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P103 Asymmetric Mixture Model with Variational Bayesian Learning
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P104 A New Weight Initialization Method for Sigmoidal Feedforward Artificial Neural Networks
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P105 Fast Orthogonal Linear Discriminant Analysis with Applications to Image Classification
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P106 Stability Analysis of Nonlinear Time-Delay System with Delayed Impulsive Effects
Guizhen Feng and Jinde Cao

P107 Learning Discriminative Low-Rank Representation for Image Classification
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P110 Attack Detection in Recommender Systems Based on Target Item Analysis
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P111 Video Attention Saliency Mapping Using Pulse Coupled Neural Network and Optical Flow
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P114 A Pairwise Algorithm for Training Multilayer Perceptrons with the Normalized Risk-Averting Error Criterion
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Deep Learning to Classify Difference Image for Image Change Detection
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Performance of Combined Artificial Neural Networks for Forecasting Landslide Displacement
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Johannes Mohr, Sambu Seo and Klaus Obermayer

Issues on Sampling Negative Examples for Predicting Prokaryotic Promoters
Eduardo Gusmao and Marcelio de Souto

Singular Spectrum Analysis of P300 for Classification
Shirin Enshaeifar, Saeid Sanei and Clive Cheong Took

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Xiaoming Liu, Zhigang Zeng and Xiaoping Wang

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P142 Spectral Clustering-Based Local and Global Structure Preservation for Feature Selection
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P143 Unsupervised Robust Bayesian Feature Selection
Jiayong Sun and Aimin Zhou

P144 Competitive Two-Island Cooperative Coevolution for Training Elman Recurrent Networks for Time Series Prediction
Rohitash Chandra

P145 Unsupervised Robust Bayesian Feature Selection
Jiayong Sun and Aimin Zhou

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4:20PM Using HDDT to Avoid Instances Propagation in Unbalanced and Evolving Data Streams
Andrea Dal Pozzolo, Reid Johnson, Olivier Caelen, Serge Waterschoot, Nitesh V. Chawla and Gianluca Bontempi

4:40PM Domain Adaptation Bounds for Multiple Expert Systems Under Concept Drift
Gregory Ditzler, Gail Rosen and Robi Polikar

5:00PM Core Support Extraction for Learning from Initially Labelled Nonstationary Environments Using COMPOSE
Robert Capo, Anthony Sanchez and Robi Polikar

5:20PM Optimal Bayesian Classification in Nonstationary Streaming Environments
Jehandad Khan, Nidhal Bouaynaya and Robi Polikar

5:40PM New Untrained Aggregation Methods for Classifier Combination
Bartosz Krawczyk and Michal Wozniak

Special Session: MoN2-2 Applications of Computational Intelligence in Ecological Informatics and
Environmental Modelling, Chair: Mike Watts and Jie Yang, Room: 305A ............................. 166

4:00PM Spatio-Temporal PM2.5 Prediction by Spatial Data Aided Incremental Support Vector Regression
Lei Song, Shaoning Pang, Ian Longley, Gustavo Olivares and Abdolhossein Sarrafzadeh

4:20PM Estuarine Flood Modelling Using Artificial Neural Networks
Seyyed Adel Alavi Fazeli, Hamid Mirfenderesk, Michael Blumenstein and Rodger Tomlinson

4:40PM NeuCube(ST) for Spatio-Temporal Data Predictive Modelling with a Case Study on Ecological Data
Enmei Tu, Nikola Kasabov, Muhaimin Othman, Yuxiao Li, Susan Worner, Jie Yang and Zhenghong Jia

5:00PM Evolving Connectionist Systems Can Predict Outbreaks of the Aphid Rhopalosiphum Padi
Michael Watts
5:20PM  Support Vector Regression of Multiple Predictive Models of Downward Short-Wave Radiation  
Pavel Kromer, Petr Musilek, Emil Pelikan, Pavel Krc, Pavel Jurus and Krystof Eben

5:40PM  Applying Computational Intelligence Methods to Modeling and Predicting Common Bean Germination Rates  
Andre Bianconi, Michael Watts, Yanbo Huang, A. B. S. Serapiao, Jose Silvio Govone, X. Mi, Gustavo Habermann and Alessandro Ferrari

6:00PM  Contamination Event Detection in Drinking Water Systems Using a Real-Time Learning Approach  
Demetrios Eliades, Christos Panayiotou and Marios Polycarpou

Special Session: MoN2-3 Mind, Brain, Development and Cognitive Algorithms, Chair: Angelo Cangelosi and Leonid Perlovsky, Room: 305B

4:00PM  Cognitive Functions of Aesthetic Emotions  
Leonid Perlovsky

4:20PM  Locality Linear Fitting One-Class SVM with Low-Rank Constraints for Outlier Detection  
Sheng Li, Ming Shao and Yun Fu

4:40PM  Learning to Interact and Interacting to Learn: Active Statistical Learning in Human-Robot Interaction  
Chen Yu, Tian Xu, Yiwen Zhong, Seth Foster and Hui Zhang

5:00PM  The iCub Learns Numbers: An Embodied Cognition Study  
Alessandro Di Nuovo, De La Cruz Vivian, Angelo Cangelosi and Santo Di Nuovo

5:20PM  Predictive Hebbian Association of Time-Delayed Inputs with Actions in a Developmental Robot Platform  
Martin F. Stoelen, Davide Marocco, Angelo Cangelosi, Fabio Bonsignorio and Carlos Balaguero

5:40PM  A Developmental Perspective on Humanoid Skill Learning Using a Hierarchical SOM-Based Encoding  
Georgios Pierris and Torbjorn Dahl

6:00PM  WWN-9: Cross-Domain synaptic Maintenance and Its Application to Object Groups Recognition  
Qian Guo, Xiaofeng Wu and Juyang Weng

MoN2-4 Real World Applications I, Chair: Danil Prokhorov, Room: 305C

4:00PM  Tagging Documents Using Neural Networks Based on Local Word Features  
Arnulfo Azcarraga, Paolo Tensuan and Rudy Setiono

4:20PM  Constraint Online Sequential Extreme Learning Machine for Lifelong Indoor Localization System  
Yang Gu, Junfa Liu, Yiqiang Chen and Xinlong Jiang

4:40PM  Intelligent Facial Action and Emotion Recognition for Humanoid Robots  
Li Zhang, Ming Jiang and Alangir Hossain

5:00PM  Speaker Verification with Deep Features  
Yuan Liu, Tianfan Fu, Yuchen Fan, Yanmin Qian and Kai Yu

5:20PM  Qualitative Approach for Inverse Kinematic Modeling of a Compact Bionic Handling Assistant Trunk  
Achille Melingui, Rochdi Merzouki, Jean Bosco Mbede, Coralie Escande, Boubaker Daachi and Nabil Benoudjit

5:40PM  Automatic Cluster Labeling through Artificial Neural Networks  
Lucas Lopes, Vinicius Machado and Ricardo Rabelo

MoN2-5 Feedforward Neural Networks I, Chair: Meng Joo Er, Room: 305D

4:00PM  A Fast and Effective Extreme Learning Machine Algorithm without Tuning  
Meng Joo Er, Zhifei Shao and Ning Wang

4:20PM  Aggregation of PI-Based Forecast to Enhance Prediction Accuracy  
Mohammad Anwar Hosen, Abbas Khosravi, Saeid Nahavandi and Douglas Creighton

4:40PM  GPU Implementation of the Feedforward Neural Network with Modified Levenberg-Marquardt Algorithm  
Tomislav Bacek, Dubravko Majetic and Danko Brezak
5:00PM Coarse and Fine Learning in Deep Networks
Anthony Knittel and Alan Blair

5:20PM Constrained Extreme Learning Machine: A Novel Highly Discriminative Random Feedforward Neural Network
Wentao Zhu, Jun Miao and Laiyun Qing

5:40PM Self-Learning Recursive Neural Networks for Structured Data Classification
Bouchachia Abdelhamid

MoN2-6 Time Series Analysis II, Chair: Eros Pasero, Room: 305E

4:00PM Data-Aware Remaining Time Prediction of Business Process Instances
Mirko Polato, Alessandro Sperduti, Andrea Burattin and Massimiliano de Leoni

4:20PM Forecasting Hourly Electricity Load Profile Using Neural Networks
Masud Rana, Irena Koprinska and Alicia Troncoso

4:40PM Time Series Forecasting via Weighted Combination of Trend and Seasonality Respectively with Linearly Declining Increments and Multiple Sine Functions
Wenchao Lao, Ying Wang, Chen Peng, Chengxi Ye and Yunong Zhang

5:00PM A Factor - Artificial Neural Network Model for Time Series Forecasting: The Case of South Africa
Ali Babikir and Henry Mwambi

5:20PM A Neural Network Based Approach to Support the Market Making Strategies in High-Frequency Trading
Everton Silva, Douglas Castilho, Adriano Pereira and Humberto Brandao

5:40PM A Monte Carlo Strategy for Structured Multiple-Step-Ahead Time Series Prediction
Gianluca Bontempi

MoN2-7 Hybrid Learning Methods, Chair: Anne Canuto, Room: 303

4:00PM Face Recognition through a Chaotic Neural Network Model
Luis Fernando Martins Carlos Jr. and Joao Luis Rosa

4:20PM Confidence Factor and Feature Selection for Semi-Supervised Multi-Label Classification Methods
Fillipe Rodrigues, Anne Canuto and Araken Santos

4:40PM Applying the Self-Training Semi-Supervised Learning in Hierarchical Multi-Label Methods
Araken Santos and Anne Canuto

5:00PM Sampling-Based Learning Control for Quantum Discrimination and Ensemble Classification
Chunlin Chen, Daoyi Dong, Bo Qi, Ian Petersen and Herschel Rabitz

5:20PM An Improved Extreme Learning Machine with Adaptive Growth of Hidden Nodes Based on Particle Swarm Optimization
Min-Ru Zhao, Jian-Ming Zhang and Fei Han

5:40PM Structural Representation and Reasoning in a Hybrid Cognitive Architecture
John Licato, Ron Sun and Selmer Bringsjord

Tuesday, July 8, 1:30PM-3:30PM

Special Session: TuN1-1 International Workshop on Computational Energy Management in Smart Grids I, Chair: Stefano Squartini and Derong Liu, Room: 308

1:30PM Exploring the Performance of Non-Negative Multi-Way Factorization for Household Electrical Seasonal Consumption Disaggregation
Marisa Figueiredo, Bernardete Ribeiro and Ana de Almeida

1:50PM Community Detection Based on Local Topological Information in Power Grid
Zengqiang Chen, Zheng Xie and Qing Zhang

2:10PM A Heuristic to Generate Initial Feasible Solutions for the Unit Commitment Problem
Yi Sun, Y.S. Albert Lam and O.K. Victor Li
2:30PM  Computational Intelligence in Smart Water and Gas Grids: An Up-to-Date Overview
        Marco Fagiani, Stefano Squartini, Leonardo Gabrielli, Mirco Pizzichini and Susanna Spinsante

2:50PM  Residential Energy System Control and Management Using A Hill-Climbing Heuristic Method
        Luiz Carlos Roth, Eugenius Kaszkurewicz and Amit Bhaya

Special Session: TuN1-2 Intelligent Vehicle Systems, Chair: Chaomin Luo and Yi Murphey, Room: 305A 174

1:30PM  A Computationally Efficient Neural Dynamics Approach to Trajectory Planning of an Intelligent Vehicle
        Chaomin Luo and Jiyong Gao

1:50PM  Decision Tree Assisted EKF for Vehicle Slip Angle Estimation Using Inertial Motion Sensors
        James Coyte, Boyuan Li, Haiping Du, Weihua Li, David Stirling andMontserrat Ros

2:10PM  Traffic Sign Recognition Using a Novel Permutation-Based Local Image Feature
        Tian Tian, Ishwar Sethi and Patel Nilesh

2:30PM  Specific Humidity Forecasting Using Recurrent Neural Network
        Chen Fang, Xipeng Wang and Yi Murphey

2:50PM  A Computationally Efficient Complete Area Coverage Algorithm for Intelligent Mobile Robot Navigation
        Eene Eu Jan, Shao-Ting Shih, Lun-Ping Hung and Chaomin Luo

3:10PM  Intelligent Trip Modeling on Ramps Using Ramp Classification and Knowledge Base
        Xipeng Wang, Jungme Park, Yi Murphey, Johannes Kristinsson, Ming Kuang and Tony Phillips

Special Session: TuN1-3 Biologically Inspired Computational Vision, Chair: Khan Iftekharuddin, Room: 305B ................................................................. 175

1:30PM  Plant Recognition Based on Intersecting Cortical Model
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1:50PM  Image Factorization and Feature Fusion for Enhancing Robot Vision in Human Face Recognition
        Hui Yu

2:10PM  Linear Regression for Head Pose Analysis
        Hui Yu and Honghai Liu

2:30PM  Improved Training of Cellular SRN Using Unscented Kalman Filtering for ADP
        Lasitha Vidyaratne, Mahbubul Alam, John Anderson and Khan Iftekharuddin

2:50PM  Retinal Blood Vessel Segmentation Using Bee Colony Optimisation and Pattern Search
        Eid Emary, Hossam Zawbaa, Aboul Ella Hassanien, Gerald Schaefer and Ahmad Taher Azar

3:10PM  Shoreline Extraction from the Fusion of LiDAR DEM Data and Aerial Images Using Mutual Information and Genetic Algorithms
        Amr Yousef and Khan Iftekharuddin

TuN1-4 Real World Applications II, Chair: Lipo Wang, Room: 305C ......................................................... 176

1:30PM  A Novel Fuzzy Multi-Objective Framework to Construct Optimal Prediction Intervals for Wind Power Forecast
        Abdollah Kavousi-Fard, Abbas Khosravi and Saeid Nahavandi

1:50PM  AORS: Affinity-Based Outlier Ranking Score
        Shaohong Zhang, Hau-San Wong, Wen-Jun Shen and Dongqing Xie

2:10PM  Applications of Probabilistic Model Based on JoyStick Probability Selector
        Marko Jankovic and Nikola Georgjevic

2:30PM  An Intelligent Analysis and Prediction Model for On-Demand Cloud Computing Systems
        Xiuju Fu, Xiaorong Li, Yongqing Zhu, Lipo Wang and Siow mong, Rick Goh

2:50PM  Learning Using Privileged Information (LUPI) for Modeling Survival Data
        Han-Tai Shiao and Vladimir Cherkassky
A Google Approach for Computational Intelligence in Big Data
Andreas Antoniades and Clive Cheong Took

TuN1-5 Feedforward Neural Networks II, Chair: Brijesh Verma, Room: 305D
1:30PM Explicit Feature Mapping via Multi-Layer Perceptron and Its Application to Mine-Like Objects Detection
Hang Shao and Nathalie Japkowicz

1:50PM Compressing VG-RAM WNN Memory for Lightweight Applications
Edilson de Aguiar, Avelino Forechi, Lucas de Paula Veronese, Mariella Berger, Alberto F. De Souza, Claudine Badue and Oliveira-Santos Thiago

2:10PM Data Driven Modeling for UGI Gasification Process via a Variable Structure Genetic BP Neural Network
Shida Liu, Zhongsheng Hou and Chenkun Yin

2:30PM MoFNRule Extraction from Neural Networks Trained with Augmented Discretized Input
Rudy Setiono, Arnulfo Azcarraga and Yoichi Hayashi

2:50PM Optimizing Configuration of Neural Ensemble Network for Breast Cancer Diagnosis
Peter McLeod and Brijesh Verma

3:10PM An Efficient Conjugate Gradient Based Multiple Optimal Learning Factors Algorithm of Multilayer Perceptron Neural Network
Xun Cai, Kanishka Tyagi and Michael T Manry

TuN1-6 Supervised Learning I, Chair: Jose Principe, Room: 305E
1:30PM Imputation of Missing Data Supported by Complete p-Partite Attribute-Based Decision Graphs
Joao Bertini, Maria Nicoletti and Liang Zhao

1:50PM An Asymmetric Stagewise Least Square Loss Function for Imbalanced Classification
Guibiao Xu, Bao-Gang Hu and Jose Principe

2:10PM An Analysis Based on F-Discrepancy for Sampling in Regression Tree Learning
Cristiano Cervellera, Mauro Gaggero and Danilo Maccio

2:30PM Coupled Fuzzy k-Nearest Neighbors Classification of Imbalanced Non-IID Categorical Data
Chunming Liu, Longbing Cao and Philip S Yu

2:50PM Wind Power Forecasting- An Application of Machine Learning in Renewable Energy
Jawad Ali, Gul Muhammad Khan and Sahibzada Ali Mahmud

3:10PM Signature Identification via Efficient Feature Selection and GPU-Based SVM Classifier
Bernardete Ribeiro, Noel Lopes and Joao Goncalves

Tuesday, July 8, 3:30PM-6:00PM
Poster Session: PN2 Poster Session 2, Chair: Danil Prokhorov, Room: Posters Area (Level 3)

P301 Hopfield Neural Network for Seismic Velocity Picking
Kou-Yuan Huang and Jia-Rong Yang

P302 Deep Neural Networks for Mandarin Tone Recognition
Mingming Chen, Zhanlei Yang and WenJu Liu

P303 An Adaptive Multiclass Boosting Algorithm for Classification
Shixun Wang, Peng Pan and Yansheng Lu

P304 Animal Group Behavioral Model with Evasion Mechanism
Zhiping Duan and Xiaodong Gu

P305 Superpixel Appearance and Motion Descriptors for Action Recognition
Xuan Dong, Ah-Chung Tsoi and Sio-Long Lo

P306 Structured Sparse Coding Method for Infrared Small Target Detection in Video Sequence
Chunwei Yang, Huaping Liu, Shouyi Liao and Shicheng Wang
P307 Human Activity Recognition Using Smart Phone Embedded Sensors: A Linear Dynamical Systems Method
Wen Wang, Huaping Liu, Lianzhi Yu and Fuchun Sun

P308 Effect of Spectrum Occupancy on the Performance of a Real Valued Neural Network Based Energy Detector
Adeiza James Onumanyi, Elizabeth Onwuka, Abiodun Musa Aibinu, Okechukwu Ugweje and Momoh Jimoh Salami

P309 Scale Invariant Feature Transform Flow Trajectory Approach with Applications to Human Action Recognition
Jia-Tao Zhang, Ah-Chung Tsoi and Siu-Long Lo

P310 An Effective Criterion for Pruning Reservoir’s Connections in Echo State Networks
Simone Scardapane, Gabriele Nocco, Danilo Comminiello, Michele Scarpiniti and Aurelio Uncini

P311 Similarity-Balanced Discriminant Neighborhood Embedding
Chuntao Ding, Li Zhang, Yaping Lu and Shuping He

P312 Stability of a Neutral Delay Neuron System in the Critical Case
Xiaofeng Liao

P313 Further Enhancements in WOM Algorithm to Solve the Local Minimum and Flat-Spot Problem in Feed-Forward Neural Networks
Chi Chung Cheung, Sin Chun Ng, Andrew K Lui and Sean Shensheng Xu

P314 Extending Dynamic SOMs to Capture Incremental Changes in Data
Thushan Ganegedara, Lasindu Vidana Pathiranage, Ruwan Gunarathna, Buddhima Wijeweera, Amal Shehan and Damminda Alahakoon

P315 Application of Fuzzy Systems in the Control of a Shunt Active Power Filter with Four-Leg Topology
Edson Junior Acordi, Ivan Nunes Silva and Ricardo Quadros Machado

P316 Highly Sensitive Weak Signal Acquisition Method for GPS/Compass
Song Li, Qing-ming Yi, Min Shi and Qing Chen

P317 Mining User Tasks from Print Logs
Xin Li, Lei Zhang, Ping Luo, Enhong Chen, Guandong Xu, Yu Zong and Chu Guan

P318 Adaptive Backstepping-Based Nonlinear Disturbance Observer for Fin Stabilizer System
Weiwei Bai and Tieshan Li

P319 Multiagent Evolutionary Design of Flexible Beta Basis Function Neural Tree
Marwa Ammar, Souhir Bouaziz, Adel M. Alimi and Ajith Abraham

P320 Similarity Michaelis-Menten Law Pre-Processing Descriptor for Face Recognition
Suli Ji, Baochang Zhang, Dandan Du and Jianzhuan Liu

P321 Single Image Super-Resolution via Learned Representative Features and Sparse Manifold Embedding
Liao Zhang, Shuyuan Yang, Jiren Zhang and Licheng Jiao

P322 Facial Expression Recognition under Random Block Occlusion Based on Maximum Likelihood Estimation Sparse Representation
S. S. Liu, Y. Zhang and K. P. Liu

P323 Non-Singular Terminal Sliding Mode Control for Landing on Asteroids Based on RBF Neural Network
K. P. Liu, F. X. Liu, S. S. Liu and Y. C. Li

P324 Automatic Forest Species Recognition Based on Multiple Feature Sets
Marcelo N. Kapp, Rodrigo Bloot, Paulo R. Cavalin and Luiz E. S. Oliveira

P325 Approximate Planning in POMDPs via MDP Heuristic
Yong Lin, Xingjia Lu and Makedon Fillia

P326 A Neural Network Left-Inversion Flux Estimation for Induction Motor Field-Oriented Control
Hao Zhang, Guohai Liu, Li Qu and Yan Jiang

P327 The Transformer Fault Diagnosis Combining KPCA with PNN
Chenxi Dai, Zhigang Liu and Yan Cui
Classifying Web Documents Using Term Spectral Transforms and Multi-Dimensional Latent Semantic Representation
Haijun Zhang, Shifu Bie and Bin Luo

A Hopfield Neural Network Based Algorithm for Haplotype Assembly from Low-Quality Data
Xiao Chen, Qinke Peng, Libin Han and Xiao Wang

Distributed Control for Second-Order Leader-Following Multi-Agent Systems with Heterogeneous Leader
Hongjing Liang, Yingchun Wang, Zhanshan Wang and Huaguang Zhang

A Multiplicative Update Algorithm for Nonnegative Convex Polyhedral Cone Learning
Qizhao Cai, Kan Xie and Zhaoshui He

Neural-Based Adaptive Integral Sliding Mode Tracking Control for Nonlinear Interconnected Systems
Wen-Phyong Yu and Chien-Chih Weng

IR Remote Sensing Image Registration Based on Multi-Scale Feature Extraction
Jun Kong, Min Jiang and Yi-Ning Sun

Learning Rates of Neural Network Estimators via the New FNNs Operators
Yi Zhao and Dansheng Yu

Image Encryption Based on Compressed Sensing and Blind Source Separation
Zuyuan Yang, Yongzeng Li and Chuan Lu

A Modular Neural Network Architecture that Selects a Different Set of Features per Module
Diogo Severo, Everson Verissimo, George Cavalcanti and Ing Ren Tsang

Extracting Nonlinear Correlation for the Classification of Single-Trial EEG in a Finger Movement Task
Jun Lu, Kan Xie and Zeng Tang

Vessel Maneuvering Model Identification Using Multi-Output Dynamic Radial-Basis-Function Networks
Ning Wang, Nuo Dong and Min Han

Intrusion Detection Using a Cascade of Boosted Classifiers (CBC)
Mubasher Baig, El-Sayed El-Alfy and Mian Awais

Data Dimensionality Reduction Approach to Improve Feature Selection Performance Using Sparsified SVD
Pengpeng Lin, Jun Zhang and Ran An

Visualization and Pattern Discovery of Social Interactions and Repost Propagation in Sina Weibo
Xuming Huang, Cong Quan, Shuwei Liu and Yuanyuan Man

A Transductive Support Vector Machine with Adjustable Quasi-Linear Kernel for Semi-Supervised Data Classification
Bo Zhou, Chenchong Hu and Jinglu Hu

Multi-Kernel Linear Programming Support Vector Regression with Prior Knowledge
Jinzhu Zhou

An Autonomous Trader Agent for the Stock Market Based on Online Sequential Extreme Learning Machine Ensemble
Rodolfo C. Cavalcante and Adriano Oliveira

An Ordinal Kernel Trick for a Computationally Efficient Support Vector Machine
Yara Rizk, Nicholas Mitri and Mariette Awad
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Special Session: TuN2-1 International Workshop on Computational Energy Management in Smart Grids II,
Chair: Dongbin Zhao and Haibo He, Room: 308 .......................................................... 186

4:00PM  Kernel Canonical Variate Analysis Based Management System for Monitoring and Diagnosing Smart
Homes
Andrea Giantomassi, Francesco Ferracuti, Sabrina Iarlori, Sauro Longhi, Alessandro Fonti and Gabriele
Comodi

4:20PM  Frequency Control Using On-Line Learning Method for Island Smart Grid with EVs and PVs
Yufei Tang, Jun Yang, Jun Yan, Zhili Zeng and Haibo He

4:40PM  Home Energy Management Benefits Evaluation Through Fuzzy Logic Consumptions Simulator
Lucio Ciabattoni, Massimo Grisostomi, Gianluca Ippoliti and Sauro Longhi

5:00PM  Reactive Power Control of DFIG Wind Farm Using Online Supplementary Learning Controller Based
on Approximate Dynamic Programming
Wentao Guo, Feng Liu, Dawei He, Jennie Si, Ronald Harley and Shengwei Mei

5:20PM  A Hierarchical Classification Algorithm for Evaluating Energy Consumption Behaviors
Li Bu, Dongbin Zhao, Yu Liu and Qiang Guan

Special Session: TuN2-2 Neural Networks Applied to Vision and Robotics I, Chair: Jose Garcia Rodriguez
and Jorge Azorin, Room: 305A .......................................................... 187

4:00PM  Augmenting the NEAT Algorithm to Improve Its Temporal Processing Capabilities
Pilar Caamano, Francisco Bellas and Richard Duro

4:20PM  3D Colour Object Reconstruction Based on Growing Neural Gas
Sergio Orts-Escolano, Jose Garcia-Rodriguez, Vicente Morell, Miguel Cazorla and Juan Manuel
Garcia-Chamizo

4:40PM  3D Maps Representation Using GNG
Vicente Morell, Miguel Cazorla, Sergio Orts-Escolano and Jose Garcia-Rodriguez

5:00PM  Intelligent Visual Servoing for Nonholonomic Mobile Robots
Carlos Lopez-Franco, Michel Lopez-Franco, Edgar Sanchez and Alma Y. Alanis

5:20PM  A Predictive Model for Recognizing Human Behaviour Based on Trajectory Representation
Jorge Azorin-Lopez, Marcelo Saval-Calvo, Andres Fuster-Guillo and Antonio Oliver-Albert

5:40PM  Facial Expressions Recognition System Using Bayesian Inference
Maninderjit Singh, Anima Majumder and Laxmidhar Behera

Special Session: TuN2-3 Autonomous Learning, Chair: Plamen Angelov and Asim Roy, Room: 305B ...... 188

4:00PM  A Computationally Fast Interval Type-2 Neuro-Fuzzy Inference System and Its Meta-Cognitive
Projection Based Learning Algorithm
Ankit Kumar Das, Kartick Subramanian and Suresh Sundaram

4:20PM  WWN: Integration with Coarse-to-Fine, Supervised and Reinforcement Learning
Zejia Zheng, Juyang Weng and Zhengyou Zhang

4:40PM  From Here to AGI: A Roadmap to the Realization of Human-Level Artificial General Intelligence
Ben Goertzel

5:00PM  A Fast Learning Variable Lambda TD Model Used to Realize Home Aware Robot Navigation
Abdulrahman Altahan

5:20PM  Mobile Humanoid Agent with Mood Awareness for Elderly Care
Di Wang and Ah-Hwee Tan

5:40PM  A New Unsupervised Approach to Fault Detection and Identification
Bruno Costa, Plamen Angelov and Luiz Guedes

6:00PM  A New Unsupervised Approach to Fault Detection and Identification
Bruno Costa, Plamen Angelov and Luiz Guedes
TuN2-4 Machine Learning: Complexity and Optimization, Chair: Albert Lam, Room: 305C ................ 189

4:00PM Dimensionality Reduction Assisted Tensor Clustering
Yanfeng Sun, Junbin Gao, Xia Hong, Yi Guo and Chris Harris

4:20PM Particle Swarm Optimization for Convolved Gaussian Process Models
Gang Cao, Edmund M-K Lai and Fakhruil Alam

4:40PM A Flocking-Like Technique to Perform Semi-Supervised Learning
Roberto Guerli, Thiago Cupertino, Andre Carvalho and Liang Zhao

5:00PM Finding Convex Hull Vertices in Metric Space
Jinhong Zhong, Ke Tang and Kai Qin

5:20PM An Identifying Function Approach for Determining Structural Identifiability of Parameter Learning Machines
Zhi-Yong Ran and Bao-Gang Hu

5:40PM Detection of Non-Structural Outliers for Microarray Experiments
Zihua Yang and Zhengrong Yang

TuN2-5 Feature Extraction and Intelligent Systems, Chair: Sung-Bae Cho, Room: 305D .................. 190

4:00PM Variable Selection for Regression Problems Using Gaussian Mixture Models to Estimate Mutual Information
Emil Eirola, Amaury Lendasse and Juha Karhunen

4:20PM Scene Image Classification Using a Wigner-Based Local Binary Patterns Descriptor
Atreyee Sinha, Sugata Banerji and Chengjun Liu

4:40PM Integrating Supervised Subspace Criteria with Restricted Boltzmann Machine for Feature Extraction
Guo-Sen Xie, Xu-Yao Zhang, Yan-Ming Zhang and Cheng-Lin Liu

5:00PM Semi-Supervised Sparse Coding
Jim Jing-Yan Wang and Xin Gao

5:20PM Investigation of Multi-Layer Perceptron with Pulse Glial Chain Based on Individual Inactivity Period
Chihiro Ikuta, Yoko Uwate and Yoshifumi Nishio

5:40PM Identification of Meat Spoilage by FTIR Spectroscopy and Neural Networks
Vassilis Kodogiannis, Ilias Petrounias and Eva Kontogianni

TuN2-6 Supervised Learning II, Chair: Fakhri Karray, Room: 305E ........................................ 191

4:00PM Max-Dependence Regression
Pouria Fewzee, Ali-Akbar Samadani, Dana Kulic and Fakhri Karray

4:20PM K-Associated Optimal Network for Graph Embedding Dimensionality Reduction
Murilo Carneiro, Thiago Cupertino and Liang Zhao

4:40PM Max-Margin Latent Feature Relational Models for Entity-Attribute Networks
Fei Xia, Ning Chen, Jun Zhu, Aonan Zhang and Xiaoming Jin

5:00PM Dual Instance and Attribute Weighting for Naive Bayes Classification
Jia Wu, Shirui Pan, Zhihua Cai, Xingquan Zhu and Chengqi Zhang

5:20PM Learning from Combination of Data Chunks for Multi-Class Imbalanced Data
Xu-Ying Liu and Qian-Qian Li

5:40PM Dual Deep Neural Network Approach to Matching Data in Different Modes
Mark Eastwood and Christina Jayne

Wednesday, July 9, 1:30PM-3:30PM ........................................................................ 193

Special Session: WeN1-1 International Workshop on Computational Energy Management in Smart Grids III, Chair: Stefano Squartini and Francesco Piazza, Room: 308 ....................................................................... 193

1:30PM Computational Framework Based on Task and Resource Scheduling for Micro Grid Design
Marco Severini, Stefano Squartini and Francesco Piazza
1:50PM  An Optimal Real-Time Pricing for Demand-Side Management: A Stackelberg Game and Genetic Algorithm Approach
        Fan-Lin Meng and Xiao-Jun Zeng

2:10PM  A Simulation Based Approach to Forecast a Demand Load Curve for a Container Terminal Using Battery Powered Vehicles
        Nico Grundmeier, Norman Ihle, Axel Hahn, Claas Meyer-Barlag and Serge Runge

2:30PM  Fuzzy Power Management for Environmental Monitoring Systems in Tropical Regions
        Asher G. Watts, Michal Prauzek, Petr Musilek, Emil Pelikan and Arturo Sanchez-Azofeifa

2:50PM  Solar Radiation Forecasting under Asymmetric Cost Functions
        Seyyed A. Fatemi and Anthony Kuh

3:10PM  Selection of Weighing Functions in H-infinity Controller Design Using PBIL
        Prosser Munawa and Komla Folly

Special Session: WeN1-2 International Workshop on Advances in Learning from/with Multiple Learners,
Chair: Nistor Grozavu and Guenael Cabanes, Room: 305A .......................................................... 194

1:30PM  Feature Ensemble Learning Based on Sparse Autoencoders for Image Classification
        Yaping Lu, Li Zhang, Bangjun Wang and Jiwen Yang

1:50PM  A Review of Adaptive Feature Extraction and Classification Methods for EEG-Based Brain-Computer Interfaces
        Shiliang Sun and Jin Zhou

2:10PM  Diversity Analysis in Collaborative Clustering
        Nistor Grozavu, Guenael Cabanes and Younes Bennani

2:30PM  Solving Unbalanced Problems in Similarity Learning Using SVM Ensemble
        Peipei Xia and Li Zhang

2:50PM  Sharing Information on Extended Reachability Goals Over Propositionally Constrained Multi-Agent State Spaces
        Anderson Araujo and Carlos Henrique Ribeiro

3:10PM  An Evaluation of the Environmental Sustainability Index in Terms of Its Prediction and Clustering Capabilities
        Tatiana Tambouratzis

Special Session: WeN1-3 Machine Learning for Computer Vision I, Chair: Brijesh Verma and Mohammed Bennamoun, Room: 305B............................................................... 195

1:30PM  Retinal Vessel Segmentation Based on Possibilistic Fuzzy c-means Clustering Optimised with Cuckoo Search
        Eid Emary, Hossam Zawbaa, Aboul Ella Hassanien, Gerald Schaefer and Ahmad Taher Azar

1:50PM  Large Margin Image Set Representation and Classification
        Jim Jing-Yan Wang, Majed Alzahrani and Xin Gao

2:10PM  Improving Machine Vision via Incorporating Expectation-Maximization into Deep Spatio-Temporal Learning
        Min Jiang, Yulong Ding, Goertzel Ben, Zhongqiang Huang and Fei Chao

2:30PM  Low-Rank Representation Based Action Recognition
        Xiangrong Zhang, Yang Yang, Hanghua Jia, Huiyu Zhou and Licheng Jiao

2:50PM  Interpolating Deep Spatio-Temporal Inference Network Features for Image Classification
        Yongfeng Zhang, Changjing Shang and Qiang Shen

3:10PM  A Study on Word-Level Multi-Script Identification from Video Frames
        Nabin Sharma, Umapada Pal and Michael Blumenstein
WeN1-4 Intelligent Systems and Applications, Chair: Ivo Bukovsky, Room: 305C .......................... 196

1:30PM  B-Spline Neural Network Based Single-Carrier Frequency Domain Equalization for Hammerstein Channels
Xia Hong, Sheng Chen and Chris Harris

1:50PM  Coordinated Pattern Tracking of Multiple Marine Surface Vehicles with Uncertain Kinematics and Kinetics
Zhouhua Peng, Dan Wang, Hao Wang and Wei Wang

2:10PM  A Real-Time Driver Identification System Based on Artificial Neural Networks and Cepstral Analysis
Ines del Campo, Raul Finker, Victoria Martinez, Javier Echanobe and Faiyaz Doctor

2:30PM  An Approach to Exploit Non-Optimized Data for Efficient Control of Unknown Systems through Neural and Kernel Models
Cristiano Cervellera, Mauro Gaggero, Danilo Maccio and Roberto Marcialis

2:50PM  Neural Network Approach to Hoist Deceleration Control
Peter Benes and Ivo Bukovsky

WeN1-5 Unsupervised Learning and Clustering I, Chair: Fuchun Sun, Room: 305D ......................... 197

1:30PM  A Locally Adaptive Boundary Evolution Algorithm for Novelty Detection Using Level Set Methods
Xuemei Ding, Yuhua Li, Ammar Belatreche and Liam Maguire

1:50PM  Tensor LRR Based Subspace Clustering
Yifan Fu, Junbin Gao, David Tien and Zhouchen Lin

2:10PM  A Kernel K-Means Clustering Algorithm Based on an Adaptive Mahalanobis Kernel
Marcelo Ferreira and Francisco De Carvalho

2:30PM  A New Distance Metric for Unsupervised Learning of Categorical Data
Hong Jia and Yi-ming Cheung

2:50PM  Box-Constrained Projective Nonnegative Matrix Factorization via Augmented Lagrangian Method
Xiang Zhang, Naiyang Guan, Long Lan, Dacheng Tao and Zhigang Luo

3:10PM  A Survey of Distance / Similarity Measures For Categorical Data
Madhavi Alamuri, Bapi Raju Surampudi and Atul Negi

WeN1-6 Supervised and Semi-Supervised Learning, Chair: Marley Vellasco, Room: 305E .................. 198

1:30PM  Lattice Sampling for Efficient Learning with Nadaraya-Watson Local Models
Cristiano Cervellera, Mauro Gaggero, Danilo Maccio and Roberto Marcialis

1:50PM  Trimmed Affine Projection Algorithms
Badong Chen, Xiaohan Yang, Hong Ji, Hua Qu, Nanning Zheng and Jose Principe

2:10PM  Reconstructable Generalized Maximum Scatter Difference Discriminant Analysis
Kai Huang and Liqing Zhang

2:30PM  Music Genre Classification Using On-Line Dictionary Learning
M. Srinivas, Debadipta Roy and C. Krishna Mohan

2:50PM  Semi-Supervised Local-Learning-Based Feature Selection
Jim Jing-Yan Wang, Jin Yao and Yijun Sun

Industrial Session: WeN1-7 CI on Control Systems, Chair: Ruben Morales-Menendez and Aguilar Jose, Room: 303 ................................................................. 199

1:30PM  Experimental ANN-Based Modeling of an Adjustable Damper
Juan Carlos Tudon-Martinez, Ruben Morales-Menendez, Ricardo A Ramirez-Mendoza and Luis E Garza-Castanon

1:50PM  Scaling-Up Action Learning Neuro-Controllers with GPUs
Martin Peniak and Angelo Cangelosi

2:10PM  Application of Genetic Algorithms to Neural Networks Based Control of a Liquid Level Tank System
Kristina Vassiljeva, Juri Belikov and Eduard Petlenkov
2:30PM Hybrid Intelligent Supervision Model of Oil Wells
Edgar Camargo and Aguilar Jose

2:50PM Fuzzy Adaptive Cruise Control System with Speed Sign Detection Capability
Raazi Rizvi, Shivam Kalra, Chirag Gosalia and Rahnamayan Shahryar

3:10PM Soft Computing Techniques Based Optimal Tuning of Virtual Feedback PID Controller for Chemical Tank Reactor
Manikandan Pandiyan

WeII-1 Intel Special Session on Big Data Analytics, Chair: Catherine Huang, Room: 311A ................. 200

1:30PM Practice in Analyzing Corporate Textual Data
Phil Tian

1:50PM Intel Hadoop and Its Use Cases
Keith Qi

2:10PM Big Data Foundation Platform for Video Analytics Demo
Albert Hu

2:30PM Cloud based Air Quality Monitoring at Scale Demo
Fred Jiang

2:50PM Big Data Foundation Platform for Video Analytics Demo
Albert Hu

3:10PM Cloud based Air Quality Monitoring at Scale Demo
Fred Jiang

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Poster Session: PN3 Poster Session 3, Chair: Manuel Roveri, Room: Posters Area (Level 3) ................. 200

P501 An Implementation of the Path Integrator Mechanism of Head Direction Cells for Bio-Mimetic Navigation
Ankur Sinha and Jack Wang

P502 A Legged Central Pattern Generation Model for Autonomous Gait Transition.
Zhijun Yang, Rocha Marlon, Lima Priscila, Karamanoglu Mehmet and Franca Felipe

P503 An Algorithm for Real-Time Object Tracking in Complex Environment
Dongxu Gao, Jiangtao Cao and Zhaojie Ju

P504 Robust Prediction in Nearly Periodic Time Series Using Motifs
Woon Huei Chai, Hongliang Guo and Shen-Shyang Ho

P505 A Hybrid Coupled k-Nearest Neighbor Algorithm on Imbalance Data
Chunming Liu, Longbing Cao and Philip S Yu

P506 A Consensus-Based Semi-Supervised Growing Neural Gas
Vinicius Maximo, Marcos Quiles and Maria Nascimento

P507 Bio-Inspired Architecture for a Reactive-Deliberative Robot Controller
Fabian Rubilar, Maria-Jose Escobar and Tomas Arredondo

P508 Improved Keyword Spotting System by Optimizing Posterior Confidence Measure Vector Using Feed-Forward Neural Network
Yuchen Liu, Mingxing Xu and Lianhong Cai

P509 Agglomerative Clustering of Defects in Ultrasonic Non-Destructive Testing Using Hierarchical Mixtures of Independent Component Analyzers
Addisson Salazar, Jorge Igual and Luis Vergara

P510 Completed Hybrid Local Binary Pattern for Texture Classification
Jing-Hua Yuan, Hao-Dong Zhu, Yong Gan and De-Shuang Huang

P511 Pitch Estimation Using Non-Negative Matrix Factorization
Ryan Burt, Goktug Cinar and Jose Principe
P512 On the Dynamics of the High Order Type of Neural Networks with Time Varying Coefficients and Mixed Delay
Hajer Brahmi, Boudour Ammar, Farouk Cherif and Adel M. Alimi

P513 DL-Pro: A Novel Deep Learning Method for Protein Model Quality Assessment
Son Nguyen, Yi Shang and Dong Xu

P514 Mimicking the Worm - An Adaptive Spiking Neural Circuit for Contour Tracking Inspired by C. Elegans Thermotaxis
Ashish Bora, Arjun Rao and Bipin Rajendran

P515 Neural Approach for Bearing Fault Classification in Induction Motors by Using Motor Current and Voltage
W. F. Godoy, I. N. da Silva, A. Goedtel, R. H. C. Palacios and W. S. Gongora

P516 Efficient Class Incremental Learning for Multi-Label Classification of Evolving Data Streams
Zhongwei Shi, Yimin Wen and Yun Xue

P517 Probabilistic Point Set Matching with Gaussian Mixture Model
Han-Bing Qu and Jia-Qiang Wang

P518 EEG Analysis for Cognitive Failure Detection in Driving Using Neuro-Evolutionary Synergism
Anuradha Saha, Amit Konar, Ritambar Burman and Atulya Nagar

P519 Multi-Objective Optimization of a Hybrid Model for Network Traffic Classification by Combining Machine Learning Techniques
Zuleika Nascimento, Djamel Sadok, Stenio Fernandes and Judith Kelner

P520 Learning Motion-Difference Features Using Gaussian Restricted Boltzmann Machines for Efficient Human Action Recognition
Tran Son, Benetos Emmanouil and Gacez Artur

P521 Color Image Processing Based on Nonnegative Matrix Factorization with Convolutional Neural Network
Thanh Xuan Luong, Bo-Kyeong Kim and Soo-Young Lee

P522 Bottom-Up Model of Visual Saliency: A Viewpoint Based on Efficient Coding Hypothesis
Hao Zhu and Biao Han

P523 Using Self-Organizing Incremental Neural Network (SOINN) for Radial Basis Function Networks
Jie Lu, Furao Shen and Jinxin Zhao

P524 A New Multi-Task Learning Based Wi-Fi Location Approach Using SL_1/2-Norm
Wentao Mao, Haicheng Wang and Shangwang Liu

P525 A Combined Model for Scan Path in Pedestrian Searching
Lijuan Duan, Zeming Zhao, Wei Ma, Jili Gu, Yuanhua Qiao and Zhen Yang

P526 Gain Parameters Based Complex-Valued BackPropagation Algorithm for Learning and Recognizing Hand Gestures
Yuanshan Liu, He Huang and Tingwen Huang

P527 Tension Identification of Two-Motor System Based on Neural Network Left-Inverse
Guohai Liu, Zhennan Cai, Wenxiang Zhao, Hao Zhang, Yan Jiang and Yaojie Mi

P528 Sideslip Angle Soft-Sensor Based on Neural Network Left Inversion for Multi-Wheel Independently Driven Electric Vehicles
Penghu Miao, Guohai Liu, Duo Zhang, Yan Jiang, Hao Zhang and Huawei Zhou

P529 Fast Support Vector Data Description Training Using Edge Detection on Large Datasets
Chenlong Hu, Bo Zhou and Jinglu Hu

P530 A Half-Split Grid Clustering Algorithm by Simulating Cell Division
Wenxiang Dou and Jinglu Hu

P531 Stochastic Gradient Based Iterative Identification Algorithm for a Class of Dual-Rate Wiener Systems
Jing Leng, Junpeng Li, Changchun Hua and Xinpeng Guan

P532 Wiener Model Identification of Blast Furnace Ironmaking Process Based on Laguerre Filter and Linear Programming Support Vector Regression
Xia Xu, Changchun Hua, Yinggan Tang and Xinpeng Guan
Learning Features from High Speed Train Vibration Signals with Deep Belief Networks
Jipeng Xie, Yan Yang, Tianli Li and Weidong Jin

A Neural Network and SOM Based Approach to Analyse Periodic Signals: Application to Oyster Heart-Rate Data
Andrew Hellicar, Ashfaqur Rahman, Daniel Smith, Greg Smith and John McCulloch

Bayesian Network Scores Based Text Localization in Scene Images
Khalid Iqbal, Xu-Cheng Yin, Hong-Wei Hao, Sohail Asghar and Hazrat Ali

Implementation of Memristive Neural Networks with Spike-Rate-Dependent Plasticity Synapses
Yide Zhang, Zhigang Zeng and Shiping Wen

Evaluation of Active Position Detection in Vehicular Ad Hoc Networks
Kiran Penna, Venkatesh Yalavarthi, Huirong Fu and Ye Zhu

Smart Bandwidth Management Using a Recurrent Neuro-Evolutionary Technique
Rabia Arshad, Gul Muhammad Khan and Sahibzada Ali Mahmud

Analog Memristive Time Dependent Learning Using Discrete Nanoscale RRAM Devices
Aniket Singha, Bhaskaran Muralidharan and Bipin Rajendran

Data Intensive Parallel Feature Selection Method Study
Zhanquan Sun and Zhao Li

Kernel Ridge Regression Classification
Jinrong He, Lixin Ding, Lei Jiang and Ling Ma

Causality Traces for Retrospective Learning in Neural Networks - Introduction of Parallel and Subjective Time Scales
Katsunari Shibata

Hardware Implementation of KLMS Algorithm Using FPGA
Xiaowei Ren, Pengju Ren, Badong Chen, Tai Min and Nanning Zheng

Parallelized Neural Networks as a Service
Altaf Ahmad Huqqani, Erich Schikuta and Erwin Mann

Wednesday, July 9, 4:00PM-6:00PM

Special Session: WeN2-1 Plenary and Discussion Session of International Workshops, Chair: Stefano Squartini and Nistor Grozavu, Room: 308

4:00PM Plenary Lecture of the International Workshops
Paul Werbos

4:50PM Follow-up Discussion of the Two International Workshops
Stefano Squartini and Nistor Grozavu

Special Session: WeN2-2 Learning and Optimization in Multi-criteria Dynamic and Uncertain Environments, Chair: Madalina Drugan and Peter Vranex, Room: 305A

4:00PM The Scalarized Multi-Objective Multi-Armed Bandit Problem: An Empirical Study of Its Exploration vs. Exploitation Tradeoff
Saba Yahyaa, Madalina Drugan and Bernard Manderick

4:20PM Accelerating Learning in Multi-Objective Systems through Transfer Learning
Adam Taylor, Ivana Dusparic, Edgar Galvan-Lopez, Siobhan Clarke and Vinny Cahill

4:40PM A Novel Adaptive Weight Selection Algorithm for Multi-Objective Multi-Agent Reinforcement Learning
Kristof Van Moffaert, Tim Brys, Arjun Chandra, Lukas Esterle, Peter Lewis and Ann Nowe

5:00PM Multi-Objectivization of Reinforcement Learning Problems by Reward Shaping
Tim Brys, Anna Harutyunyan, Peter Vranex, Matthew E. Taylor, Daniel Kudenko and Ann Nowe

5:20PM Policy Gradient Approaches for Multi-Objective Sequential Decision Making
Simone Parisi, Matteo Pirotta, Nicola Smacchia, Luca Bascetta and Marcello Restelli
5:40PM Multi-Objective X-Armed Bandits
Kristof Van Moffaert, Kevin Van Vaerenbergh, Peter Vrancx and Ann Nowe

Special Session: WeN2-3 Machine Learning for Computer Vision II, Chair: Brijesh Verma and Mohammed Bennamoun, Room: 305B

4:00PM An Interpretable Graph-Based Image Classifier
Filippo Maria Bianchi, Simone Scardapane, Lorenzo Livi, Aurelio Uncini and Antonello Rizzi

4:20PM Off-Line Handwritten Thai Name Recognition for Student Identification in an Automated Assessment System
Hemmaphan Suwanwiwat, Michael Blumenstein, Vu Nguyen and Umapada Pal

4:40PM Feature Extraction in X-Ray Images for Hazelnuts Classification
Khoa Ikramullah and Eros Pasero

5:00PM A New Fuzzy Shape Context Approach Based on Multi-Clue and State Reservoir Computing
Zhidong Deng, Kelaiti Xiao and Jing Huang

5:20PM Structure-from-Motion Reconstruction Based on Weighted Hamming Descriptors
Guoyu Lu, Vincent Ly and Chandra Kambhamettu

5:40PM Local Binary Pattern Based Facial Expression Recognition Using Self-Organizing Map
Anima Majumder, Laxmidhar Behera and Venkatesh K. Subramanian

WeN2-4 Spiking Neural Networks I, Chair: Nikola Kasabov and Nathan Scott, Room: 305C

4:00PM Does Plasticity Promote Criticality?
Filipe Peliz Pinto Teixeira and Murray Shanahan

4:20PM Evolutionary Features and Parameter Optimization of Spiking Neural Networks for Unsupervised Learning
Marco Silva, Adriano Koshiyama, Marley Vellasco and Edson Cataldo

4:40PM Stochastic Spiking Neural Networks at the Edge of Chaos
J.L. Rossello, V. Canals, A. Oliver and A. Morro

5:00PM Phase Offset Between Slow Oscillatory Cortical Inputs Influences Competition in a Model of the Basal Ganglia
Zafeirios Fountas and Murray Shanahan

5:20PM A Sequential Learning Algorithm for a Minimal Spiking Neural Network (MSNN) Classifier
Shrin Dora, Sundaram Suresh and Narasimhan Sundararajan

5:40PM Large Scale Parameter Estimation of Nonlinear Dynamic Systems: Application on Spike-In, Spike-Out Neural Models
Alireza Dibazar

WeN2-5 Unsupervised Learning and Clustering II, Chair: Akira Hirose, Room: 305D

4:00PM An Unsupervised Material Learning Method for Imaging Spectroscopy
Johannes Jordan, Elli Angelopoulou and Antonio Robles-Kelly

4:20PM Optimal Reduced Set for Sparse Kernel Spectral Clustering
Raghvendra Mall, Siamak Mehrkanooon, Rocco Langone and Johan Suykens

4:40PM An Efficient Parallel ISODATA Algorithm Based on Kepler GPUs
Shiqian Yang, Jianqiang Dong and Bo Yuan

5:00PM Semi-Supervised Clustering with Pairwise and Size Constraints
Shaohong Zhang, Hau-San Wong and Dongqing Xie

5:20PM Multivariate Multi-Scale Gaussian for Microarray Unsupervised Classification
Amelia King, Zihua Yang and ZhengRong Yang

5:40PM Hierarchical Linear Dynamical Systems: A New Model for Clustering of Time Series
Goktug Cinar, Carlos Loza and Jose Principe
WeN2-6 Dynamics of Neural Systems, Chair: Zhanshan Wang, Room: 305E

4:00PM  A Review on Evolution of Lyapunov-Krasovskii Function in Stability Analysis of Recurrent Neural Networks with Single Time-Varying Delay
Zhanshan Wang, Zhenwei Shen, Mi Tian and Qihe Shan

4:20PM  Stability of Hopfield Neural Networks with Event-Triggered Feedbacks
Xinlei Yi, Wenlian Lu and Tianping Chen

4:40PM  Nonlinear Responses of an Asynchronous Cellular Automaton Model of Spiral Ganglion Cells
Masato Izawa and Hiroyuki Torikai

5:00PM  New Method on the Complete Stability of Delayed Cellular Neural Networks
Lili Wang and Tianping Chen

5:20PM  Reproduction of Forward and Backward Propagations on Dendrites by Multi-Compartment Asynchronous Cell Automaton Neuron
Naoki Shimada and Hiroyuki Torikai

5:40PM  Phase Cone Detection Optimization in EEG Data
Mark Myers, Robert Kozma and Roman Ilin

Industrial Session: WeN2-7 CI on Smart Grid and Energy Efficiency, Chair: Marco Mussetta and Timothy Havens, Room: 303

4:00PM  Fault Recognition in Smart Grids by a One-Class Classification Approach
Enrico De Santis, Lorenzo Livi, Alireza Sadeghian and Antonello Rizzi

4:20PM  Hybrid Model Analysis and Validation for PV Energy Production Forecasting
Alessandro Gandelli, Francesco Grimaccia, Sonia Leva, Marco Mussetta and Emanuele Ogliari

4:40PM  Personalized Sensing towards Building Energy Efficiency and Thermal Comfort
Huafen Hu, Yonghong Huang, Milan Milenkovic, Chad Miller and Ulf Hanebutte

5:00PM  A Supervised Approach to Electric Tower Detection and Classification for Power Line Inspection
Carlos Sampedro, Carol Martinez, Aneesh Chauhan and Pascual Campoy

5:20PM  Random Forest Based Adaptive Non-Intrusive Load Monitoring
Jie Mei, Dawei He, Ronald Harley and Thomas Habetler

5:40PM  Fuzzy Logic Controller for Energy Management of Power Split Hybrid Electric Vehicle Transmission
Varun Navale and Timothy Havens

Special Session: WeC2-1 CIS and WCCI Competition Session, Chair: Swagatam Das and Alessandro Sperduti, Room: 311A

4:00PM  IEEE CIS Ghosts Challenge 2013
Alessandro Sperduti

4:45PM  Evolutionary Computation for Dynamic Optimization Problems
Changhe Li, Michalis Mavrovouniotis, Shengxiang Yang and Xin Yao

5:10PM  Optimization of Problems with Multiple Interdependent Components
Sergey Polyakovskiy, Markus Wagner, Mohammad Reza Bonyadi, Frank Neumann and Zbignew Michalewicz

5:35PM  First Neural Connectomics Challenge: From Imaging to Connectivity
Demian Battaglia

Thursday, July 10, 1:30PM-3:30PM

Special Session: ThN1-1 Architectures and Theories of the Brain, Chair: Asim Roy, Room: 308

1:30PM  Reliable Object Recognition by Using Cooperative Neural Agents
Oscar Chang

1:50PM  A Nonlinear Model of fMRI BOLD Signal Including the Trend Component
Takashi Matsubara, Hiroyuki Torikai, Tetsuya Shimokawa, Kenji Leibnitz and Ferdinand Peper
2:10PM  *How Might the Brain Represent Complex Symbolic Knowledge?*  
Ben Goertzel

2:30PM  *Statistical Approach for Reconstruction of Dynamic Brain Dipoles Based on EEG Data*  
Petia Georgieva, Filipe Silva, Lyudmila Mihaylova and Nidhal Bouaynaya

2:50PM  *Design of the First Neural Connectomics Challenge: From Imaging to Connectivity*  
Isabelle Guyon, Demian Battaglia, Alice Guyon, Javier Orlandi, Mehreen Saeed, Jordi Soriano Fradera,  
Alexander Statnikov and Olav Stetter

3:10PM  *A Bridge-Islands Model for Brains: Developing Numeric Circuits for Logic and Motivation*  
Juyang Weng

**Special Session: ThN1-2 Hybrid Neural Intelligent Systems, Chair: Patricia Melin, Room: 305A**

1:30PM  *Selecting and Combining Models with Self-Organizing Maps for Long-Term Forecasting of Chaotic Time Series*  
Rigoberto Fonseca-Delgado and Pilar Gomez-Gil

1:50PM  *Impulsive Synchronization of Coupled Switched Neural Networks with Impulsive Time Window*  
Xin Wang, Chuandong Li, Tingwen Huang and Xiaofeng Liao

2:10PM  *Vibrate Synchronizing Function Neural Network Model - Its Backgrounds*  
Yoshitsugu Kakemoto and Shinichi Nakasuka

2:30PM  *Neural Networks for Runtime Verification*  
Alan Perotti, Artur d'Avila Garcez and Guido Boella

**Special Session: ThN1-3 Ensemble Systems and Machine Learning, Chair: Marley Vellasco and Teresa Ludermir, Room: 305B**

1:30PM  *Towards Generating Random Forests via Extremely Randomized Trees*  
Le Zhang, Ye Ren and P. N. Suganthan

1:50PM  *Reservoir Computing Optimization with a Hybrid Method*  
Anderson Sergio and Teresa Ludermir

2:10PM  *An Empirical Analysis of Ensemble Systems in Cancellable Behavioural Biometrics: A Touch Screen Dataset*  
Marcelo Damasceno de Melo and Anne Canuto

2:30PM  *Scalarization-Based Pareto Optimal Set of Arms Identification Algorithms*  
Madalina Drugan and Ann Nowe

2:50PM  *Ensembles Of Evolutionary Extreme Learning Machines through Differential Evolution and Fitness Sharing*  
Tiago Lima and Teresa Ludermir

**ThN1-4 Reinforcement and Hybrid Learning, Chair: Huaguang Zhang, Room: 305C**

1:30PM  *Unmanned Aerial Vehicles (UAV) Heading Optimal Tracking Control Using Online Kernel-Based HDP Algorithm*  
Fuxiao Tan, Derong Liu, Xinping Guan and Bin Luo

1:50PM  *Scalarization-Based Pareto Optimal Set of Arms Identification Algorithms*  
Madalina Drugan and Ann Nowe

2:10PM  *Explore to See, Learn to Perceive, Get the Actions for Free: SKILLABILITY*  
Varun Kompella, Marijn Stollenga, Matthew Luciw and Juergen Schmidhuber

2:30PM  *Correntropy Kernel Temporal Differences for Reinforcement Learning Brain Machine Interfaces*  
Jihye Bae, Luis Sanchez Giraldo, Joseph Francis and Jose Principe

3:10PM  *PROPRE: PROjection and PREDiction for Multimodal Correlations Learning. An Application to Pedestrians Visual Data Discrimination*  
Mathieu Lefort and Alexander Gepperth
ThN1-5 Models of Perception, Cognition and Coordination, Chair: Leonid Perlovsky, Room: 305D

1:30 PM  Pinning Dynamic Complex Networks by Time-Varying Controller-Vertex Set
Yujuan Han, Wenlian Lu and Tianping Chen

1:50 PM  Distributed LQR Design for Multi-Agent Systems on Directed Graph Topologies
Tao Feng, Huaguang Zhang, Yanhong Luo and Yingchun Wang

2:10 PM  Impact of Ratio k on Two-Layer Neural Network with Dynamic Optimal Learning Rate
Tong Zhang and C. L. Philip Chen

2:30 PM  A Neural Model of Mentalization/Mindful Based Psychotherapy
Abbas Edalat and Lin Zheng

2:50 PM  Incremental Face Recognition Using Rehearsal and Recall Processes
Sangwook Kim, Mallipeddi Rammohan and Lee Minho

3:10 PM  On the Relationships Between Social Structures and Acquired Knowledge in Societies
Toshihiko Matsuka and Hidehito Honda

ThN1-6 Recurrent Neural Networks, Chair: Yunong Zhang, Room: 305E

1:30 PM  Case Study of Zhang Matrix Inverse for Different ZFs Leading to Different Nets
Dongsheng Guo, Binbin Qiu, Zhende Ke, Zhi Yang and Yunong Zhang

1:50 PM  Neurodynamics-Based Robust Eigenstructure Assignment for Second-Order Descriptor Systems
Xinyi Le, Zheng Yan and Jun Wang

2:10 PM  Oscillation Analysis of the Solutions for a Four Coupled FHN Network Model with Delays
Chunhua Feng and Rejean Plamondon

2:30 PM  Ideal Modified Adachi Chaotic Neural Networks and Active Shape Model for Infant Facial Cry
Detection on Still Image
Yosi Kristian, Mochamad Hariadi and Mauridhi Hery Purnomo

2:50 PM  Three New ZNN Models with Economical Dimension and Exponential Convergence for Real-Time
Solution of Moore-Penrose Pseudoinverse
Chen Peng, Yingbiao Ling, Ying Wang, Xiaotian Yu and Yunong Zhang

3:10 PM  A Recurrent Neural Network for Real Time Electrical Microgrid Prototype Optimization
Juan Diego Sanchez-Torres, Martin J. Loza-Lopez, Riemann Ruiz-Cruz, Edgar Sanchez and Alexander
G. Loukianov

Thursday, July 10, 3:30PM-6:00PM

Poster Session: PN4 Poster Session 4, Chair: Pablo Estevez, Room: Posters Area (Level 3)

P701 Compressive Direction-of-Arrival Estimation via Regularized Multiple Measurement FOCUSS
Algorithm
Shuyuan Yang, Min Wang and Bin Li

P702 Effective Identification of a Turbogenerator in a SMIB Power System Using Fuzzy Neural Networks
Wissam A. Albukhanajer, Hussein A. Lefta and Abduladhem A. Ali

P703 Multi-Agent Systems Applied to Topological Reconfiguration of Smart Power Distribution Systems
Filipe Saraiva and Eduardo Asada

P704 Heuristically Enhanced Dynamic Neural Networks for Structurally Improving Photovoltaic Power
Forecasting
Naji Al-Messabi, Cindy Goh, Ibrahim El-Amin and Yun Li

P705 Data Mining Paradigm Based on Functional Networks with Applications in Landslide Prediction
Ailong Wu, Zhigang Zeng and Chaojin Fu

P706 The State of the Art of Memristive Neural Systems: Models and Applications
Ailong Wu, Zhigang Zeng and Chaojin Fu

P707 Integrating Local and Global Manifold Structures for Unsupervised Dimensionality Reduction
Xiaochen Chen, Jia Wei, Jinhai Li and Xiaodong Zhang
Moving Towards Accurate Monitoring and Prediction of Gold Mine Underground Dam Levels
Ali Hasan and Bhekisipho Twala

Convolutional Deep Belief Networks for Feature Extraction of EEG Signal
Yuanfang Ren and Yan Wu

Newton's Method Backpropagation for Complex-Valued Holomorphic Multilayer Perceptrons
Diana La Corte and Yi Ming Zou

Fuzzy c-Means Clustering with a New Regularization Term for Image Segmentation
Guangyu Shao

Direct Adaptive Neural Network Control of a Class of Nonlinear Systems
Baobin Miao and Tieshan Li

Hybrid SVM/HMM Architectures for Statistical Model-Based Voice Activity Detection
YingWei Tan, WenJu Liu, Wei Jiang and Hao Zheng

Novel Stability Criteria of T-S Fuzzy Hopfield Neural Networks with Time-Varying Delays and Uncertainties
Caigen Zhou, Xiaojin Zeng and Jianjiang Yu

A Collaborative Filtering Framework Based on Local and Global Similarities with Similarity Tie-Breaking Criteria
Andre Lopes, Ricardo Prudencio and Byron Bezerra

SVM Classification for Imbalanced Data Sets Using Conformal Kernel Transformations
Yong Zhang, Panpan Fu and Wenzhe Liu

Analysis of Disease Association and Susceptibility for SNP Data Using Emotional Neural Networks
Xiao Wang, Qinke Peng and Tao Zhong

Artificial Immune System Application for Solving Dynamic Optimization Problems
Zhijie Li, Yuanxiang Li, Kuang Li and Fei Yu

Synchronization Control of Hybrid-Coupled Heterogeneous Complex Networks
Jianqiang Hu, Jinling Liang and Jinde Cao

Robust LS-SVR Based on Variational Bayesian and Its Applications
Kefeng Ning, Min Liu, Mingyu Dong and Zhansong Wu

Label Propagation and Soft-Similarity Measure for Graph Based Constrained Semi-Supervised Learning
Zhao Zhang, Mingbo Zhao and Tommy W.S. Chow

An Improved RBM Based on Bayesian Regularization
Guangyuan Pan and Junfei Qiao

On the Cooperative Observability of a Continuous-Time Linear System on an Undirected Network
Henghui Zhu, Kexin Liu, Jinhu Lu, Zongli Lin and Yao Chen

Robust Bilinear Matrix Recovery by Tensor Low-Rank Representation
Zhao Zhang and Mingbo Zhao

Using Chou's Amphiphilic Pseudo-Amino Acid Composition and Extreme Learning Machine for Prediction of Protein-Protein Interactions
Qiao-Ying Huang, Zhu-Hong You, Shuai Li and Zexuan Zhu

Joint Multiple Dictionary Learning for Tensor Sparse Coding
Yifan Fu, Junbin Gao, Yanfeng Sun and Xia Hong

Dependent Stochastic Blockmodels
Eunsil Gim, Juho Lee and Seungjin Choi

Splitted Neural Networks for Better Performance of Antenna Optimization
Linh Ho Manh, Francesco Grimaccia, Marco Mussetta and Riccardo E. Zich

Learning Features with Structure-Adapting Multi-View Exponential Family Harmoniums
Kang Yoonseop and Choi Seungjin

Outdoor Scene Understanding Using SEVI-BOVW Model
Haibing Zhang, Shirong Liu and Chaoliang Zhong
Global Exponential Stability of Delayed Hopfield Neural Network on Time Scale
Xuehui Mei and Haijun Jiang

Application of Neural Networks to Evaluate Experimental Data of Galvanic Zincing
Peter Michal, Jan Pitel, Alena Vagaska and Ivo Bukovsky

Iris Liveness Detection Methods in the Mobile Biometrics Scenario
Ana F. Sequeira, Juliano Murari and Jaime S. Cardoso

Nonnegative Shifted Tensor Factorization in Time Frequency Domain
Qiang Wu, Ju Liu, Fengrong Sun, Jie Li and Andrzej Cichocki

Modeling of Vertical Mill Raw Meal Grinding Process and Optimal Setting of Operating Parameters Based on Wavelet Neural Network
Xiaofeng Lin and Zhe Qian

Kernel Robust Mixed-Norm Adaptive Filtering
Jin Liu, Hua Qu, Badong Chen and Wentao Ma

Soft-Constrained Nonnegative Matrix Factorization via Normalization
Long Lan, Naiyang Guan, Xiang Zhang, Dacheng Tao and Zhigang Luo

Latency-Based Probabilistic Information Processing in a Learning Feedback Hierarchy
Alexander Gepperth

Improving the Genetic-Algorithm-Optimized Wavelet Neural Network for Stock Market Prediction
Yu Fang, Kamaladdin Fataliyev, Lipo Wang, Xiuju Fu and Yaoli Wang

Optimal Software Maintenance Policy Based on Reliability and Risk
Xiaoping Wang, Fang Zhou and Yi Shen

Forecasting Electricity Consumption in South Africa: ARMA, Neural Networks and Neuro-Fuzzy Systems
Lufuno Marwala and Twala Bhekisipho

PVis - Partitions’ Visualizer: Extracting Knowledge by Visualizing a Collection of Partitions
Katti Faceli, Tiemi Sakata, Andre Carvalho and Marcilio de Souto

Thursday, July 10, 4:00PM-6:00PM

Special Session: ThN2-1 Applications of Neural Networks for Financial Modeling and Forecasting,
Chair: Massimo Panella, Room: 308

Adaptively Weighted Support Vector Regression for Financial Time Series Prediction
Zhijie Li, Yuanxiang Li, Fei Yu and Dahai Ge

A Higher-Order Fuzzy Neural Network for Modeling Financial Time Series
Massimo Panella, Luca Liparulo and Andrea Proietti

Beating The S-and-P 500 Index - A Successful Neural Network Approach
Mininder Sethi, Philip Treleaven and Sebastian Del Bano Rollin

Stock Volatility Prediction Using Multi-Kernel Based Extreme Learning Machine
Feng Wang, Zhiyong Zhao, Xiaodong Li and Fei Yu

Augmented Neural Networks for Modelling Consumer Indebtness
Alexandros Ladas, Jon Garibaldi, Rodrigo Scarpet and Uwe Aickelin

A New Investment Strategy Based on Data Mining and Neural Networks
Chang Liu and Hafiz Malik

Special Session: ThN2-2 Incremental Machine Learning: Methods and Applications, Chair: Nicoleta Rogovschi and Nistor Grozavu, Room: 305A

Locally Linear Embedding Algorithm Based on OMP for Incremental Learning
Yiqin Leng, Li Zhang and Jiwen Yang

Hidden Markov Models Based Dynamic Hand Gesture Recognition with Incremental Learning Method
Meng Hu, Furao Shen and Jinxi Zhao
4:40PM Long-Term Learning Behavior in a Recurrent Neural Network for Sound Recognition  
Michiel Boes, Damiano Oldoni, Bert De Coensel and Dick Botteldooren

5:00PM Study of Learning Entropy for Novelty Detection in Lung Tumor Motion Prediction for Target Tracking  
Radiation Therapy  
Ivo Bukovsky, Noriyasu Homma, Matous Cejnek and Kei Ichiji

5:20PM Opinion Retrieval through Unsupervised Topological Learning  
Nicoleta Rogovschi and Nistor Grozavu

5:40PM A Fast Incremental Kernel Principal Component Analysis for Data Streams.  
Annie anak Joseph and Seiichi Ozawa

Special Session: ThN2-3 Neurodynamic Optimization, Chair: Sanqing Hu and Yunong Zhang, Room: 305B

4:00PM A One-Layer Discrete-Time Projection Neural Network for Support Vector Classification  
Wei Zhang and Qingshan Liu

4:20PM A Novel Discrete-Time Learning Algorithm for Speech Enhancement Using Noise Constrained Parameter Estimation  
Youshen Xia, Guiliang Lin and Weixing Zheng

4:40PM Performance Analysis of LVI-Based PDNN Applied to Real-Time Solution of Time-Varying Quadratic Programming  
Yunong Zhang, Fangting Wu, Zhengli Xiao, Zhen Li and Binghuang Cai

5:00PM Model Predictive Control of Multi-Robot Formation Based on the Simplified Dual Neural Network  
Xinzhe Wang, Zheng Yan and Jun Wang

5:20PM Neurodynamics-Based Model Predictive Control of Autonomous Underwater Vehicles in Vertical Plane  
Zhiying Liu, Xinzhe Wang and Jun Wang

5:40PM A Single Layer Recurrent Neural Network For Pseudoconvex Optimization Subject to Quasiconvex Constraints  
Jingjing Huang and Guocheng Li

6:00PM Causality from C2 to C3/C4 or between C3 and C4 Revealed by Granger Causality and New Causality during Motor Imagery  
Sanqing Hu, Hui Wang, Jianhai Zhang, Wanzeng Kong and Yu Cao

ThN2-4 Spiking Neural Networks II, Chair: Zeng-Guang Hou, Room: 305C

4:00PM Magnitude Comparison in Analog Spiking Neural Assemblies  
Jose Oliveira-Neto, Felipe Duque-Belfort, Rafael Cavalcanti-Neto and Joao Ranhel

4:20PM Spike-Timing Dependent Morphological Learning for a Neuron with Nonlinear Active Dendrites  
Phyo Phyo San, Shaista Hussain and Arindam Basu

4:40PM Improved Predictive Personalized Modelling with the Use of Spiking Neural Network System and a Case Study on Stroke Occurrences Data  
Muhaimin Othman, Nikola Kasabov, Enmei Tu, Valery Feigin, Rita Krishnamurthi, Zeng-Guang Hou, Yixiong Chen and Jin Hu

5:00PM Signature of an Anticipatory Response in Area V1 as Modeled by a Probabilistic Model and a Spiking Neural Network  
Bernhard A. Kaplan, Mina A. Khoei, Anders Lansner and Laurent U. Perrinet

5:20PM Predicting Temporal Sequences Using an Event-Based Spiking Neural Network Incorporating Learnable Delays  
Tingting Gibson, James Henderson and Janet Wiles

5:40PM Feasibility of NeuCube SNN Architecture for Detecting Motor Execution and Motor Intention for Use in BCI Applications  
Denise Taylor, Nathan Scott, Nikola Kasabov, Elisa Capecci, Enmei Tu, Nicola Saywell, Yixiong Chen, Jin Hu and Zeng-Guang Hou
4:00PM On-Line Gaussian Mixture Density Estimator for Adaptive Minimum Bit-Error-Rate Beamforming Receivers  
Sheng Chen, Xia Hong and Chris Harris

4:20PM The Neoteric Feature Extraction Method of Epilepsy EEG Based on the Vertex Strength Distribution of Weighted Complex Network  
Fenglin Wang, Qingfang Meng and Yuehui Chen

4:40PM Real-Time Hand Gesture Recognition with Kinect for Playing Racing Video Games  
Yanmin Zhu and Bo Yuan

5:00PM EEG Energy Analysis for Evaluating Consciousness Level Using Dynamic MEMD  
Yunchao Yin, Gaochao Cui, Toshihisa Tanaka and Jianting Cao

5:20PM Alzheimer’s Disease Classification Based on Gait Information  
Wei-Hsin Wang, Yu-Liang Hsu, Ming-Chyi Pae, Chun-Yao Wang, Chien-Wen Lin, Hao-Li Wu and Pau-Choo Chung

5:40PM Architectural Distortion Detection from Mammograms Using Support Vector Machine  
Orawan Netprasat, Sansanee Auephanwiriyakul and Nipon Theera-Umpon

ThN2-6 Neural Modeling and Control, Chair: Hongliang Li, Room: 305E ................................................................................. 232

4:00PM Data-Driven Iterative Adaptive Dynamic Programming Algorithm for Approximate Optimal Control of Unknown Nonlinear Systems  
Hongliang Li, Derong Liu, Ding Wang and Chao Li

4:20PM Hybrid Neural Networks for Gasoline Blending System Modeling  
Wen Yu and Xiaou Li

4:40PM Adaptive Self-Constructing Radial-Basis-Function Neural Control for MIMO Uncertain Nonlinear Systems with Unknown Disturbances  
Ning Wang, Bijun Dai, Yancheng Liu and Min Han

5:00PM Robust Structure Selection of Radial Basis Function Networks for Nonlinear System Identification  
Pan Qin and Han Min

5:20PM Neural Control for a Solid Waste Incinerator  
Rocio Carrasco, Edgar Sanchez, Riemann Ruiz and Catherine Cadet

5:40PM Reservoir-Based Online Adaptive Forward Models with Neural Control for Complex Locomotion in a Hexapod Robot  
Poramate Manoonpong, Sakyasingha Dasgupta, Dennis Goldschmidt and Florentin Woergoetter

Friday, July 11, 8:10AM-10:10AM ................................................................. 233

Special Session: FrN1-1 Concept Drift, Domain Adaptation & Learning in Dynamic Environments II,  
Chair: Giacomo Boracchi and Manuel Roveri, Room: 308 .......................................................................................... 233

8:10AM Resistant Learning on the Envelope Bulk for Identifying Anomalous Patterns  
Shin-Ying Huang, Fang Yu, Rua-Huan Tsaih and Yennun Huang

8:30AM A Multi-Objective Ensemble Method for Online Class Imbalance Learning  
Shuo Wang, Leandro L. Minku and Xin Yao

8:50AM The Parzen Kernel Approach to Learning in Non-Stationary Environment  
Lena Pietruczuk, Leszek Rutkowski, Maciej Jaworski and Piotr Duda

9:10AM A Novel Application of Hoeffding’s Inequality to Decision Trees Construction for Data Streams  
Piotr Duda, Maciej Jaworski, Lena Pietruczuk and Leszek Rutkowski

9:30AM NEVE++: A Neuro-Evolutionary Unlimited Ensemble for Adaptive Learning  
Tatiana Escovedo, Abs da Cruz Andre, Koshiyama Adriano, Melo Rubens and Vellasco Marley

9:50AM Exploiting Self-Similarity for Change Detection  
Giacomo Boracchi and Roveri Manuel
Special Session: FrN1-2 Neural Networks Applied to Vision and Robotics II, Chair: Jose Garcia Rodriguez and Jorge Azorin, Room: 305A

8:10AM Color Space Selection for Self-Organizing Map Based Foreground Detection in Video Sequences
Francisco Javier Lopez-Rubio, Ezequiel Lopez-Rubio, Rafael Marcos Luque-Baena, Enrique Dominguez and Esteban J. Palomo

8:30AM Improving Robot Vision Models for Object Detection Through Interaction
Juergen Leitner, Alexander Foerster and Juergen Schmidhuber

8:50AM Image-Based Global Localization Using VG-RAM Weightless Neural Networks
Lauro J. Lyrio Junior, Thiago Oliveira-Santos, Avelino Forechi, Lucas Veronese, Claudine Badue and Alberto F. De Souza

9:10AM EEG Based Artificial Learning of Motor Coordination for Visually Inspired Task Using Neural Networks
Shreyasi Datta, Anwesha Khasnobish, Amit Konar, D. N. Tibarewala and Atulya Nagar

9:30AM Serotonin and Dopamine Systems: Internal Areas and Sequential Tasks
Dongshu Wang, Yihai Duan and Juyang Weng

Special Session: FrN1-3 Complex-Valued Neural Networks, Chair: Akira Hirose and Suresh Sundaram, Room: 305B

8:10AM An Introduction to Complex-Valued Recurrent Correlation Neural Networks
Marcos Eduardo Valle

8:30AM The HC Calculus, Quaternion Derivatives and Caylay-Hamilton Form of Quaternion Adaptive Filters and Learning Systems
Yili Xia, Cyrus Jahanchahi, Dongpo Xu and Danilo Mandic

8:50AM Stability Condition for Discrete Time Multi-Valued Recurrent Neural Networks in Asynchronous Update Mode
Wei Zhou and Jacek M. Zurada

9:10AM A New Stability Condition for Discrete Time Recurrent Neural Networks with Complex-Valued Linear Threshold Neurons
Wei Zhou and Jacek M. Zurada

9:30AM Ultra-Short-Pulse Acoustic Imaging Using Complex-Valued Spatio-Temporal Neural-Network for Null-Steering: Experimental Results
Kotaro Terabayashi and Akira Hirose

9:50AM Finite Convergence of the Learning Algorithms for a Modified Multi-Valued Neuron
Dongpo Xu and Shuang Liang

FrN1-4 Visual Systems, Chair: Zeng-Guang Hou, Room: 305C

8:10AM V4 Neural Network Model for Visual Saliency and Discriminative Local Representation of Shapes
Hui Wei and Zheng Dong

8:30AM Binocular Visual Servoing Based on PID Neural Network
Guoyou Li and Xin Wang

8:50AM Visual Saliency via Loss Coding
Hao Zhu and Biao Han

9:10AM Border Ownership in a Nano-Neuromorphic Circuit Using Nonlinear Dendritic Computations
Chih-Chieh Hsu and Alice Parker

9:30AM A Bio-Inspired Approach Modeling Spiking Neural Networks of Visual Cortex for Human Action Recognition
Haihua Liu and Na Shu

9:50AM Measurement of Confusion Color Pairs for Dichromats in order to Use Applications Supporting Color Vision Deficiency
Hiroki Takagi, Hiroaki Kudo, Tetsuya Matsumoto, Yoshinori Takeuchi and Noboru Ohnishi
**FrN1-5 Data Analysis and Pattern Recognition, Chair: Wladyslaw Homenda, Room: 305D**

8:10AM *View-Invariant Gait Recognition via Deterministic Learning*
Wei Zeng and Cong Wang

8:30AM *Micro-Expression Recognition Based on Local Binary Patterns from Three Orthogonal Planes and Nearest Neighbor Method*
Yanjun Guo, Yantao Tian, Xu Gao and Xuange Zhang

8:50AM *Classification with Rejection Based on Various SVM Techniques*
Wladyslaw Homenda, Marcin Luckner and Witold Pedrycz

9:10AM *Imbalanced Pattern Recognition: Concepts and Evaluations*
Wladyslaw Homenda and Wojciech Lesinski

9:30AM *RNN and SOM Based Classifier to Recognize Assamese Fricative Sounds Designed Using Frame Based Temporal Feature Sets*
Chayashree Patgiri, Mousmita Sarma and Kandarpa Kumar Sarma

9:50AM *Artificial Neural Network Based Gait Patterns Identification Using Neuromuscular Signals and Soft Tissue Deformation Analysis of Lower Limbs Muscles*
S. M. N. Arosha Senanayake, Joko Triloka, Owais A, Malik and Muhammad Pg. Iskandar

**FrN1-6 Hybrid Architectures and Learning , Chair: Gianluca Bontempi, Room: 305E**

8:10AM *Recursive Soft Margin Subspace Learning*
Qiao Ye, Zhao Chun and Ye Ning

8:30AM *Sub-Classifier Construction for Error Correcting Output Code Using Minimum Weight Perfect Matching*
Patoomsiri Songsiri, Thimaporn Phetkaew, Ryutaro Ichise and Boonserm Kijsirikul

8:50AM *Supervised Topic Regression via Experts*
Song Lin and Ping Guo

9:10AM *A Robust Framework for Short Text Categorization Based on Topic Model and Integrated Classifier*
Peng Wang, Heng Zhang, Yu-Fang Wu, Bo Xu and Hong-Wei Hao

9:30AM *Linear Subspace Learning via Sparse Dimension Reduction*
Ming Yin, Yi Guo and Junbin Gao

9:50AM *Learning Optimization for Decision Tree Classification of Non-Categorical Data with Information Gain Impurity Criterion*
Konstantin Sofeikov, Ivan Tyukin, Alexander Gorban, Eugene Mirkes, Danil Prokhorov and Ilya Romanenko

**Friday, July 11, 10:30AM-12:30PM**

**Special Session: FrN2-1 Computational Intelligence Algorithms for Digital Audio Applications, Chair: Stefano Squartini and Francesco Piazza, Room: 308**

10:30AM *Semi-Supervised Non-Negative Tensor Factorisation of Modulation Spectrograms for Monaural Speech Separation*
Tom Barker and Tuomas Virtanen

10:50AM *Power Normalized Cepstral Coefficients Based Supervectors and i-Vectors for Small Vocabulary Speech Recognition*
Emanuele Principi, Stefano Squartini and Francesco Piazza

11:10AM *Advanced Audio Spatializer Combined with a Multipoint Equalization System*
Stefania Cecchi, Andrea Primavera, Francesco Piazza, Ferruccio Bettarelli and Junfeng Li

11:30AM *Advanced Intelligent Acoustic Interfaces for Multichannel Audio Reproduction*
Danilo Comminiello, Stefania Cecchi, Michele Gasparini, Michele Scarpiniti, Aurelio Uncini and Francesco Piazza

11:50AM *Audio Onset Detection: A Wavelet Packet Based Approach with Recurrent Neural Networks*
Erik Marchi, Giacomo Ferroni, Florian Eyben, Stefano Squartini and Bjorn Schuller
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<td>12:10PM</td>
<td>Special Session: FrN2-2 Intelligent Computing for Complex &amp; Big Data</td>
<td><strong>Transfer Learning Emotion Manifestation Across Music and Speech</strong></td>
<td>Eduardo Coutinho, Jun Deng and Bjorn Schuller</td>
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<td>Analysis in Health and Biomedical Informatics, Chair: Amit Kumar and</td>
<td><strong>A Novel Intelligent Systems for Speech Recognition</strong></td>
<td>Washington Silva and Ginalber Serra</td>
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<td>Shang-Ming Zhou, Room: 305A</td>
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<td>12:30PM</td>
<td>Special Session: FrN2-3 Data-Driven Adaptive Dynamic Programming, Chair:</td>
<td><strong>Domain Transfer Nonnegative Matrix Factorization</strong></td>
<td>Jim Jing-Yan Wang, Yijun Sun and Halima Bensmail</td>
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<td>Derong Liu and Haibo He, Room: 305B</td>
<td>**Identifying Stable Breast Cancer Subgroups Using Semi-Supervised</td>
<td>Daphne Teck Ching Lai and Jonathan Garibaldi</td>
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<td>Fuzzy c-Means on a Reduced Panel of Biomarkers</td>
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<td>11:10AM</td>
<td>Mining Textual Data from Primary Healthcare Records - Automatic</td>
<td>**Investigating the Impacts of Epilepsy on EEG-Based Person</td>
<td>Dinh Phung, Dat Tran, Wanli Ma, Phuoc Nguyen and Tien Pham</td>
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<td>Identification of Patient Phenotype Cohorts</td>
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<td>11:30AM</td>
<td>Using EEG Artifacts for BCI Applications</td>
<td><strong>Using EEG Artifacts for BCI Applications</strong></td>
<td>Wanli Ma, Dat Tran, Tien Pham, Trung Le and Hong Lin</td>
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<td>11:50AM</td>
<td>Comparison of Distance Metrics for Hierarchical Data in Medical</td>
<td>**Identifying Stable Breast Cancer Subgroups Using Semi-Supervised</td>
<td>Diman Hassan, Uwe Ackelin and Christian Wagner</td>
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<td>Investigating the Impacts of Epilepsy on EEG-Based Person Identification</td>
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<td>10:30AM</td>
<td>Special Session: FrN2-4 Data Mining and Knowledge Discovery, Chair:</td>
<td>**Online Learning Control Based on Projected Gradient Temporal</td>
<td>Jian Fu, Haibo He, Aihong Tang and Sujuan Wei</td>
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<td>Paulo Adeodato and Alessandro Sperduti, Room: 305C</td>
<td>Difference and Advanced Heuristic Dynamic Programming</td>
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<td>10:50AM</td>
<td>A Kalman Filter-Based Actor-Critic Learning Approach</td>
<td><strong>A Kalman Filter-Based Actor-Critic Learning Approach</strong></td>
<td>Bin Wang and Dongbin Zhao</td>
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<td>11:10AM</td>
<td>Self-Learning PD Algorithms Based on Approximate Dynamic Programming</td>
<td><strong>Self-Learning PD Algorithms Based on Approximate Dynamic Programming</strong></td>
<td>Huiyuan Yang, Qi Guo, Xin Xu and Chuanqiang Lian</td>
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<td>for Robot Motion Planning</td>
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<td>11:30AM</td>
<td>Near Optimal Event-Based Control of Nonlinear Discrete Time Systems</td>
<td><strong>Near Optimal Event-Based Control of Nonlinear Discrete Time Systems in Affine Form with Measured Input Output Data</strong></td>
<td>Avimanyu Sahoo, Hao Xu and Sarangapani Jagannathan</td>
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<td>in Affine Form with Measured Input Output Data</td>
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<td>11:50AM</td>
<td>Event-Triggered Reinforcement Learning Approach for Unknown Nonlinear</td>
<td><strong>Event-Triggered Reinforcement Learning Approach for Unknown Nonlinear Continuous-Time System</strong></td>
<td>Xiangnan Zhong, Zhen Ni, Haibo He, Xin Xu and Dongbin Zhao</td>
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<td><strong>Near Optimal Event-Based Control of Nonlinear Discrete Time Systems in Affine Form with Measured Input Output Data</strong></td>
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<td>12:10PM</td>
<td>Longitudinal Control of Hypersonic Vehicles Based on Direct Heuristic</td>
<td><strong>Longitudinal Control of Hypersonic Vehicles Based on Direct Heuristic Dynamic Programming Using ANFIS</strong></td>
<td>Xiong Luo, Yi Chen, Jennie Si and Feng Liu</td>
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FrN2-4 Data Mining and Knowledge Discovery, Chair: Paulo Adeodato and Alessandro Sperduti, Room: 305C

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<td>A Study on Asynchronous System in P300 Speller Based on User's</td>
<td>**A Study on Asynchronous System in P300 Speller Based on User's</td>
<td>Kohei Kawai, Tomohiro Yoshikawa and Takeshi Furuhashi</td>
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<td>10:50AM</td>
<td>Insights on Prediction of Patients' Response to Anti-HIV Therapies</td>
<td><strong>Insights on Prediction of Patients' Response to Anti-HIV Therapies through Machine Learning</strong></td>
<td>Rogerio Rosa, Rafael Santos, Adamo Brito and Katia Guimaraes</td>
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<td>11:10AM</td>
<td>Recognizing Cross-Lingual Textual Entailment with Co-Training Using</td>
<td><strong>Recognizing Cross-Lingual Textual Entailment with Co-Training Using Similarity and Difference Views</strong></td>
<td>Jiang Zhao and Man Lan</td>
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<td>Similarity and Difference Views</td>
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<td>11:30AM</td>
<td>A Novel Algorithm for Mining Behavioral Patterns from Wireless</td>
<td>**A Novel Algorithm for Mining Behavioral Patterns from Wireless</td>
<td>Md Mamunur Rashid, Iqbal Gondal and Joarder Kamruzzaman</td>
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<td>Sensor Networks</td>
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11:50AM  *Continuous Variables Segmentation and Reordering for Optimal Performance on Binary Classification Tasks*  
Paulo Adeodato, Domingos S. P. Salazar, Lucas S. Gallindo and Abner G. Sa

12:10PM  *Hybrid Classification with Partial Models*  
Bo Tang, Quan Ding, Haibo He and Steve Kay

**FrN2-5 Large Scale, Associative and Self-Organizing Networks**, Chair: Jinde Cao, Room: 305D ............................................ 243

10:30AM  *A Decomposition Method for Large-Scale Sparse Coding in Representation Learning*  
Yifeng Li, Richard Caron and Alioune Ngom

10:50AM  *The Stability and Bifurcation Analysis in High Dimensional Neural Networks with Discrete and Distributed Delays*  
Wenying Xu, Jinde Cao and Min Xiao

11:10AM  *Restricted Boltzmann Machine Associative Memory*  
Koki Nagatani and Masafumi Hagiwara

11:30AM  *Two-Factor User Authentication with the CogRAM Weightless Neural Net*  
Weng Kin Lai, Beng Ghee Tan, Ming Siong Soo and Imran Khan

11:50AM  *The Learning of Neuro-Fuzzy Approximator with Fuzzy Rough Sets in Case of Missing Features*  
Robert Nowicki, Bartosz Nowak, Janusz Starczewski and Krzysztof Cpalka

12:10PM  *A Dynamic Forecasting Method for Small Scale Residential Electrical Demand*  
Andrei Marinescu, Ivana Dusparic, Colin Harris, Vinny Cahill and Siobhan Clarke

**FrN2-6 Self-Organizing Maps**, Chair: Thomas Vacek, Room: 305E .................................................................................. 244

10:30AM  *A Spiking-Based Mechanism for Self-Organizing RBF Neural Networks*  
Honggui Han, Lidan Wang, Junfei Qiao and Gang Feng

10:50AM  *Support Vector Machine with SOM-Based Quasi-Linear Kernel for Nonlinear Classification*  
Yuling Lin, Yong Fu and Jinglu Hu

11:10AM  *The Generative Adaptive Subspace Self-Organizing Map*  
Thusitha Chandrapala and Bertram Shi

11:30AM  *Clustering of the Self-Organizing Map Using Particle Swarm Optimization and Validity Indices*  
Leonardo Enzo Brito da Silva and Jose Alfredo Ferreira Costa

**Friday, July 11, 1:30PM-3:30PM** ................................................................. 245

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1:30PM  *Model-Free Adaptive Dynamic Programming for Online Optimal Solution of the Unknown Nonlinear Zero-Sum Differential Game*  
Chunbin Qin, Huaguang Zhang and Yanhong Luo

1:50PM  *Direct Adaptive Control of a Four-Rotor Helicopter Using Disturbance Observer*  
Fuyang Chen, Bin Jiang and Feifei Lu

2:10PM  *Discrete-Time Polynomial Fuzzy Observer Designs via a Sum of Squares Approach*  
Yingying Wang, Huaguang Zhang, Jianyu Zhang and Yingchun Wang

2:30PM  *Adaptive Fault-Tolerant Control for a Class of Uncertain Nonlinear MISO Discrete-Time Systems in Triangular Forms with Actuator Failures*  
Lei Liu and Zhanshan Wang

2:50PM  *Decoupling Control for Five-Phase Fault-Tolerant Permanent-Magnet Motor by Using SVM Inverse System Method*  
Guohai Liu, Li Qu, Hao Zhang and Yan Jiang

3:10PM  *Fault Diagnosis of Five-Phase Fault-Tolerant Permanent-Magnet Motor Based on Principal Component Neural Network*  
Guohai Liu and Lu Zhou
Special Session: FrN3-2 Cognitive Computing and Neuro-Cognitive Robots, Chair: Huajin Tang and Gang Pan, Room: 305A

1:30PM Bio-Inspired Categorization Using Event-Driven Feature Extraction and Spike-Based Learning
Bo Zhao, Shoushun Chen and Huajin Tang

1:50PM A New Learning Rule for Classification of Spatiotemporal Spike Patterns
Qiang Yu, Huajin Tang and Kay Chen Tan

2:10PM Spatial Filter Adaptation Based on Geodesic-Distance for Motor EEG Classification
Xinyang Li, Cuntai Guan, Kai Keng Ang, Haihong Zhang and Sim Heng Ong

2:30PM Decoding Motor Cortical Activities of Monkey: A Dataset
Luoqing Zhou, Yu Qi, Yueming Wang, Gang Pan, Yiwen Wang, Xiaoxiang Zheng and Zhaohui Wu

2:50PM Programming a VG-RAM Based Neural Network Computer
Alberto F. De Souza, Avelino Forechi, Filipe W. Mutz, Mariella Berger, Thiago Oliveira-Santos and Claudine Badue

3:10PM High-Fidelity Compression of Electroneurographic Signals from Motor Cortex
Rachel Zhang, Gang Pan, Yueming Wang and Zhenfang Hu

3:30PM Cognitive Memory Systems in Consciousness and Memory Model
Zhongzhi Shi, Xiaofeng Wang and Xi Yang

FrN3-3 Unsupervised Learning and Clustering, Chair: Alessandro Ghio, Room: 305B

1:30PM Controlling Orthogonality Constraints for Better NMF Clustering
Ievgen Redko and Younes Bennani

1:50PM Random Subspaces NMF for Unsupervised Transfer Learning
Ievgen Redko and Younes Bennani

2:10PM User-Generated-Video Summarization Using Sparse Modelling
Yulong Liu, Huaping Liu, Yunhui Liu and Fuchun Sun

2:30PM Smartphone Battery Saving by Bit-Based Hypothesis Spaces and Local Rademacher Complexities
Davide Anguita, Alessandro Ghio, Luca Oneto and Sandro Ridella

2:50PM SVD Truncation Schemes for Fixed-Size Kernel Models
Ricardo Castro, Siamak Mehrkanoon, Anna Marconato, Johan Schoukens and Johan Suykens

FrN3-4 Cognition, Bio-Inspired and Biomorphic Systems, Chair: Ali Minai, Room: 305C

1:30PM The Stapedius Reflex: Processing Its Neuronal Activity with a Small Embedded System
Ralf Warmuth and Ralf Salomon

1:50PM Dynamic Modeling of an Ostraciiform Robotic Fish Based on Angle of Attack Theory
Wei Wang, Guangming Xie and Hong Shi

2:10PM Detection of Signaling Pathways in Human Brain during Arousal of Specific Emotion
Reshma Kar, Amit Konar, Aruna Chakraborty and Atulya Nagar

2:30PM Chunks of Thought: Finding Salient Semantic Structures in Texts
Mei Mei, Aashay Vanarase and Ali Minai

2:50PM Bio-Inspired Probabilistic Model for Crowd Emotion Detection
Mirza Waqar Baig, Emilia Barakova and Matthias Rauterberg

3:10PM A Self-Organized Artificial Neural Network Architecture that Generates the McGurk Effect
Lennart Gustafsson, Tamas Jantvik and Andrew Paplinski

FrN3-5 Machine Learning and Applications I, Chair: Bijaya Ketan Panigrahi, Room: 305D

1:30PM Exponential Synchronization for a Class of Networked Linear Parabolic PDE Systems via Boundary Control
Jun-Wei Wang, Cheng-Dong Yang and Chang-Yin Sun

1:50PM Combining Technical Trading Rules Using Parallel Particle Swarm Optimization Based on Hadoop
Fei Wang, Philip Yu and David Cheung
2:10PM  Prediction Interval Estimation for Electricity Price and Demand Using Support Vector Machines  
Nitin Anand Shrivastava, Abbas Khosravi and Bijaya Ketan Panigrahi

2:30PM  Enhancing MOPSO through the Guidance of ANNs  
Timothy Rawlins, Andrew Lewis, Jan Hettenhausen and Timoleon Kipouroς

2:50PM  Training High-Dimensional Neural Networks with Cooperative Particle Swarm Optimiser  
Anna Rakitianskaia and Andries Engelbrecht

3:10PM  Improved Modeling of Pneumatic Muscle Actuator Using Recurrent Neural Network  
Alexander Hosovsky, Jana Mizakova and Jan Pitel

FrN3-6 Brain-Machine Interfaces, Chair: Li-Wei Ko, Room: 305E

1:30PM  Explorer Based on Brain Computer Interface  
Lijuan Bai, Tianyou Yu and Yuanqing Li

1:50PM  Multi-Factor EEG-Based User Authentication  
Tien Pham, Wanli Ma, Dat Tran and Phuoc Nguyen

2:10PM  Recognizing Slow Eye Movement for Driver Fatigue Detection with Machine Learning Approach  
Yingying Jiao, Bao-Liang Lu, Xiaoping Chen, Shanguang Chen and Chunhui Wang

2:30PM  Neural Signal Analysis by Landmark-Based Spectral Clustering with Estimated Number of Clusters  
Thanh Nguyen, Abbas Khosravi, Douglas Creighton and Saeid Nahavandi

2:50PM  Calibration-Less Detection of Steady-State Visual Evoked Potentials - Comparisons and Combinations of Methods  
Hubert Cecotti and Damien Coyle

Friday, July 11, 4:00PM-6:00PM

Special Session: FrN4-1 Computational Intelligence in Cyber Security, Chair: Frank Jiang and Longbing Cao, Room: 308

4:00PM  Cognitive Neural Network for Cybersecurity  
Leonid Perlovsky and Olexander Shevchenko

4:20PM  Large Scale Recurrent Neural Network on GPU  
Boxun Li, Erjin Zhou, Bo Huang, Jiayi Duan, Yu Wang, Ningyi Xu, Jiaxing Zhang and Huazhong Yang

4:40PM  A Connectionist Approach to Airliner Safety  
Marvin Oliver Schneider and Joao Luis Garcia Rosa

5:00PM  Attribute Weighting: How and When Does it Work for Bayesian Network Classification  
Jia Wu, Zhixuan Cai, Shirui Pan, Xingquan Zhu and Chengqi Zhang

5:20PM  Extension of Similarity Measures in VSM: from Orthogonal Coordinate System to Affine Coordinate System  
Junyu Xuan, Jie Lu, Guangquan Zhang and Xiangfeng Luo

Special Session: FrN4-2 Computational Intelligence in Brain Computer Interface, Chair: Li-Wei Ko and Chin-Teng Lin, Room: 305A

4:00PM  Medical Diagnosis Applications Using a Novel Interactively Recurrent Self-Evolving Fuzzy CMAC Model  
Jyun-Guo Wang, Shen-Chuan Tai and Cheng-Jian Lin

4:20PM  A Novel Classification Method for Motor Imagery Based on Brain-Computer Interface  
Chih-Yu Chen, Chun-Wei Wu, Chin-Teng Lin and Shi-An Chen

4:40PM  Motor Imagery Classification for Brain-Computer Interfaces through a Chaotic Neural Network  
Denis Renato de Moraes Piazentin and Joao Luis Rosa

5:00PM  EEG-Based Driving Fatigue Prediction System Using Functional-Link-Based Fuzzy Neural Network  
Yu-Ting Liu, Yang-Yin Lin, Shang-Lin Wu, Chun-Hsiang Chuang and Chin-Teng Lin
Developing a Few-Channel Hybrid BCI System by Using Motor Imagery with SSVEP Assist
Li-Wei Ko, Shih-Chuan Lin and Meng-Shue Song

A Novel BCI-SSVEP Based Approach for Control of Walking in Virtual Environment Using a Convolutional Neural Network
Giacomo Tattoli, Domenico Buongiorno, Claudio Loconsole, Daniele Leonardi, Michele Barsotti, Vitoantonio Bevilacqua, Antonio Frisoli and Massimo Bergamasco

FrN4-3 Support Vector Machines and Kernel Methods, Chair: Alessandro Sperduti, Room: 305B

4:00PM Kernel-Based Semi-Supervised Learning for Novelty Detection
Van Nguyen, Trung Le, Pham Thien, Mi Dinh and Hoang Thai Le

4:20PM Robust Support Vector Machine
Trung Le, Dat Tran, Wanli Ma, Thien Pham, Phuong Duong and Minh Nguyen

4:40PM Integrating Bi-Directional Contexts in a Generative Kernel for Trees
Davide Bacciu, Alessio Micheli and Alessandro Sperduti

5:00PM Large Scale Semi-Supervised Learning Using KSC Based Model
Siamak Mehrkanoon and Johan Suykens

5:20PM A Practical SIM Learning Formulation with Margin Capacity Control
Thomas Vacek

5:40PM Quantized Mixture Kernel Least Mean Square
Roshan Pokharel, Sohan Seth and Jose Principe

FrN4-4 Feature Extraction and Classification Systems, Chair: Emil Eirola, Room: 305C

4:00PM Multi-View Uncorrelated Linear Discriminant Analysis with Applications to Handwritten Digit Recognition
Mo Yang and Shiliang Sun

4:20PM Differentially Private Feature Selection
Jun Yang and Yun Li

4:40PM A Binary Feature Selection Framework in Kernel Spaces
Chengzhang Zhu, Xinwang Liu, Sihang Zhou, Qiang Liu and Jianping Yin

5:00PM A Flexible and Efficient Algorithm for Regularized Marginal Fisher Analysis
Jinrong He, Lixin Ding, Lei Jiang and Li Huang

5:20PM Estimation of Individual Prediction Reliability Using Error Analysis Applied to Short-Term Load Forecasting Problem
Elia Matsuboto and Emilio Del-Moral-Hernandez

5:40PM The Delta Test: The 1-NN Estimator as a Feature Selection Criterion
Emi Eirola, Amaury Lensasse, Francesco Corona and Michel Verleysen

FrN4-5 Machine Learning and Applications II, Chair: Giacomo Boracchi, Room: 305D

4:00PM Improved Biogeography-Based Optimization Approach to Secondary Protein Prediction
Ruisong Fan, Haibin Duan and Guangming Xie

4:20PM Integrating Self-Organizing Neural Network and Motivated Learning for Coordinated Multi-Agent Reinforcement Learning in Multi-Stage Stochastic Game
Teck-Hou Teng, Al-Hwee Tan, Janusz Starzyk, Yuan-Sin Tan and Loo-Nin Teow

4:40PM Extracting Temporal Knowledge from Time Series: A Case Study in Ecological Data
Reggio Hartono, Russel Pears, Nikola Kasabov and Susan Worner

5:00PM Planning-Driven Behavior Selection Network for Controlling a Humanoid Robot
Yu-Jung Chae and Sung-Bae Cho

5:20PM Sliding Window-Based Analysis of Multiple Foreign Exchange Trading Systems by Using Soft Computing Techniques
Rodrigo Brito and Adriano Oliveira
5:40PM  Learning in Dynamic Decision Making: The Usability Process  
Liana Stanca, Ramona Lacurezeanu and Cristina Felea

FrN4-6 Neuromorphic Hardware, Chair: Eros Pasero, Room: 305E .......................... 256

4:00PM  Majority Neuron Circuit Having Large Fan-in with Non-Volatile Synaptic Weight  
Akima Hisanao, Katayama Yasuhiro, Nakajima Koji, Sakuraba Masao and Sato Shigeo

4:20PM  Accelerating Pattern Matching in Neuromorphic Text Recognition System Using Intel Xeon Phi Coprocessor  
Khadeer Ahmed, Qinru Qiu, Parth Malani and Mangesh Tamhankar

4:40PM  Optimising the Overall Power Usage on the SpiNNaker Neuromimetic Platform  
Evangelos Stromatias, Cameron Patterson and Steve Furber

5:00PM  Efficient Implementation of STDP Rules on SpiNNaker Neuromorphic Hardware  
Peter U. Diehl and Matthew Cook

5:20PM  Robust Doublet STDP in a Floating-Gate Synapse  
Roshan Gopalakrishnan and Arindam Basu

5:40PM  Clustering and Synchronous Firing of Coupled Rulkov Maps with STDP for Modeling Epilepsy  
Naohiro Shibuya, Charles Unsworth, Yoko Uwate and Yoshifumi Nishio
Monday, July 7, 1:30PM-3:30PM ................................................................. 259

Special Session: MoF1-1 Fuzzy Decision-Making: Consensus and Missing Preferences I, Chair: Francisco Chiclana and Enrique Herrera-Viedma, Room: 201A ................................................................. 259

1:30PM  Two Consensus Models Based on the Minimum Cost and the Maximum Return
Zaiwu Gong, Huanhuan Zhang, Chonglan Guo, Xiaoxia Xu and Chao Xu

1:50PM  A New Approach for Delphi Processes Based on Group Consensus with Linguistic Terms
Nuria Agell, Christ Jan Ganzewinkel, Monica Sanchez, Llorenç Rosello, Francesc Prats and Peter Andriessen

2:10PM  A Hybrid Weighted Aggregation Method Based on Consistency and Consensus in Group Decision Making
Feng Zhang, Joshua Ignatius, Chee Peng Lim and Yong Zhang

2:30PM  Multiperson Decision Making with Different Preference Representation Structures: A Selection Process Based on Prospect Theory
Yucheng Dong, Nan Luo and Hengjie Zhang

2:50PM  Can Indices of Ecological Evenness Be Used to Measure Consensus?
Gleb Beliakov, Simon James and Dale Nimmo

3:10PM  Multiplicative Consistency for Interval Additive Reciprocal Preference Relations
Jian Wu and Francisco Chiclana

Special Session: MoF1-2 Lattice Computing, Chair: Vassilis Kaburlasos, Room: 201B ................................. 260

1:30PM  Lattice Computing (LC) Meta-Representation for Pattern Classification
George Papakostas and Vassilis Kaburlasos

1:50PM  Two Lattice Metrics Dendritic Computing for Pattern Recognition
Gerhard X. Ritter, Gonzalo Urcid and Juan-Carlos Valdiviezo-N

2:10PM  An Introduction to the Max-Plus Projection Autoassociative Morphological Memory and Some of Its Variations
Marcos Eduardo Valle

2:30PM  FCknn: A Granular knn Classifier Based on Formal Concepts
Vassilis Kaburlasos, Vassilis Tsoukalas and Lefteris Moussiades

2:50PM  One Side Lattice Memory Reduced Ordering Function Allows Discrimination in Resting State fMRI
Manuel Grana and Darya Chyzhyk

3:10PM  Lattice-Valued Fuzzy Residual Finite Automata
Fugang Zhang and Yongming Li

MoF1-3 Fuzzy Control & Intelligent Systems I, Chair: Hamid Berenji and Zhijun Li, Room: 201C ............. 260

1:30PM  Weighted Fuzzy Fault Tolerant Model Predictive Control
Manikandan Pandiyan, Geetha Mani and Jovitha Jerome

1:50PM  Delay-Dependent Local Stabilization of Nonlinear Discrete-Time System Using T-S Models through Convex Optimization
Luis Silva, Valter Leite, Eugenio Castelan and Feng Gang

2:10PM  SNAC Based Near-Optimal Controller for Robotic Manipulator with Unknown Dynamics
Samrat Dutta and Laxmidhar Behera

2:30PM  Robust Adaptive Type-2 Fuzzy Logic Controller Design for a Flexible Air-Breathing Hypersonic Vehicle
Fang Yang, Jianqiang Yi, Xiangmin Tan and Ruyi Yuan
2:50PM  Attitude Tracking Control for Hypersonic Vehicles Based on Type-2 Fuzzy Dynamic Characteristic Modeling Method
Xiong Luo, Feng Liu and Fuchun Sun

3:10PM  Sliding Mode Control of Fuzzy Descriptor Systems with Time Delay
Mourad Kchaou and Ahmed El Hajjaji

MoF1-4 Fuzzy Logic and Fuzzy Set Theory I, Chair: Vladik Kreinovich and Yongming Li, Room: 201D ...

1:30PM  Cauchy-Like Functional Equation Based on a Class of Uninorms
Feng Qin

1:50PM  Data Driven Fuzzy Membership Function Generation for Increased Understandability
Dumidu Wijayasekara and Milos Manic

2:10PM  A Fuzzy Directional Distance Measure
Josie McCulloch, Chris Hinde, Christian Wagner and Uwe Aickelin

2:30PM  Hierarchy of Lattice-Valued Fuzzy Automata and Decidability of Their Languages
Qianqian Xue, Lei Li and Yongming Li

2:50PM  Analysing Fuzzy Sets through Combining Measures of Similarity and Distance
Josie McCulloch, Christian Wagner and Uwe Aickelin

3:10PM  Aggregating Fuzzy Implications Based on OWA-Operators
Ibero Benitez, Rosana Zanotelli, Renata Reiser, Simone Costa, Luciana Foss and Adenauer Yamin

Monday, July 7, 3:30PM-6:00PM ..............................................................................

Poster Session: PF1 Fuzzy Clustering and Classification, Chair: Laszlo Szilagyi and Feng Wan,
Room: Posters Area (Level 2)..............................................................................................................

P101  The SAR Image Segmentation Superpixel-Based with Optimized Spatial Information
Xiaolin Tian, Licheng Jiao, Yi Long and Xiaohua Zhang

P102  Knowledge-Leverage Based TSK Fuzzy System with Improved Knowledge Transfer
Zhaohong Deng, Yizhang Jiang, Longbing Cao and Shitong Wang

P103  Multiple-Kernel Based Soft Subspace Fuzzy Clustering
Jun Wang, Zhaohong Deng, Yizhang Jiang, Pengjiang Qian and Shitong Wang

P104  Fast Color Reduction Using Approximative C-Means Clustering Models
Laszlo Szilagyi, Gellert Denesi and Sandor Miklos Szilagyi

P105  A Fuzzy Clustering Algorithm with Robust Spatially Constraint for Brain MR Image Segmentation
Zexuan Ji, Guo Cao and Quansen Sun

P106  Fuzzy C-Means Clustering with Weighted Energy Function in MRF for Image Segmentation
Chi Wang, Jia Liu, Maoguo Gong, Licheng Jiao and Jing Liu

P107  Fuzzy Clustering Using Local and Global Region Information for Cell Image Segmentation
Amin Gharipour and Alan Wee-Chung Liew

P108  A Method of Remote Sensing Image Auto Classification Based on Interval Type-2 Fuzzy C-Means
Xianchuan Yu, Wei Zhou and Hui He

P109  Color Image Segmentation Based on Decision-Theoretic Rough Set Model and Fuzzy C-Means Algorithm
Min Guo and Lin Shang

P110  Fuzzy Clustering Algorithm with H-Operator Applied to Problems with Interval-based Data
Liliane Silva, Ronildo Moura, Anne Canuto, Regivan Santiago and Benjamin Bedregal

P111  A Novel Fuzzy Non-Homogeneity Measure Based Kernelized Image Segmentation for Noisy Images
Satrajit Mukherjee, Bodhaisattwa Prasad Majumder, Aritran Piplai and Swagatam Das

P112  A Novel Feature Measure for Fuzzy Clustering Algorithm on Microarray Data
Tian Yu and JinMao Wei
P113 Data-Based Fuzzy Rules Extraction Method for Classification
Xinyu Qiao, Zhenying Li, Wei Lu and Xiaodong Liu

P114 A Modified Fuzzy Co-Clustering (MFCC) Approach for Microarray Data Analysis
Sheng-Yao Huang, Hsing-Jen Sun, Chuen-Der Huang, I-Fang Chung and Chun-Hung Su

Monday, July 7, 4:00PM-6:00PM ................................................................. 265

Special Session: MoF2-1 Fuzzy Decision-Making: Consensus and Missing Preferences II, Chair: Jian Wu and Enrique Herrera-Viedma, Room: 201A ................................................................. 265

4:00PM Consistency Based Estimation of Fuzzy Linguistic Preferences. The Case of Reciprocal Intuitionistic Fuzzy Preference Relations
Francisco Chiclana, Jian Wu and Enrique Herrera-Viedma

4:20PM A Revised Procedure to Estimate Missing Values in Incomplete Fuzzy Preference Relations
Yejun Xu, Feng Ma and Huimin Wang

4:40PM A Method for Estimating Criteria Weights from Interval-Valued Intuitionistic Fuzzy Preference Relation
Weize Wang, Xinwang Liu and Jindong Qin

5:00PM A New Fuzzy Ranking Method Using Fuzzy Preference Relations
Kok Chin Chai, Kai Meng Tay and Chee Peng Lim

5:20PM Averaging Aggregation Functions for Preferences Expressed as Pythagorean Membership Grades and Fuzzy Orthopairs
Gleb Beliakov and Simon James

5:40PM Interval Type-2 Relational Analysis and Its Application to Multiple Attribute Decision Making
Jindong Qin and Xinwang Liu

Special Session: MoF2-2 Fuzzy Systems on Renewable Energy, Chair: Faa-Jeng Lin and Francesco Grimaccia, Room: 201B ................................................................. 266

4:00PM Intelligent Controlled Three-Phase Squirrel-Cage Induction Generator System Using Hybrid Wavelet Fuzzy Neural Network
Faa-Jeng Lin and Jin-Kuan Chang

4:20PM Adaptive Unscented Kalman Filter with a Fuzzy Supervisor for Electrified Drive Train Tractors
Pavel Osinenko, Mike Geissler and Thomas Herlitzius

4:40PM Improving LVRT Characteristics in Variable-Speed Wind Power Generation by Means of Fuzzy Logic
Minh Quan Duong, Francesco Grimaccia, Sonia Leva, Marco Mussetta and Riccardo E. Zich

5:00PM A Heuristic Fuzzy Algorithm Bio-Inspired by Evolution Strategies for Energy Forecasting Problems
Vitor N. Coelho, Frederico G. Guimaraes, Agnaldo J. R. Reis, Igor M. Coelho, Bruno N. Coelho and Marcone J. F. Souza

5:20PM Optimal Fuzzy Logic Based Coordination Controller for Improved Transient Stability of a Smart Grid
Ganesh Kumar Venayagamoorthy and Priyam Chakravarty

5:40PM Design and Implementation of Power Electronic Load Used to Test Tidal Current Energy Generator Sets
Shenghui Wang, Ming Li, Zhen Chen, Guanghong Chang, Jianguo Wang and Shiqi An

MoF2-3 Evolving & Adaptive Fuzzy Systems, Chair: Plamen Angelov and Pablo Estevez, Room: 201C ................................................................. 267

4:00PM Adaptive T-S Fuzzy Sliding Mode Control of MEMS Gyroscope
Yunmei Fang, Shitao Wang and Juntao Fei

4:20PM Fuzzy Adaptive Decentralized Control for Switched Nonlinear Large-Scale Systems Based on Backstepping Technique
Yongming Li, Shaocheng Tong and Tieshan Li
A Novel Meta-Cognitive-based Scaffolding Classifier to Sequential Non-stationary Classification Problems
Mahardhika Pratama, Meng Joo Er, Sreenatha Anavatti, Edwin Lughofer, Ning Wang and Imam Arifin

Adaptive Robust Tracking Control of Surface Vessels Using Dynamic Constructive Fuzzy Neural Networks
Ning Wang, Bijun Dai, Yancheng Liu and Min Han

Dynamically Evolving Fuzzy Classifier for Real-Time Classification of Data Streams
Rashmi Dutta Baruah, Plamen Angelov and Diganta Baruah

Globally Fuzzy Model Based Adaptive Variable Structure Control for a Class of Nonlinear Time-Varying Systems
Chih-Lyang Hwang

Optimized Fuzzy Association Rule Mining for Quantitative Data
Hui Zheng, Jing He, Guangyan Huang and Yanchun Zhang

MoF2-4 Fuzzy Logic and Fuzzy Set Theory II, Chair: Janos Grantner and Jian Wu, Room: 201D

Special Session: TuF1-1 Computing with Words in Decision Making, Chair: Francisco Herrera and Luis Martinez, Room: 201A

1:30PM A Distance Based Ranking Methods for Type-1 Fuzzy Numbers and Interval Type-2 Fuzzy Numbers
Xiuzhi Sang, Xinwang Liu and Mei Cai

1:50PM Connecting the Numerical Scale Model to the Unbalanced Linguistic Term Sets
Yucheng Dong, CongCong Li and Herrera Francisco

2:10PM New Linguistic Aggregation Operators for Decision Making
Manish Agarwal, Madasu Hanmandlu and Kanad Biswas

2:30PM A Consensus and Maximizing Deviation Based Approach for Multi-Criteria Group Decision Making under Linguistic Setting
Zhibin Wu and Yunfei Fang

2:50PM An Approach Based on Computing with Words to Manage Experts Behavior in Consensus Reaching Processes with Large Groups
Ivan Palomares, Francisco J. Quesada and Luis Martinez

3:10PM An Approach of Decision Making with Linguistic Weight
Li Zou, Yunxia Zhang, Zhiyan Chang and Yong Zhang
Special Session: TuF1-2 Time Series: Advanced Methods of Analysis and Forecast, Chair: IrinaPerfilieva
and Jin Hee Yoon, Room: 201B.................................................................270

1:30PM  A Proposal for the Hierarchical Segmentation of Time Series: Application to Trend-Based Linguistic
Description
Rita Castillo-Ortega, Nicolas Marin, Carmen Martinez-Cruz and Daniel Sanchez

1:50PM  Non-linear Variable Structure Regression (VSR) and Its Application in Time-Series Forecasting
Mohammad Kojani and Jerry Mendel

2:10PM  Fuzzy Rule-Based Ensemble for Time Series Prediction: The Application of Linguistic Associations
Mining
Martin Stepnicka, Lenka Stepnickova and Michal Burda

2:30PM  Forecasting Using F-Transform Based on Bootstrap Technique
Woo Joo Lee, Hye Young Jung, Jin Hee Yoon and Seung Hoe Choi

2:50PM  Time Series Grouping on the Basis of SF^1S-Transform
Anton Romanov, Irina Perfilieva and Nadezhda Yarushkina

3:10PM  Trust Prediction Using Z-Numbers and Artificial Neural Networks
Ali Azadeh, Reza Kokabi, Morteza Saberi, Farookh Khadeer Hussain and Omar Khadeer Hussain

Special Session: TuF1-3 Fuzzy Computer Vision and Biometrics, Chair: Chee Seng Chan, Room: 201C....271

1:30PM  Moving Vehicle Detection Based on Fuzzy Background Subtraction
Xiaofeng Lu, Takashi Izumi, Tomoaki Takahashi and Lei Wang

1:50PM  Interpolation Techniques versus F-Transform in Application to Image Reconstruction
Pavel Vlasanek and Irina Perfilieva

2:10PM  Building a Framework for Recognition of Activities of Daily Living from Depth Images Using Fuzzy
Logic
Tanvi Banerjee, James Keller and Marjorie Skubic

2:30PM  A Fuzzy Approach for Texture Contrast Modelling
Jesus Chamorro-Martinez, Pedro Martinez-Jimenez, Jose Manuel Soto-Hidalgo and Daniel Sanchez

2:50PM  A Preliminary Study on Fingerprint Classification Using Fuzzy Rule-Based Classification Systems
Mikel Galar, Sanz Jose, Pagola Miguel, Humberto Bustince and Francisco Herrera

3:10PM  Fuzzy Logic Based Sclera Recognition
Abhijit Das, Umapada Pal, Miguel Ferrer Ballaster and Michel Blumenstein

TuF1-4 Approximate Reasoning and Theory, Chair: Piero Bonissone and Jianqiang Yi, Room: 201D .......272

1:30PM  Reasoning with Words: A First Approximation
Clemente Rubio-Manzano and Pascual Julian-Iranzo

1:50PM  Fuzzy Qualitative Simulation with Multivariate Constraints
Wei Pang and George Coghill

2:10PM  L-Fuzzy Inference
Jonathan Garibaldi and Christian Wagner

2:30PM  Uncertain Interval Algebra via Fuzzy/Probabilistic Modeling
Keyvan Sadeghi and Ben Goertzel

2:50PM  New Links between Mathematical Morphology and Fuzzy Property-Oriented Concept Lattices
Juan Carlos Diaz, Nicolas Madrid, Jesus Medina and Manuel Ojeda-Aciego

3:10PM  Discrete Fuzzy Transform of Higher Degree
Michal Holcapek and Tomas Tichy
108

Special Session: TuF1-5 Advances to Type-2 Fuzzy Logic Control, Chair: Hao Ying and Tufan Kumbasar, Room: 303

1:30PM A Method for Deriving the Analytical Structure of the TS Fuzzy Controllers with Two Linear Interval Type-2 Fuzzy Sets for Each Input Variable
Haibo Zhou and Hao Ying

1:50PM Boundary Function Based Karnik- Mendel Type Reduction Method for Interval Type-2 Fuzzy PID Controllers
Mehmet Furkan Dodurka, Tufan Kumbasar, Ahmet Sakalli and Engin Yesil

2:10PM The Simplest Interval Type-2 Fuzzy PID Controller: Structural Analysis
Ahmet Sakalli, Tufan Kumbasar, Mehmet Furkan Dodurka and Engin Yesil

2:30PM Robust Stability Analysis of PD Type Single Input Interval Type-2 Fuzzy Control Systems
Tufan Kumbasar

2:50PM Hardware Implementation of a Novel Inference Engine for Interval Type-2 Fuzzy Control on FPGA
Matthew Schrieber and Mohammad Biglarbegian

3:10PM Uncertain Nonlinear Time Delay Systems Fast and Large Disturbance Rejection Based on Adaptive Interval Type-2 Fuzzy PI Control
Tsung-Chih Lin and Chien-Liang Chen

Tuesday, July 8, 3:30PM-6:00PM
Poster Session: PF2 Fuzzy Modeling, Control, & Applications I, Chair: Tsuyoshi Nakamura and Gwo-Ruey Yu, Room: Posters Area (Level 2)

P301 The Auto-Revising Method for Fuzzy Rule-Base
Feng Li, Zhengnan Wang, Mei Wang and Xiaoqiang Liu

P302 Hierarchical Fuzzy Sliding-Mode Control for Uncertain Nonlinear Under-Actuated Systems
Chiang-Cheng Chiang and Yao-Wei Yeh

P303 Variance and Passivity Constrained Fuzzy Control for Continuous Perturbed Fuzzy Systems with Multiplicative Noises
Wen-Jer Chang and Bo-Jyun Huang

P304 Rapid Face Detection Using an Automatic Distributing Detector Based on Fuzzy Logic
Wanjuan Song, Wenyong Dong and Jian Zhang

P305 Application of the Fuzzy Gain Scheduling IMC-PID for The Boiler Pressure Control
XiaoFeng Li, ShiHe Chen and Ruiyuan Wu

P306 Fuzzy Contexts (Type-C) and Fuzzymorphism to Solve Situational Discontinuity Problems
Kevin McCarty and Milos Manic

P307 Improvement on Fuzzy-Model-Based Stability Criteria of Nonlinear Networked Control Systems
Haobin Chen, Bin Tang, Jianan Huang and Yun Zhang

P308 Fuzzy Approximation Adaptive Control of Quadruped Robots with Kinematics and Dynamics Uncertainties
Zhijun Li, Shengtao Xiao and ShuZhi Sam Ge

P309 Fuzzy Proportional-Resonant Control Strategy for Three-Phase Inverters in Islanded Micro-Grid with Nonlinear Loads
Hongda Cai, Wei Wei, Yonggang Peng and Huiyong Hu

P310 Visual Servo Control of the Hexapod Robot with Obstacle Avoidance
Wen-Shyong Yu and Chiau-Wei Huang

P311 Improved Observer-Based H-Infinity Control for Fuzzy Interconnected Systems
Xinrui Liu, Xinming Hou, Kunya Guo, Zongrang Li and Jinsong Zhang

P312 A Novel Adaptive Fuzzy Control for a Class of Discrete-Time Nonlinear Systems in Strict-Feedback Form
Xin Wang, Tieshan Li and Lin Bin
P313  Design of MPPT by Using Interval Type-2 T-S Fuzzy Controller
Gwo-Ruey Yu

P314  Robust Fuzzy Digital PID Controller Design Based on Gain and Phase Margins Specifications
Ginalber Serra and Danubia Pires

P315  Fuzzy Control for Kite-Based Tethered Flying Robot
Tohru Ishii, Yasutake Takahashi, Yoichiro Maeda and Takayuki Nakamura

Tuesday, July 8, 4:00PM-6:00PM .......................................................... 276

Special Session: TuF2-1 Computing with Words and Fuzzy Natural Language Processing, Chair: Jerry Mendel, Room: 201A .......................................................... 276

4:00PM  On the Creation of a Fuzzy Dataset for the Evaluation of Fuzzy Semantic Similarity Measures
Keely Crockett, David Chandran and David Mclean

4:20PM  A Numerical Two-Scale Model of Multi-Granularity Linguistic Variables and Its Application to Group Decision Making
Mei Cai, Xiuzhi Sang and Xinwang Liu

4:40PM  Determining Interval Type-2 Fuzzy Set Models for Words Using Data Collected from One Subject: Person FOUs
Jerry Mendel and Dongrui Wu

5:00PM  Twitter Topic Fuzzy Fingerprints
Hugo Rosa, Fernando Batista and Joao Paulo Carvalho

5:20PM  On the Use of Hesitant Fuzzy Linguistic Term Set in FLINTSTONES
Francisco J. Estrella, Rosa M. Rodriguez, Macarena Espinilla and Luis Martinez

5:40PM  Exploring Statistical Attributes Obtained from Fuzzy Agreement Models
Simon Miller, Christian Wagner and Jonathan Garibaldi

Special Session: TuF2-2 Applications of Type-2 Fuzzy Systems, Chair: Christian Wagner, Room: 201B .......................................................... 277

4:00PM  A General Type-II Similarity Based Model for Breast Cancer Grading with FTIR Spectral Data
Shabbar Naqvi, Simon Miller and Jonathan Garibaldi

4:20PM  An Interval Type-2 Fuzzy Logic Based System with User Engagement Feedback for Customized Knowledge Delivery within Intelligent E-Learning Platforms
Khalid Almohammadi, Bo Yao and Hani Hagras

4:40PM  Fuzzy Perceptron with Pocket Algorithm in Postoperative Patient Data Set
Suwannee Phitakwinai, Sansanee Auephanwiriyakul and Nipon Theera-Umpon

5:00PM  A Type-2 Fuzzy Logic System for Linguistic Summarization of Video Sequence in Indoor Intelligent Environments
Bo Yao, Hani Hagras, Daniyal Alghazzawi and Mohammed J. Alhaddad

5:20PM  Designing Practical Interval Type-2 Fuzzy Logic Systems Made Simple
Dongrui Wu and Jerry Mendel

5:40PM  Real-Time Power Aware Scheduling for Tasks with Type-2 Fuzzy Timing Constraints
Rahul Nath, Amit K. Shukla and Pranab Muhuri

Special Session: TuF2-3 Computational Intelligence for Human-centred Applications, Chair: Giovanni Acampora, Room: 201C .......................................................... 278

4:00PM  An Optimization Model for FML-Based Decision Support System on Energy Management
Mei-Hui Wang, Pi-Jen Hsieh, Chang-Shing Lee, David Lupien St-Pierre and Che-Hung Liu

4:20PM  Extending FML with Evolving Capabilities through a Scripting Language Approach
Giovanni Acampora, Marek Reformat and Autilia Vitiello

4:40PM  A Fuzzy Logic Based Reputation System for E-Markets
Giovanni Acampora, Arcangelo Castiglione and Autilia Vitiello
5:00PM  Activities Recognition and Worker Profiling in the Intelligent Office Environment Using a Fuzzy Finite State Machine
Caroline Langensiepen, Ahmad Lotfi and Puteh Saifullizam

5:20PM  An Extended Neuro-Fuzzy Approach for Efficiently Predicting Review Ratings in E-Markets
Giovanni Acampora, Georgina Cosma and Taha Osman

5:40PM  Type-2 Fuzzy Set Construction and Application for Adaptive Student Assessment System
Mei-Hui Wang, Chi-Shiang Wang, Chang-Shing Lee, Su-Wei Lin and Pi-Hsia Hung

TuF2-4 Fuzzy Control and Intelligent Systems II, Chair: Chin-Teng Lin and Timothy Havens, Room: 201D

4:00PM  Fuzzy Sliding Surface Control of Wind-Induced Vibration
Suresh Thenozhi and Yu Wen

4:20PM  Automatic Tuning of PID Controllers in Engine Control Units by Means of Local Model Networks and Evolutionary Optimization
Christian Mayr, Nikolaus Euler-Rolle and Stefan Jakubek

4:40PM  Stabilization Analysis of Single-Input Polynomial Fuzzy Systems Using Control Lyapunov Functions
Radian Furqon, Ying-Jen Chen, Motoyasu Tanaka, Kazuo Tanaka and Hua O. Wang

5:00PM  Real Time Fuzzy Controller for Quadrotor Stability Control
Pranav Bhatkhande and Timothy Havens

5:20PM  Robust Adaptive Fuzzy Control of Uncertain Bilinear Systems with Unknown Dead-Zone
Chiang-Cheng Chiang and Chao-Yu Cheng

5:40PM  Structure and Parameter Optimization of FNNs Using Multi-objective ACO for Control and Prediction
Chia-Feng Juang and Chia-Hung Hsu

Industrial Session: TuF2-5 CI on Big Data and Social Networks, Chair: Catherine Huang, Room: 303......280

4:00PM  Exploiting Homophily-Based Implicit Social Network to Improve Recommendation Performance
Tong Zhao, Junjie Hu, Pinjia He, Huang Fan, Irwin King and Michael Lyu

4:20PM  Anomaly Detection Based on Indicators Aggregation
Tsirizo Rabenoro, Jerome Lacaille, Marie Cottrell and Fabrice Rossi

4:40PM  Mixture Modeling and Inference for Recognition of Multiple Recurring Unknown Patterns
Zeyu You, Raviv Raich and Yonghong Huang

5:00PM  Investigating the Quality of a Bibliographic Knowledge Base Using Partitioning Semantics
Lea Guizol and Madalina Croitoru

5:20PM  A Structure Optimization Algorithm of Neural Networks for Large-Scale Data Sets
Jie Yang, Jun Ma, Matthew Berryman and Pascal Perez

5:40PM  An Improved Ant Colony Algorithm for Winner Determination in Multi-Attribute Combinatorial Reverse Auction
Xiaolu Qian, Min Huang, Taiguang Gao, and Xingwei Wang

Wednesday, July 9, 1:30PM-3:30PM ................................................................. 281

Special Session: WeF1-1 Human Symbiotic Systems I, Chair: Yoichiro Maeda, Room: 201A .................281

1:30PM  A Study on Improvement of Serendipity in Item-Based Collaborative Filtering Using Association Rule
Hiroaki Ito, Tomohiro Yoshikawa and Takeshi Furushashi

1:50PM  Investigation of the Effects of Nonverbal Information on Werewolf
Daisuke Katagami, Shono Takaku, Michimasu Inaba, Hirotaoka Osawa, Kosuke Shinoda, Junji Nishino and Fujio Toriumi

2:10PM  A Study on Extraction of Minority Groups in Questionnaire Data Based on Spectral Clustering
Kazuo Inagaki, Tomohiro Yoshikawa and Takeshi Furushashi

2:30PM  Classification of Writing-Skill Features Using Embodied Expertise Onomatopoeias
Hiroki Hojo, Junji Isogai, Tsuyoshi Nakamura, Yutaro Tomoto, Masayoshi Kanoh and Koji Yamada
2:50PM  A Crossover Operation for Evolutionary Binary Decision Diagrams
Kai Sugimoto, Tsuyoshi Nakamura and Masayoshi Kanoh

3:10PM  Robot-Human Interaction to Encourage Voluntary Action
Hiroyuki Masuta, Yusei Matsuo, Hun-ok Lim and Naoyuki Kubota

Special Session: WeF1-2 Methods and Applications of Fuzzy Cognitive Maps, Chair: Engin Yesil and Elpiniki Papageorgiou, Room: 201B

1:30PM  Modelling Dynamic Causal Relationship in Fuzzy Cognitive Maps
Yuan Miao

1:50PM  Triangular Fuzzy Number Representation of Relations in Fuzzy Cognitive Maps
Engin Yesil, Mehmet Furkan Dodurka and Leon Urbas

2:10PM  Analysis of Fuzzy Cognitive Maps with Multi-Step Learning Algorithms in Valuation of Owner-Occupied Homes
Katarzyna Poczeta and Alexander Yastrebov

2:30PM  Learning Large-Scale Fuzzy Cognitive Maps Using a Hybrid of Memetic Algorithm and Neural Network
Yaxiong Chi and Jing Liu

2:50PM  ICLA Imperialist Competitive Learning Algorithm for Fuzzy Cognitive Map
Sadra Ahmadi, Somayeh Alizadeh, Nafiseh Forouzideh, Chung-Hsing Yeh, Rodney Martin and Elpiniki Papageorgiou

3:10PM  Towards a Hybrid Approach of Primitive Cognitive Network Process and Fuzzy Cognitive Map for Box Office Analysis
Nicole Yamei Zhou and Kevin Kam Fung Yuen

WF1-3 Real World Applications, Chair: Tadanari Taniguchi and Huaguang Zhang, Room: 201C

1:30PM  Cooperative and Hierarchical Fuzzy MPC for Building Heating Control
Barbara Mayer, Michaela Killian and Martin Kozek

1:50PM  A Clustering Routing Protocol for Wireless Sensor Networks Based on Type-2 Fuzzy Logic and ACO
QiYe Zhang, ZeMing Sun and Feng Zhang

2:10PM  An Adaptive Interval Type-2 Fuzzy Logic Framework for Classification of Anterior Cruciate Ligament Reconstructed Subjects
Owais A Malik, S. M. N. Arosa Senanayake and Danish Zaheer

2:30PM  Fuzzy Breast Cancer Risk Assessment
Aniele C. Ribeiro, Deborha P. Silva, and Ernesto Araujo

2:50PM  Fuzzy Chest Pain Assessment for Unstable Angina Based on Braunwald Symptomatic and Obesity Clinical Conditions
Thiago Orsi, Ernesto Araujo and Ricardo Simoes

3:10PM  Long Term Prediction for Generation Amount of Converter Gas Based on Steelmaking Production Status Estimation
Xiaoyan Tang, Jun Zhao, Chunyang Sheng and Wei Wang

WeF1-4 Fuzzy Pattern Recognition & Image Processing, Chair: Dongbin Zhao and Isao Hayashi, Room: 201D

1:30PM  Fuzzy Classification of Orchard Pest Posture Based on Zernike Moments
Wenyong Li, Shangfeng Du, Meixiang Chen, Ming Li and Chuanheng Sun

1:50PM  Fuzzy Measures of Pixel Cluster Compactness
Gleb Beliakov, Gang Li, Quan Vu and Tim Wilkin

2:10PM  Image Composition Using F-Transform
Marek Vajgl, Petr Hurtik, Irina Perfilieva and Petra Hodakova
2:30PM  *Fusion of Multi-Spectral and Panchromatic Satellite Images Using Principal Component Analysis and Fuzzy Logic*
Reham Gharbia, Ali Hassan El Baz, Aboul Ella Hassanien, Gerald Schaefer, Tomoharu Nakashima and Ahmad Taher Azar

2:50PM  *Structural Classification of Proteins through Amino Acid Sequence Using Interval Type-2 Fuzzy Logic System*
Thanh Nguyen, Abbas Khosravi, Douglas Creighton and Saeid Nahavandi

3:10PM  *A Hybrid Type-2 Fuzzy Clustering Technique for Input Data Preprocessing of Classification Algorithms*
Vahid Nouri, Mohammad-R Akbarzadeh-T and Alireza Rowhanimanesh

**Wednesday, July 9, 3:30PM-6:00PM**

Poster Session: PF3 Fuzzy Theory & Decision Making, Chair: Christian Mayr and Anca Croitoru, Room: Posters Area (Level 2)

P501  *On the Cross-Migrativity of Triangular Subnorms*
Hangdan Wang and Qin Feng

P502  *A Fast Geometric Defuzzication Algorithm for Large Scale Information Retrieval*
Simon Coupland, David Croft and Stephen Brown

P503  *A Novel Algorithm to Solve the Minimal Hitting Sets in MBD*
Jianfang Xu, Zhigang Liu and Chenxi Dai

P504  *Fuzzy Linguistic First Order Logic Based on Refined Hedge Algebra*
Duc Khanh Tran and Minh Tam Nguyen

P505  *Bayesian Games with Ambiguous Type Players*
Youzhi Zhang, Xudong Luo, Wenjun Ma and Ho-fung Leung

P506  *Clustering Based Outlier Detection in Fuzzy SVM*
Rahul Kumar Sevakula and Nishchal Kumar Verma

P507  *Situation-Based Allocation of Medical Supplies in Unconventional Disasters with Fuzzy Triangular Values*
Junhu Ruan and Yan Shi

P508  *Novel Hierarchical Fault Diagnosis Approach for Smart Power Grid with Information Fusion of Multi-Data Resources Based on Fuzzy Petri Net*
Yingnan Wang, Jinfeng Ye, Guojun Xu, Qingmiao Chen, Haiyang Li and Xinrui Liu

P509  *A New Approach to Improve the Consistency of Linguistic Pair-Wise Comparison Matrix and Derive Interval Weight Vector*
Hengshan Zhang, Qinghua Zheng, Ting Liu and Yan Nan

P510  *Collaborative Diagnosis through Fuzzy Petri Net Based Agent Argumentation*
Xuehong Tao, Yuan Miao, Yanchun Zhang and Zhiqi Shen
Estimations, Convergences and Comparisons on Fuzzy Integrals of Sugeno, Choquet and Gould Type
Anca Croitoru and Nikos Mastorakis

An Approach to Covering-Based Rough Sets through Bipartite Graphs
Jingqian Wang and William Zhu

A Generalized Equilibrium Value-Based Approach for Solving Fuzzy Programming Problem
Chenzia Jin, Yan Shi, Meng Yang and Fachao Li

On Three Types of Covering-Based Rough Sets via Definable Sets
Yanfang Liu and William Zhu

Multi-Agent Evolutionary Design of Beta Fuzzy Systems
Yosra Jarraya, Souhir Bouaziz, Adel M. Alimi and Ajith Abraham

T-S Fuzzy Affine Linear Modeling Algorithm by Possibilistic C-Regression Models Clustering Algorithm
Chung-Chun Kung and Hong-Chi Ku

An Under-Sampling Method Based on Fuzzy Logic for Large Imbalanced Dataset
Ginny Y. Wong, Frank H. F. Leung and Sai-Ho Ling

A Differential Evolution Based Adaptive Neural Type-2 Fuzzy Inference System for Classification of Motor Imagery EEG Signals
Debabrota Basu, Saugat Bhattacharyya, Dwaipayan Sardar, Amit Konar, D.N. Tibarewala and Atulya Nagar

Construction of Slope-Consistent Trapezoidal Interval Type-2 Fuzzy Sets for Simplifying the Perceptual Reasoning Method
Chengdong Li, Jianqiang Yi, Guiqing Zhang and Ming Wang

Wednesday, July 9, 4:00PM-6:00PM

Special Session: WeF2-1 Human Symbiotic Systems II, Chair: Daisuke Katagami, Room: 201A

4:00PM Effect of Robot Utterances Using Onomatopoeia on Collaborative Learning
Felix Jimenez, Masayoshi Kanoh, Tomohiro Yoshikawa, Takeshi Furuhashi and Tsuyoshi Nakamura

4:20PM Behavior Extraction from Tweets Using Character N-Gram Models
Yuji Yano, Tomonori Hashiyama, Junko Ichino and Shun'iichi Tano

4:40PM Saliency Map for Visual Attention Region Prediction Based on Fuzzy Neural Network
Mao Wang, Yoichiro Maeda and Yasutake Takahashi

5:00PM Melody Oriented Interactive Chaotic Sound Generation System Using Music Conductor Gesture
Shuai Chen, Yoichiro Maeda and Yasutake Takahashi

5:20PM Intention Recognition by Inverted Two-Wheeled Mobile Robot through Interactive Operation
Yasutake Takahashi, Takuya Inoue and Nakamura Takayuki

Linh Tuan Dang, Eric W. Cooper and Katsuari Kamei

Special Session: WeF2-2 Modalities of Fuzzy Signatures in Knowledge Representation, Chair: Laszlo Koczy, Sukanya Manna and Tom Gedeon, Room: 201B

4:00PM On the Development of Signatures for Artificial Intelligence Applications
Claudiu Pozna, Radu-Emil Precup, Peter Foldesi and Laszlo Koczy

4:20PM A Price Prediction Model for Online Auctions Using Fuzzy Reasoning Techniques
Preetinder Kaur, Madhu Goyal and Jie Lu

4:40PM OWA-Based Fuzzy Rule Interpolation for Group Decision Making
Chengyuan Chen and Qiang Shen

5:00PM Sensitivity Analysis of the Weighted Generalized Mean Aggregation Operator and Its Application to Fuzzy Signatures
Istvan Harmati, Adam Bukovics and Laszlo Koczy
5:20PM  Understanding Early Childhood Obesity Risks: An Empirical Study Using Fuzzy Signatures  
        Sukanya Manna and Abigail M. Jewkes

5:40PM  A New Fuzzy Graph and Signature Based Approach to Describe Fuzzy Situational Maps  
        Aron Ballagi, Claudiu Pozna and Laszlo Koczy

WeF2-3 Hybrid Fuzzy Systems, Chair: Scott Dick and Chiew Foong Kwong, Room: 201C ................................290

4:00PM  Oil Spill Trajectory Tracking Using Swarm Intelligence and Hybrid Fuzzy System  
        Mohsen Pashna, Rubiyah Yusof and Rasoul Rahmani

4:20PM  Generating Interpretable Mamdani-Type Fuzzy Rules Using a Neuro-Fuzzy System Based on Radial  
        Basis Functions  
        Diego G. Rodrigues, Gabriel Moura, Carlos M. C. Jacinto, Paulo Jose de Freitas Filho and Mauro  
        Roisemberg

4:40PM  An ANFIS Approach to Transmembrane Protein Prediction  
        Hassan Kazemian and Syed Adnan Yusuf

5:00PM  Binary Fish School Search Applied to Feature Selection: Application to ICU Readmissions  
        Joao Sargo, Susana Vieira, Joao Sousa and Carmelo Filho

5:20PM  The ANFIS Handover Trigger Scheme: The Long Term Evolution (LTE) Perspective  
        Chiew Foong Kwong, Teong Chee Chuah and Su Wei Tan

5:40PM  Genetic Fuzzy Classifier with Fuzzy Rough Sets for Imprecise Data  
        Janusz Starczewski, Robert Nowicki and Bartosz Nowak

6:00PM  An Improvement in Forecasting Interval based Fuzzy Time Series  
        Shanoli Samui Pal, Tandra Pal and Samarjit Kar

WeF2-4 Fuzzy Decision Making and Decision Support Systems I, Chair: Mika Sato-Ilic and Mengyin Fu,  
Room: 201D ....................................................................................................................291

4:00PM  The Prioritization for Higher Education Institutions Performance Criteria with Fuzzy Analytical  
        Hierarchy Process  
        Rati Wongsathan, Witchakorn Khuanankaew and Aitsari Khaothawirat

4:20PM  Use of Cumulative Information Estimations for Risk Assessment of Heart Failure Patients  
        Jan Bohacik, Chandra Kambhampati, Darryl Davis and John Cleland

4:40PM  A Quantitative Preference-Based Structured Argumentation System for Decision Support  
        Nouredine Tamani and Madalina Croitoru

5:00PM  Fuzzy Group Decision Making Based on Variable Weighted Averaging Operators  
        Deqing Li, Wenyi Zeng and Junhong Li

5:20PM  Developing Tw fuzzy DEMATEL Method for Evaluating Green Supply Chain Management Practices  
        Kuo-Ping Lin, Ru-Jen Lin and Kuo-Chen Hung

5:40PM  Gradient-Based Fuzzy Fault Isolation in Residual-Based Fault Detection Systems  
        Francisco Serdio, Edwin Lughofer, Kurt Pichler, Thomas Buchegger, Markus Pichler and Hajrudin  
        Efendic

Special Session: WeC2-1 CIS and WCCI Competition Session, Chair: Swagatam Das and Alessandro  
Sperduti, Room: 311A .........................................................................................................293

4:00PM  IEEE CIS Ghosts Challenge 2013  
        Alessandro Sperduti

4:45PM  Evolutionary Computation for Dynamic Optimization Problems  
        Changhe Li, Michalis Mavrovouniotis, Shengxiang Yang and Xin Yao

5:10PM  Optimization of Problems with Multiple Interdependent Components  
        Sergey Polyakovskiy, Markus Wagner, Mohammad Reza Bonyadi, Frank Neumann and Zbignew  
        Michalewicz

5:35PM  First Neural Connectomics Challenge: From Imaging to Connectivity  
        Demian Battaglia
Thursday, July 10, 1:30PM-3:30PM........................................................................293

Special Session: ThF1-1 Hand Skill Recognition and Transfer, Chair: Honghai Liu, Room: 201A .............293

1:30PM  
**Active Interaction Control of a Rehabilitation Robot Based on Motion Recognition and Adaptive Impedance Control**  
Wei Meng, Yilin Zhu, Zude Zhou, Kun Chen and Qingsong Ai

1:50PM  
**Fuzzy Neural Network-Based Adaptive Impedance Force Control Design of Robot Manipulator under Unknown Environment**  
Wei-Chen Wang and Ching-Hung Lee

2:10PM  
**Finger Pinch Force Estimation through Muscle Activations Using a Surface EMG Sleeve on the Forearm**  
Yinfeng Fang, Zhaojie Ju, Xiangyang Zhu and Honghai Liu

2:30PM  
**Joint Angle Estimation System for Rehabilitation Evaluation Support**  
Junya Kusaka, Takenori Obo, Janos Botzheim and Naoyuki Kubota

2:50PM  
**Fuzzy-Based Adaptive Motion Control of a Virtual iCub Robot in Human-Robot-Interaction**  
Zejun Xu, Chenguang Yang, Hongbin Ma and Mengyin Fu

3:10PM  
**Teleoperation of a Virtual iCub Robot under Framework of Parallel System via Hand Gesture Recognition**  
Chen Li, Hongbin Ma, Chenguang Yang and Mengyin Fu

Special Session: ThF1-2 Hybridisations, Extensions, and High-Order Fuzzy Sets, Chair: Neil Mac Parthaláin and Richard Jensen, Room: 201B........................................................................................................294

1:30PM  
**Approximate Nature of Traditional Fuzzy Methodology Naturally Leads to Complex-Valued Fuzzy Degrees**  
Olga Kosheleva and Vladik Kreinovich

1:50PM  
**Tightly Coupled Fuzzy Rough Description Logic Programs under the Answer Set Semantics for the Semantic Web**  
Tingting Zou, Yanpeng Qu and Ansheng Deng

2:10PM  
**Feature Grouping-Based Fuzzy-Rough Feature Selection**  
Richard Jensen, Neil Mac Parthalain and Chris Cornelis

2:30PM  
**An Advancing Investigation on Reduct and Consistency for Decision Tables in Variable Precision Rough Set Models**  
James N. K. Liu, Yanxing Hu, Jia You and He Yulin

2:50PM  
**Heuristic Search for Fuzzy-Rough Bireducts and Its Use in Classifier Ensembles**  
Ren Diao, Neil Mac Parthalain, Richard Jensen and Qiang Shen

3:10PM  
**Hybrid Fuzzy Genetics-Based Machine Learning with Entropy-Based Inhomogeneous Interval Discretization**  
Yuji Takahashi, Yusuke Nojima and Hisao Ishibuchi

ThF1-3 Fuzzy Clustering, Chair: Seiichi Ozawa and Xiao-Jun Zeng, Room: 201C.............................................................................295

1:30PM  
**Incremental Fuzzy Clustering for Document Categorization**  
Jianping Mei, Yangtao Wang, Lihui Chen and Chunyan Miao

1:50PM  
**Enhanced Cluster Validity Index for the Evaluation of Optimal Number of Clusters for Fuzzy C-Means Algorithm**  
Neha Bharill and Aruna Tiwari

2:10PM  
**A Learning Scheme to Fuzzy C-Means Based on a Compromise in Updating Membership Degrees**  
Shang-Lin Wu, Yang-Yin Lin, Yu-Ting Liu, Chih-Yu Chen and Chin-Teng Lin

2:30PM  
**Link-Based Pairwise Similarity Matrix Approach for Fuzzy C-Means Clustering Ensemble**  
Pan Su, Changjing Shang and Qiang Shen

2:50PM  
**Fuzzy Clustering Using Automatic Particle Swarm Optimization**  
Min Chen and Ludwig Simone
3:10PM  A Preprocessed Induced Partition Matrix Based Collaborative Fuzzy Clustering for Data Analysis
Mukesh Prasad, Dong Lin Li, Yu-Ting Liu, Linda Siana, Chin-Teng Lin and Amit Saxena

3:30PM  Dynamic Texture Classification Using Local Fuzzy Coding
Liuyang Wang, Huaping Liu and Fuchun Sun

Thursday, July 10, 3:30PM-6:00PM

Poster Session: PF4 Fuzzy Modeling, Control, & Applications II, Chair: Tomoharu Nakashima and Neha Bharill, Room: Posters Area (Level 2)

P701  Reengineering Fuzzy Nested Relational Databases into Fuzzy XML Model
Weijun Li, Xu Chen and Z. M. Ma

P702  Evaluation of Responsiveness of Health Systems Using Fuzzy-based Technique
Sukanya Phongsuphap and Yongyuth Pongsupap

P703  A Fuzzy Logic Based Parkinson's Disease Risk Predictor
Siyuan Liu, Zhiqi Shen, Martin J. McKeown, Cyril Leung and Chunya Mia

P704  An Integrated Intelligent Technique for Monthly Rainfall Time Series Prediction
Jesada Kajornrit, Kok Wai Wong, Chun Che Fung and Yew Soon Ong

P705  A Fuzzy Ontology Driven Method for a Personalized Query Reformulation
Hajer Baazouzi-zghal and Henda Ben ghezala

P706  A Comparison of Computational Intelligence Techniques for Energy Time Series Forecasting
Abbas Namdar and Hamid Berenji

P707  Perceptual Computing Based Performance Control Mechanism for Power Efficiency in Mobile Embedded Systems
Prashant Gupta and Pranab Muhuri

P708  Medical Diagnosis and Monotonicity Clarification Using SIRMs Connected Fuzzy Inference Model with Functional Weights
Hirosato Seki and Tomoharu Nakashima

P709  T-S Fuzzy Models Based Approximation for General Fractional Order Nonlinear Dynamic Systems
Yong Wang, Yiheng Wei, Min Zhu, Mengmeng Liu, Cheng Peng and Zeshao Chen

P710  A Mathematical Programming Method for the Multiple Attribute Decision Making with Interval Intuitionistic Fuzzy Values
Junfeng Chu and Xinwang Liu
P711  Fuzzy Multi Entity Bayesian Networks: A Model for Imprecise Knowledge Representation and Reasoning in High-Level Information Fusion  
Keyvan Golestan, Fakhri Karray and Mohamed S. Kamel

P712  The Realization Problems Related to Weighted Transducers over Strong Bimonoids  
Ping Li, Yongming Li and Shengling Geng

P713  Identification of Dynamic Systems Using a Differential Evolution-Based Recurrent Fuzzy System  
Cristian dos Santos, Rogerio Espindola, Vinicius Vieira and Alexandre Evsukoff

P714  Similarities in Structured Spaces of Sets  
Wladyslaw Homenda and Agnieszka Jastrzebska

P715  A Novel Low-Complexity Method for Determining Nonadditive Interaction Measures Based on Least-Norm Learning  
Wei An, Chunxiao Ren, Song Ci, Dalei Wu, Haiyan Luo and Yanwei Liu

P716  Model Reference Adaptive Iterative Learning Control for Nonlinear Systems Using Observer Design  
Ying-Chung Wang, Chiang-Ju Chien and I-Hong Jhuo

Thursday, July 10, 4:00PM-6:00PM ................................................................. 300

Special Session: ThF2-1 Computational Intelligence for Cognitive Robotics, Chair: Naoyuki Kubota, 
Room: 201A ................................................................. 300

4:00PM  A Reduced Classifier Ensemble Approach to Human Gesture Classification for Robotic Chinese Handwriting  
Fei Chao, Yan Sun, Zhengshuai Wang, Gang Yao, Zuyuan Zhu, Changle Zhou, Qinggang Meng and Min Jiang

4:20PM  Reinforcement Learning in Non-Stationary Environments: An Intrinsically Motivated Stress Based Memory Retrieval Performance (SBMRP) Model  
Tiong Yew Tang, Simon Egerton and Naoyuki Kubota

4:40PM  A Modified EM Algorithm for Hand Gesture Segmentation in RGB-D Data  
Zhaojie Ju, Yuehui Wang, Wei Zeng, Haibin Cai and Honghai Liu

5:00PM  Grounding Spatial Relations in Natural Language by Fuzzy Representation for Human-Robot Interaction  
Jiacheng Tan, Zhaojie Ju and Honghai Liu

5:20PM  Vowel Recognition System of Lipsynchrobot in Lips Gesture Using Neural Network  
Indra Adji Sulistijono, Haikal Hakim Baiqunni, Zaqiatud Darojah and Didik Setyo Purnomo

5:40PM  Quantum-Inspired Multidirectional Associative Memory for Human-Robot Interaction System  
Naoki Masuyama and Chu Kiong Loo

Special Session: ThF2-2 Aggregation Operators, Chair: Simon James and Gang Li, Room: 201B ......... 301

4:00PM  "And"- and "Or"-Operations for "Double", "Triple", etc. Fuzzy Sets  
Hung T. Nguyen, Vladik Kreinovich and Olga Kosheleva

4:20PM  Upper and Lower Generalized Factoraggregations Based on Fuzzy Equivalence Relation  
Pavels Orlovs and Svetlana Asmuss

4:40PM  Interpolative GCD Aggregators  
Jozo Dujmovic

5:00PM  Analytical Solution Methods for the Linguistic Weighted Average Problem  
Xinwang Liu, Xu Yong, Tong Wu and Na Li

5:20PM  Nearest Neighbour-Guided Induced OWA and Its Application to Journal Ranking  
Pan Su, Tianhua Chen, Changjing Shang and Qiang Shen

5:40PM  Worker Ranking Determination in Crowdsourcing Platforms Using Aggregation Functions  
David Sanchez-Charles, Jordi Nin, March Sole and Victor Muntes-Mulero
Special Session: ThF2-3 Paradigms of Fuzzy Systems for Medical Benefits, Chair: Syoji Kobashi and Md. Atiqur Rahman Ahad, Room: 201C ........................................................................................................... 302

4:00PM  Fuzzy Object Growth Model for Newborn Brain Using Manifold Learning  
Ryosuke Nakano, Syoji Kobashi, Kei Kuramoto, Yuki Wakata, Kumiko Ando, Reiichi Ishikura, Tomomoto Ishikawa, Shozo Hirota and Yutaka Hata

4:20PM  Investigating Distance Metric Learning in Semi-Supervised Fuzzy C-Means Clustering  
Daphne Teck Ching Lai, Jonathan Garibaldi and Jenna Reps

4:40PM  Soft Class Decision for Nursing-Care Text Classification Using a K-Nearest Neighbor Based System  
Manabu Nii, Kazunobu Takahama, Atsuko Uchinuno and Reiko Sakashita

5:00PM  An Automated Determination of Blumensaat Line Using Fuzzy System Based on Physician Experience from Femur CT Image  
Yosuke Uozumi, Kouki Nagamune, Naoki Nakano, Kanto Nagai, Yuichiro Nishizawa, Yuichi Hoshino, Takahiko Matsushita, Ryosuke Kuroda and Masahiro Kurosaka

5:20PM  Multimodeling for the Prediction of Patient Readmissions in Intensive Care Units  
Marta Fernandes, Claudia Silva, Susana Vieira and Joao Sousa

5:40PM  Benefits of Fuzzy Logic in the Assessment of Intellectual Disability  
Alessandro Di Nuovo, Santo Di Nuovo, Serafino Buono and Vincenzo Cutello

Special Session: ThF2-4 Advances to Self-tuning and Adaptive Fuzzy Control Systems, Chair: Tsung-Chih Lin, Room: 201D ........................................................................................................... 304

4:00PM  Model-Based Takagi-Sugeno Fuzzy Approach for Vehicle Longitudinal Velocity Estimation during Braking  
Haiping Du and Weihua Li

4:20PM  Analysis of the Performances of Type-1, Self-Tuning Type-1 and Interval Type-2 Fuzzy PID Controllers on the Magnetic Levitation System  
Ahmet Sakalli, Tufan Kumbasar, Engin Yesil and Hani Hagras

4:40PM  Robust Stabilization of Recurrent Fuzzy Systems via Switching Control  
Stefan Gering, Wolfgang Krippner and Juergen Adamy

5:00PM  Performance Evaluation of Interval Type-2 and Online Rule Weighing Based Type-1 Fuzzy PID Controllers on a PH Process  
Tufan Kumbasar, Cihan Ozturk, Engin Yesil and Hani Hagras

5:20PM  Observer-Based Indirect Adaptive Supervisory Control for Unknown Time Delay System  
Ting-Ching Chu, Tsung-Chih Lin and Valentina Emilia Balas

5:40PM  Direct Adaptive Fuzzy Tracking Control with Observer and Supervisory Controller for Nonlinear MIMO Time Delay Systems  
Chia-Hao Kuo, Tsung-Chih Lin and Chien-Liang Chen

Friday, July 11, 8:10AM-10:10AM ............................................................................. 305

Special Session: FrF1-1 Handling Uncertainties in Big Data by Fuzzy Systems, Chair: Jie Lu, Room: 201A ............................................................................................................................................................... 305

8:10AM  A Fuzzy Tree Matching-Based Personalised E-Learning Recommender System  
Dianshuang Wu, Guangquan Zhang and Jie Lu

8:30AM  On the Use of Map-Reduce to Build Linguistic Fuzzy Rule Based Classification Systems for Big Data  
Victoria Lopez, Sara Del Rio, Jose Manuel Benitez and Francisco Herrera

8:50AM  A Trust-Based Performance Measurement Modeling Using DEA, T-Norm and S-Norm Operators  
Ali Azadeh, Saeed Abdolhosseinzadeh, Morteza Saberi, Farookh Khadeer Hussain and Omar Khadeer Hussain

9:10AM  A Novel Evaluation Approach for Power Distribution System Planning Based on Linear Programming Model and ELECTRE III  
Tiefeng Zhang, Guangquan Zhang, Jie Lu and Jianwei Gu
9:30AM  Multicriteria Decision Making with Fuzziness and Criteria Interdependence in Cloud Service Selection
Le Sun, Hai Dong, Farookh Hussain, Omar Hussain, Jiangan Ma and Yanchun Zhang

9:50AM  Medical Diagnosis by Fuzzy Standard Additive Model with Wavelets
Thanh Nguyen, Abbas Khosravi, Douglas Creighton and Saeid Nahavandi

Special Session: FrF1-2 Evolutionary Fuzzy Systems, Chair: Yusuke Nojima, Room: 201B .................306

8:10AM  Aeroengine Prognosis through Genetic Distal Learning Applied to Uncertain Engine Health Monitoring Data
Alvaro Martinez, Luciano Sanchez and Ines Couso

8:30AM  GPFIS-Control: A Fuzzy Genetic Model for Control Tasks
Adriano Koshiyama, Tatiana Escovedo, Marley Velasco and Ricardo Tanscheit

8:50AM  Tuning Larger Membership Grades for Fuzzy Association Rules
Stephen G. Matthews

9:10AM  Embedding Evolutionary Multiobjective Optimization into Fuzzy Linguistic Combination Method for Fuzzy Rule-Based Classifier Ensembles
Krzysztof Trawinski, Oscar Cordon and Arnaud Quirin

9:30AM  Spectral-Spatial Classification of Remote Sensing Images Using a Region-Based GeneSIS Segmentation Algorithm
Stelios Mylonas, Dimitris Stavrakoudis, John Theocharis and Paris Mastorocostas

9:50AM  Genetic-Fuzzy Mining with Type-2 Membership Functions
Yu Li, Chin-Hao Chen, Tzung-Pei Hong and Yeong-Chyi Lee

FrF1-3 Fuzzy Control and Intelligent Systems III, Chair: Shan Xu and Chun-Hsiung Fang, Room: 201C . 307

8:10AM  Local H Infinity Control and Invariant Set Analysis for Continuous-Time T-S Fuzzy Systems with Magnitude- and Energy-Bounded Disturbances
Dong Hwan Lee, Young Hoon Joo and Myung Hwan Tak

8:30AM  Design of Indirect Adaptive Fuzzy Control (IAFC) for Nonlinear Hysteretic Systems
Chi-Hsu Wang, Jyun-Hong Wang and Chun-Yao Chen

8:50AM  Optimal Finite-Horizon Control with Disturbance Attenuation for Uncertain Discrete-Time T-S Fuzzy Model Based Systems
Wen-Ren Horng, Jyh-Horng Chou and Chun-Hsiung Fang

9:10AM  Distributed Fuzzy Proportional-Spatial Integral Control Design for a Class of Nonlinear Distributed Parameter Systems
Jun-Wei Wang, Huai-Ning Wu, Yao Yu and Chang-Yin Sun

9:30AM  Development and Implementation of Fuzzy, Fuzzy PID and LQR Controllers for an Roll-Plane Active Hydraulically Interconnected Suspension
Sangzhi Zhu, Nong Zhang and Haiping Du

9:50AM  New Fuzzy Model with Second Order Terms for the Design of a Predictive Control Strategy
Leonel Gutierrez, Felipe Valencia, Doris Saez and Alejandro Marquez

10:10AM  A Self-Tuning Fuzzy PID Controller Design Using Gamma Aggregation Operator
Engin Yesil and Cagri Guzay

FrF1-4 Fuzzy Data Mining and Forecasting, Chair: Mika Sato-Ilic and Meng Yuan, Room: 201D .............308

8:10AM  Fuzzy Community Detection in Social Networks Using a Genetic Algorithm
Jiahui Su and Timothy Havens

8:30AM  A Minimax Model of Portfolio Optimization Using Data Mining to Predict Interval Return Rate
Meng Yuan and Junzo Watada

8:50AM  Modeling Time Series with Fuzzy Cognitive Maps
Homenda Wladyslaw, Jastrzebska Agnieszka and Pedrycz Witold

9:10AM  Possibilistic Projected Categorical Clustering via Cluster Cores
Stephen G. Matthews and Trevor P. Martin
9:30AM  Universal Fuzzy Clustering Model  
Mika Sato-Ilic

9:50AM  Iterative Mixed Integer Programming Model for Fuzzy Rule-Based Classification Systems  
Shahab Derhami and Alice E. Smith

10:10AM  Kernel Non-Local Shadowed C-Means for Image Segmentation  
Long Chen, Jing Zou and C. L. Philip Chen

Friday, July 11, 10:30AM-12:30PM ................................................................. 309

Special Session: FrF2-1 Recent Advances in Fuzzy-Model-Based Control Design and Analysis I,  
Chair: Hak-Keung Lam, Room: 201A ............................................................. 309

10:30AM  Stability Region Analysis for Polynomial Fuzzy Systems by Polynomial Lyapunov Functions  
Ying-Jen Chen, Motoyasu Tanaka, Kazuo Tanaka and H. O. Wang

10:50AM  Dissipativity Analysis for Discrete-Time T-S Fuzzy Systems with Time-Varying Delay and Stochastic Perturbation  
Xiaozhan Yang, Zhong Zheng, Yuxin Zhao and Ligang Wu

11:10AM  A Comparison between T-S Fuzzy Systems and Affine T-S Fuzzy Systems as Nonlinear Control System Models  
Xiao-Jun Zeng

11:30AM  Relaxed Stability Conditions Based on Taylor Series Membership Functions for Polynomial Fuzzy-Model-Based Control Systems  
Chuang Liu, Hak-Keung Lam, Xian Zhang, Hongyi Li and Sai-Ho Ling

11:50AM  Faults Diagnosis Based on Proportional Integral Observer for TS Fuzzy Model with Unmeasurable Decision Variable  
T. Youssef, H. R. Karimi and M. Chadli

12:10PM  Dynamic Output Feedback Controller Design for T-S Fuzzy Plants with Actuator Saturation Using Linear Fractional Transformation  
Yang Liu, Xiaojun Ban, Fen Wu and Hak-Keung Lam

Special Session: FrF2-2 Software for Soft Computing I, Chair: Jesus Alcala-Fdez, Room: 201B ................. 310

10:30AM  Supervising Classrooms Comprising Children with Dyslexia and Other Learning Problems with Graphical Exploratory Analysis for Fuzzy Data: Presentation of the Software Tool and Case Study  
Ana Palacios and Luciano Sanchez

10:50AM  The Experimenter Environment of the NIP Imperfection Processor  
Raquel Martinez, Jose M. Cadenas and M. Carmen Garrido

11:10AM  Learning from Data Using the R Package frbs  
Lala Septem Riza, Christoph Bergmeir, Francisco Herrera and Jose Manuel Benitez

11:30AM  Parallel Mining of Fuzzy Association Rules on Dense Data Sets  
Michal Burda, Viktor Pavliska and Radek Valasek

11:50AM  Designing a Compact Genetic Fuzzy Rule-Based System for One-Class Classification  
Pedro Villar, Bartosz Krawczyk, Ana M. Sanchez, Rosana Montes and Francisco Herrera

12:10PM  A Method for Hybrid Personalized Recommender Based on Clustering of Fuzzy User Profiles  
Shan Xu and Junzo Watada

Special Session: FrF2-3 Fuzzy Interpolation, Chair: Qiang Shen and Laszlo Koczy, Room: 201C ............. 311

10:30AM  A New Interval-Based Method for Handling Non-Monotonic Information  
Yi Wen Kerk, Kai Meng Tay and Chee Peng Lim

10:50AM  Closed Form Fuzzy Interpolation with Interval Type-2 Fuzzy Sets  
Longzhi Yang, Chengyuan Chen, Nanlin Jin, Xin Fu and Qiang Shen
Building Fuzzy Inference Systems with Similarity Reasoning: NSGA II-Based Fuzzy Rule Selection and Evidential Functions
Tze Ling Jee, Kok Chin Chai, Kai Meng Tay and Chee Peng Lim

Genetic Algorithm-Aided Dynamic Fuzzy Rule Interpolation
Nitin Naik, Ren Diao and Qiing Shen

Antecedent Selection in Fuzzy Rule Interpolation Using Feature Selection Techniques
Ren Diao, Shangzhu Jin and Qiing Shen

Fuzzy Rule Interpolation Based Fuzzy Signature Structure in Building Condition Evaluation
Gergely Molnarka, Szilveszter Kovaics and Laszlo Koczy

FrF2-4 Fuzzy Decision Making and Decision Support Systems II, Chair: Vladik Kreinovich and Toshihiko Watanabe, Room: 201D

10:30AM Multiple Attribute Group Decision Making Using Interval-Valued Intuitionistic Fuzzy Soft Matrix
Sujit Das, Mohuya B. Kar, Tandra Pal and Samarjit Kar

10:50AM Towards Data-Driven Environmental Planning and Policy Design -Leveraging Fuzzy Logic to Operationalize a Planning Framework
Amir Pourabdollah, Christian Wagner, Simon Miller, Michael Smith and Ken Wallace

11:10AM A New Fuzzy Approach for Multi-Source Decision Fusion
Farnoosh Fatemipour, Mohammad-R Akbarzadeh-T and Rouhollah Ghasempour

11:30AM Towards Decision Making under Interval, Set-Valued, Fuzzy, and Z-Number Uncertainty: A Fair Price Approach
Joe Lorkowski, Rafik Aliev and Vladik Kreinovich

11:50AM A Fuzzy-Logic-Based Approach for Soft Data Constrained Multiple-Model PHD Filter
Sepideh Seifzadeh, Bahador Khaleghi and Fakhri Karray

12:00PM Handling Preferences Under Uncertainty in Recommender Systems
Samia Boulkrinat, Allel Hadjali and Aicha Aissani-Mokhtari

12:10PM Fuzzy Rule Interpolation Based Fuzzy Signature Structure in Building Condition Evaluation
Gergely Molnarka, Szilveszter Kovaics and Laszlo Koczy

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12:10PM Fuzzy Rule Interpolation Based Fuzzy Signature Structure in Building Condition Evaluation
Gergely Molnarka, Szilveszter Kovaics and Laszlo Koczy

12:30PM Flexible Decision Support System Using Dynamic Partial Reconfiguration Technology
Janos Grantner and Chinh Nguyen

Friday, July 11, 1:30PM-3:30PM

Special Session: FrF3-1 Recent Advances in Fuzzy-Model-Based Control Design and Analysis II, Chair: Hak-Keung Lam, Room: 201A

1:30PM Discrete-Time Takagi-Sugeno Descriptor Models: Controller Design
Victor Estrada-Manzo, Thierry Marie Guerra, Zsofia Lendek and Philippe Pudlo

1:50PM Observer Design for Switching Nonlinear Systems
Zsofia Lendek, Paula Raica, Jimmy Lauber and Thierry-Marie Guerra

2:10PM Model Predictive Control for Discrete Fuzzy Systems via Iterative Quadratic Programming
Carlos Arino, Emilio Perez, Antonio Sala and Andres Querol

2:30PM A Novel Relaxed Stabilization Condition for a Class of T-S Time-Delay Fuzzy Systems
Shun-Hung Tsai and Cone-Jie Fang

2:50PM SOS-Based Fuzzy Stability Analysis via Homogeneous Lyapunov Functions
Ji-Chang Lo

3:10PM Fuzzy Disturbance Observer for a Class of Polynomial Fuzzy Control Systems
Hugang Han, Yuta Higaki and Hak-Keung Lam

Special Session: FrF3-2 Software for Soft Computing II, Chair: Jesus Alcala-Fdez, Room: 201B

1:30PM Jfcs Tool: A Java Software Tool to Design Fuzzy Color Spaces
Jose Manuel Soto-Hidalgo, Jesus Chamorro-Martinez, P. Martinez-Jimenez and D. Sanchez
1:50PM  *JuzzyOnline: An Online Toolkit for the Design, Implementation, Execution and Sharing of Type-1 and Type-2 Fuzzy Logic Systems*  
Christian Wagner, Mathieu Pierfitte and Josie McCulloch

2:10PM  *On Modelling Real-World Knowledge to Get Answers to Fuzzy and Flexible Searches without Human Intervention*  
Victor Pablos-Ceruelo and Susana Munoz-Hernandez

2:30PM  *Specialized Software for Fuzzy Natural Logic and Fuzzy Transform Applications*  
Vilem Novak, Viktor Pavliska and Radek Valasek

2:50PM  *A WiFi-Based Software for Indoor Localization*  
Noelia Hernandez, Manuel Ocana, Sergio Humanes, Pedro Revenga, David P. Pancho and Luis Magdalena

3:10PM  *Analyzing Fuzzy Association Rules with Fingrams in KEEL*  
David P. Pancho, Jose M. Alonso, Jesus Alcala-Fdez and Luis Magdalena

**Special Session: FrF3-3 Theory of Type-2 Fuzzy Systems, Chair: Bob John, Jon Garibaldi and Simon Coupland, Room: 201C***

1:30PM  *Type-1 or Interval Type-2 Fuzzy Logic Systems - On the Relationship of the Amount of Uncertainty and FOU Size*  
Jabran Aladi, Christian Wagner and Jonathan Garibaldi

1:50PM  *Building a Type-2 Fuzzy Regression Model Based on Credibility Theory and Its Application on Arbitrage Pricing Theory*  
Yicheng Wei and Junzo Watada

2:10PM  *Building Linguistic Random Regression Model from the Perspective of Type-2 Fuzzy Set*  
Fei Song, Shinya Imai and Junzo Watada

2:30PM  *Automatic Learning of General Type-2 Fuzzy Logic Systems Using Simulated Annealing*  
Majid Almaraashi, Robert John and Hopgood Adrian

2:50PM  *A New Monotonic Type-Reducer for Interval Type-2 Fuzzy Sets*  
Simon Coupland, Robert John and Hussam Hamrawi

3:10PM  *A Support Vector-Based Interval Type-2 Fuzzy System*  
Volkan Uslan, Huseyin Seker and Robert John

**Special Session: FrF3-4 Brain and Physiological Computation for Affective Computing, Chair: Toshihiko Watanabe and Faiyaz Doctor, Room: 201D***

1:30PM  *Spatiotemporal Human Brain Activities on Recalling Body Parts*  
Takahiro Yamanoi, Yoshinori Tanaka, Mika Otsuki, Hisahsi Toyoshima and Toshimasa Yamazaki

1:50PM  *An Interactive Evolutionary Computation Framework Controlled via EEG Signals*  
Shen Ren, Jiangjun Tang, Michael Barlow and Hussein A. Abbass

2:10PM  *Ocular Artifact Removal from EEG Using ANFIS*  
Wei Chen, Ze Wang, Ka Fai Lao and Feng Wan

2:30PM  *Description of Activity of Living Neuronal Network by Fuzzy Bio-Indicator*  
Isao Hayashi and Suguru N. Kudoh

2:50PM  *Human Behavioural Analysis with Self-Organizing Map for Ambient Assisted Living*  
Kofi Appiah, Andrew Hunter, Ahmad Lotfi, Christopher Waltham and Patrick Dickinson

3:10PM  *Analysis and Extraction of Knowledge from Body Motion Using Singular Value Decomposition*  
Yinlai Jiang, Isao Hayashi and Shuoyu Wang
Friday, July 11, 4:00PM-6:00PM ........................................................................... 318

Special Session: FrF4-1 Recent Advances in Fuzzy-Model-Based Control Design and Analysis III,
Chair: Tadanari Taniguchi, Room: 201A ........................................................................... 318

4:00PM  Non-PDC Controller Design for Takagi-Sugeno Models via Line-Integral Lyapunov Functions
Abdelmadjid Cherifi, Kevin Guelton and Laurent Arcese

4:20PM  Non-Quadratic Stabilization Of Second Order Continuous Takagi-Sugeno Descriptor Systems via Line-Integral Lyapunov Function
Raymundo Marquez, Thierry Marie Guerra, Alexandre Kruszewski and Miguel Bernal

4:40PM  Brain Style Control Scheme: Simultaneous Forward and Inverse Model Identification and Controller Design
Luka Eciolaza, Tadanari Taniguchi and Michio Sugeno

5:00PM  Tracking Control for a Non-Holonomic Car-Like Robot Using Dynamic Feedback Linearization Based on Piecewise Bilinear Models
Tadanari Taniguchi, Luka Eciolaza and Michio Sugeno

5:20PM  Coordinate Transformation of Takagi-Sugeno Models: Stability Conditions and Observer Canonical Forms
Horst Schulte and Soeren Georg

5:40PM  Design of Fuzzy Synergetic Controller
Chi-Hua Liu and Ming-Ying Hsiao

Special Session: FrF4-2 New Frontiers in Clustering and its Applications -Fusion of Clustering and Other Methodologies-, Chair: Yuchi Kanzawa, Room: 201B ................................................................................ 319

4:00PM  A Maximizing Model of Bezdek-Like Spherical Fuzzy C-Means Clustering
Yuchi Kanzawa

4:20PM  Fuzzy c-Regression Models Combined with Support Vector Regression
Tatsuya Higuchi and Sadaaki Miyamoto

4:40PM  Incremental Algorithms for Fuzzy Co-Clustering of Very Large Cooccurrence Matrix
Katsuhiko Honda, Daiji Tanaka and Akira Notsu

5:00PM  Fuzzy Co-Clustering of Vertically Partitioned Cooccurrence Data with Privacy Consideration
Katsuhiko Honda, Toshiya Oda and Akira Notsu

5:20PM  FCM-Type Fuzzy Co-Clustering by K-L Information Regularization
Katsuhiko Honda, Shunnya Oshio and Akira Notsu

5:40PM  Stochastic Gradient Descent Based Fuzzy Clustering for Large Data
Yangtao Wang, Lihui Chen and Jianping Mei

FrF4-3 Fuzzy Logic & Fuzzy Set Theory II, Chair: Fuchun Sun and Plamen Angelov, Room: 201C .......... 319

4:00PM  Regularization-Based Learning of the Choquet Integral
Derek Anderson, Stanton Price and Timothy Havens

4:20PM  Uniformly Strongly Prime Fuzzy Ideals
Flaulles Bergamaschi and Regivan Santiago

4:40PM  Ranking Fuzzy Numbers by Their Expansion Center
Zhenyuan Wang and Li Zhang-Westman

5:00PM  Rotation of Triangular Numbers via Quaternion
Ronildo Moura, Flaulles Bergamaschi, Regivan Santiago and Benjamin Bedregal

5:20PM  Ontology-Based Service Matching in Cloud Computing
Li Liu, Xiaofen Yao, Liangjuan Qin and Miao Zhang

5:40PM  Interval Type-2 Fuzzy Modeling and Chaotic Synchronization of Two Different Memristor-Based Lorenz Circuits
Tsung-Chih Lin and Fu-Yu Huang
4:00PM  Learning Fuzzy Rules through Ant Optimization, LASSO and Dirichlet Mixture  
Arturo Garcia-Garcia and Andres Mendez-Vazquez

4:20PM  Prediction of Online Trade Growth Using Search-ANFIS: Transactions on Taobao as Examples  
Jiyuan Wang, Geng Peng and Wei Dai

4:40PM  Granular Cognitive Maps Reconstruction  
Homenda Wladyslaw, Jastrzebska Agnieszka and Pedrycz Witold

5:00PM  Fuzzy Multi-Objective Reliability-Redundancy Allocation Problem  
Ashraf Zubair, Pranab Muhuri, Q. M. Danish Lohani and Rahul Nath

5:20PM  On the Resilience of an Ant-Based System in Fuzzy Environments. An Empirical Study  
Gloria Cerasela Crisan, Camelia-M. Pintea and Petrica C. Pop

5:40PM  An Investigation of Methods of Parameter Tuning For Q-Learning Fuzzy Inference System  
Ahmad Al-Talabi and Howard Schwartz
## Monday, July 7, 1:30PM-3:30PM

**Special Session: MoE1-1 Computational Intelligence and Games, Chair: Kyung-Joong Kim and Sung-Bae Cho, Room: 203A**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tr>
<td>1:30PM</td>
<td><em>Learning a Super Mario Controller from Examples of Human Play</em></td>
<td>Geoffrey Lee, Min Luo, Fabio Zambetta and Xiaodong Li</td>
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<tr>
<td>1:50PM</td>
<td><em>Integrating Fuzzy Integral and Heuristic Search for Unit Micromanagement in RTS Games</em></td>
<td>Tung Nguyen, Kien Nguyen and Ruck Thawonmas</td>
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<td>2:10PM</td>
<td><em>Tego - A Framework for Adversarial Planning</em></td>
<td>Daniel Ashlock and Philip Hingston</td>
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<td>2:30PM</td>
<td><em>TURAN: Evolving Non-Deterministic Players for the Iterated Prisoner's Dilemma</em></td>
<td>Marco Gaudesi, Elio Piccolo, Giovanni Squillero and Alberto Tonda</td>
</tr>
<tr>
<td>2:50PM</td>
<td>Evolving a Fuzzy Goal-Driven Strategy for the Game of Geister</td>
<td>Andrew Buck, Tanvi Banerjee and James Keller</td>
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<tr>
<td>3:10PM</td>
<td><em>Deep Boltzmann Machine for Evolutionary Agents of Mario AI</em></td>
<td>Hisashi Handa</td>
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**Special Session: MoE1-2 Memetic Computing, Chair: Zexuan Zhu and Wenyin Gong, Room: 203B**

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<tr>
<td>1:30PM</td>
<td><em>A Memetic Algorithm for Solving Permutation Flow Shop Problems with Known and Unknown Machine Breakdowns</em></td>
<td>Humyun Fuad Rahman, Ruhul Sarker, Daryl Essam and Guijuan Chang</td>
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<td>1:50PM</td>
<td><em>Remote Sensing Imagery Clustering Using an Adaptive Bi-Objective Memetic Method</em></td>
<td>Ailong Ma, Yanfei Zhong and Liangpei Zhang</td>
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<tr>
<td>2:10PM</td>
<td><em>A Memetic Algorithm Based on Immune Multi-Objective Optimization for Flexible Job-Shop Scheduling Problems</em></td>
<td>Jingjing Ma, Yu Lei, Zhao Wang and Licheng Jiao</td>
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<tr>
<td>2:30PM</td>
<td><em>A Memetic Algorithm for Solving Flexible Job-Shop Scheduling Problems</em></td>
<td>Wenping Ma, Yi Zuo, Jiulin Zeng, Shuang Liang and Licheng Jiao</td>
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<td>2:50PM</td>
<td><em>Hybridizing the Dynamic Mutation Approach with Local Searches to Overcome Local Optima</em></td>
<td>Kuai Wei and Michael J. Dinneen</td>
</tr>
<tr>
<td>3:10PM</td>
<td><em>Memetic Algorithm with Adaptive Local Search Depth for Large Scale Global Optimization</em></td>
<td>Can Liu and Bin Li</td>
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**Special Session: MoE1-3 Evolutionary Computer Vision, Chair: Mengjie Zhang, Vic Ciesielski and Mario Koppen, Room: 203C**

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<tr>
<td>1:30PM</td>
<td><em>Neural Network Ensembles for Image Identification Using Pareto-Optimal Features</em></td>
<td>Wissam A. Albukhanajer, Yaochu Jin and Johann A. Briffa</td>
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<tr>
<td>1:50PM</td>
<td><em>Automatic Evolutionary Medical Image Segmentation Using Deformable Models</em></td>
<td>Andrea Valsecchi, Pablo Mesejo, Linda Marrakchi-Kacem, Stefano Cagnoni and Sergio Damas</td>
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<tr>
<td>2:10PM</td>
<td><em>Cost-Sensitive Texture Classification</em></td>
<td>Gerald Schaefer, Bartosz Krawczyk, Niraj Doshi and Tomoharu Nakashima</td>
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<td>2:30PM</td>
<td><em>Genetic Algorithms Based Feature Combination for Salient Object Detection, for Autonomously Identified Image Domain Types</em></td>
<td>Syed Saud Naqvi, Will N. Browne and Christopher Hollitt</td>
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<tr>
<td>2:50PM</td>
<td><em>Unsupervised Learning for Edge Detection Using Genetic Programming</em></td>
<td>Wenlong Fu, Mark Johnston and Mengjie Zhang</td>
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</table>
1:30PM Single- and Multi-Objective Genetic Programming: New Runtime Results for SORTING
Markus Wagner and Frank Neumann

1:50PM Runtime Comparison of Two Fitness Functions on a Memetic Algorithm for the Clique Problem
Kuai Wei and Michael J. Dinneen

2:10PM A Theoretical Assessment of Solution Quality in Evolutionary Algorithms for the Knapsack Problem
Jun He, Mitavskiy Boris and Yuren Zhou

2:30PM The Sampling-and-Learning Framework: A Statistical View of Evolutionary Algorithms
Yang Yu and Hong Qian

2:50PM Markov Chain Analysis of Evolution Strategies on a Linear Constraint Optimization Problem
Alexandre Chotard, Anne Auger and Nikolaus Hansen

3:10PM Free Lunch for Optimisation under the Universal Distribution
Tom Everitt, Tor Lattimore and Marcus Hutter

Monday, July 7, 3:30PM-6:00PM

Poster Session: PEI Poster Session 1, Chair: Tadahiko Murata, Room: Posters Area (Level 2)

P101 Smooth Global and Local Path Planning for Mobile Robot Using Particle Swarm Optimization, Radial Basis Functions, Splines and Bezier Curves
Nancy Arana-Daniel, Alberto A. Gallegos, Carlos Lopez-Franco and Alma Y. Alanis

P102 A Novel Improvement of Particle Swarm Optimization Using Dual Factors Strategy
Lin Wang, Bo Yang, Yi Li and Na Zhang

P103 A Verifiable PSO Algorithm in Cloud Computing
Tao Xiang, Weimin Zhang and Fei Chen

P104 Space-Time Simulation Model Based on Particle Swarm Optimization Algorithm for Stadium Evacuation
Xinlu Zong, Shengwu Xiong, Hui Xu and Pengfei Duan

P105 Autonomic Learning Adaptation for Particle Swarm Optimization
Wenyong Dong, Jiangshen Tian, Xu Tang, Kang Sheng and Jin Liu

P106 Cooperative Particle Swarm Optimizer with Elimination Mechanism for Global Optimization of Multimodal Problems
Geng Zhang and Yangmin Li

P107 A Chaotic Particle Swarm Optimization Algorithm for the Jobshop Scheduling Problem
Ping Yan and Minghai Jiao

P108 Autonomous Learning Adaptation for Particle Swarm Optimization
Wenyong Dong, Jiangshen Tian, Xu Tang, Kang Sheng and Jin Liu

P109 A Growing Partitional Clustering Based on Particle Swarm Optimization
Nuosi Wu, Zexuan Zhu and Zhen Ji

P110 A Novel Chaotic Artificial Bee Colony Algorithm Based on Tent Map
Fangjun Kuang, Zhong Jin, Weihong Xu and Siyang Zhang

P111 A Novel Artificial Bee Colony Algorithm with Integration of Extremal Optimization for Numerical Optimization Problems
Min-Rong Chen, Wei Zeng, Guo-Qiang Zeng, Xia Li and Jian-Ping Luo

P112 Hybrid ACO/EA Algorithms Applied to the Multi-Agent Patrolling Problem
Fabrice Lauri and Abder Koukam

P113 Comparison of Multiobjective Particle Swarm Optimization and Evolutionary Algorithms for Optimal Reactive Power Dispatch Problem
Yujiao Zeng and Yanguang Sun
P114 MOPSOhv: A New Hypervolume-Based Multi-Objective Particle Swarm Optimizer
Ivan Chaman-Garcia, Carlos A. Coello Coello and Alfredo Arias-Montano

P115 A Population Diversity Maintaining Strategy Based on Dynamic Environment Evolutionary Model for Dynamic Multiobjective Optimization
Zhou Peng, Jinhua Zheng and Juan Zou

P116 Multi-Objective Flexible Job-Shop Scheduling Problem with DIPSO: More Diversity, Greater Efficiency
Luiz Carvalho and Marcia Fernandes

P117 Calculating the Complete Pareto Front for a Special Class of Continuous Multi-Objective Optimization Problems
Xiao-Bing Hu, Ming Wang and Mark S Leeson

P118 A Self-Adaptive Morphable Model Based Multi-View Non-Cooperative 3D Face Reconstruction
Raul Lara-Cabrera, Carlos Cotta and Antonio J. Fernandez-Leiva

P119 Enhanced Differential Evolution with Adaptive Direction Information
Yiqiao Cai and Jixiang Du

P120 Visualizing the Population of Meta-Heuristics During the Optimization Process Using Self-Organizing Maps
Marcelo Lotif

P121 Self-Adaptive Morphable Model Based Multi-View Non-Cooperative 3D Face Reconstruction
Kuicheng Lin, Xue Wang, Xuanping Li and Yuqi Tan

P122 Using Electromagnetic Algorithm for Tuning the Structure and Parameters of Neural Networks
Ayad Turky and Salwani Abdullah

P123 Feature Selection Based on Manifold-Learning with Dynamic Constraint-Handling Differential Evolution
Zhihui Li, Zhigang Shang, Jane Jing Liang and Boyang Qu

P124 Metaheuristics for the 3D Bin Packing Problem in the Steel Industry
Joaquim Viegas, Susana Vieira, Joao M. Sousa and Elsa Henriques

P125 A New CSP Graph-Based Representation to Resource-Constrained Project Scheduling Problem
Antonio Gonzalez-Pardo and David Camacho

P126 Optimization Algorithm for Rectangle Packing Problem Based on Varied-Factor Genetic Algorithm and Lowest Front-Line Strategy
Haiming Liu, Jiong Zhou, Xinsheng Wu and Peng Yuan

P127 A Parallel Evolutionary Solution for the Inverse Kinematics of Generic Robotic Manipulators
Siavash Farzan and Guilherme DeSouza

P128 Feature Extraction Based on Trimmed Complex Network Representation for Metabolomic Data Classification
Yue Chen, Zexuan Zhu and Zhen Ji

P129 Primary Study on Feedback Controlled Differential Evolution
Kenichi Tamura and Keiichiro Yasuda

P130 A Route Planning Strategy for the Automatic Garment Cutter Based on Genetic Algorithm
Wenchao Yu and Linji Lu

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Special Session: MoE2-1 Evolutionary Multi-Objective Optimization and Decision Making, Chair: Sanaz Mostaghim, Room: 203A ................................................................. 331

4:00PM Comparative Analysis of Classical Multi-Objective Evolutionary Algorithms and Seeding Strategies for Pairwise Testing of Software Product Lines
Roberto Erick Lopez-Herrejon, Javier Ferrer, Francisco Chicano, Alexander Egyed and Enrique Alba

4:20PM An MOEA/D with Multiple Differential Evolution Mutation Operators
Yang Li, Aimin Zhou and Guixu Zhang
4:40PM Multi-Objective Transportation Network Design: Accelerating Search by Applying e-NSGAII
Ties Brands, Luc Wismans and Eric van Berkum

5:00PM A Comparison of Multi-Objective Evolutionary Algorithms for the Ontology Meta-Matching Problem
Giovanni Acampora, Hisao Ishibuchi and Autilia Vitiello

5:20PM Integrating User Preferences and Decomposition Methods for Many-Objective Optimization
Asad Mohammad, Mohammad Nabi Omidvar, Xiaodong Li and Kalyanmoy Deb

5:40PM A Multi-Objective Evolutionary Algorithm Based on Decomposition for Constrained Multi-Objective Optimization
Saul Zapotecas Martinez and Carlos A. Coello Coello

Special Session: MoE2-2 Differential Evolution: Past, Present and Future, Chair: Kai Qin, Room: 203B...

4:00PM Cooperative DynDE for Temporal Data Clustering
Kristina S. Georgieva and Andries Engelbrecht

4:20PM Multi-Objective Differential Evolution Algorithm Based on Fast Sorting and a Novel Constraints Handling Technique
Jane Jing Liang, B. Zheng, Boyang Qu and H. Song

4:40PM A Mutation and Crossover Adaptation Mechanism for Differential Evolution Algorithm
Johanna Aalto and Jouni Lampinen

5:00PM An Analysis of the Automatic Adaptation of the Crossover Rate in Differential Evolution
Carlos Segura, Carlos A. Coello Coello, Eduardo Segredo and Coromoto Leon

5:20PM Self-Adaptive Differential Evolution with Local Search Chains for Real-Parameter Single-Objective Optimization
A. K. Qin, Ke Tang, Hong Pan and Siyu Xia

5:40PM Trading-Off Simulation Fidelity and Optimization Accuracy in Air-Traffic Experiments using Differential Evolution
Rubai Amin, Jiangjun Tang, Mohamed Ellejmi, Stephen Kirby and Hussein Abbas

Special Session: MoE2-3 Evolutionary Computation in Combinatorial Optimization, Chair: Rong Qu, Room: 203C

4:00PM A Hybrid Discrete Particle Swarm Optimisation Method for Grid Computation Scheduling
Stephen Bennett, Su Nguyen and Mengjie Zhang

4:20PM A Combinatorial Algorithm for the Cardinality Constrained Portfolio Optimization Problem
Tianxiang Cui, Shi Cheng and Ruibin Bai

4:40PM Using Harmony Search with Multiple Pitch Adjustment Operators for the Portfolio Selection Problem
Nasser R. Sabar and Graham Kendall

5:00PM Genetic Algorithm with Self-Adaptive Mutation Controlled by Chromosome Similarity
Daniel Smullen, Jonathan Gillett, Joseph Heron and Shahryar Rahnamayan

5:20PM Chemical Reaction Optimization for the Set Covering Problem
James J.Q. Yu, Albert Y.S. Lam and Victor O.K. Li

5:40PM Aircraft Landing Problem Using Hybrid Differential Evolution and Simple Descent Algorithm
Nasser R. Sabar and Graham Kendall

Special Session: MoE2-4 Artificial Bee Colony Algorithms and their Applications, Chair: Swagatam Das and M. Fatih Tasgetiren, Room: 203D

4:00PM Search-Evasion Path Planning for Submarines Using the Artificial Bee Colony Algorithm
Bai Li, Raymond Chiong and Ligang Gong

4:20PM A Bee Colony Algorithm for Routing Guided Automated Battery-Operated Electric Vehicles in Personal Rapid Transit Systems
Ezzeddine Fatnassi, Olfa Chebbi and Jouhaina Chaouachi

4:40PM A Novel Hybrid Approach for Curriculum Based Course Timetabling Problem
Cheng Weng Fong, Hishammuddin Asmuni, Way Shen Lam, Barry McCollum and Paul McMullan
Tuesday, July 8, 1:30PM-3:30PM

Special Session: TuE1-1 Evolutionary Computation for Planning and Scheduling, Chair: Jian Xiong, Room: 203A

1:30PM A Discrete Artificial Bee Colony Algorithm for the Economic Lot Scheduling Problem with Returns
Onder Bulut and M. Fatih Tasgetiren

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Onder Bulut and M. Fatih Tasgetiren

5:20PM Artificial Bee Colony for Workflow Scheduling
Yun-Chia Liang, Hsiang-Ling Chen and Yung-Hsiang Nien

5:40PM Cooperation Mechanism For Distributed Resource Scheduling Through Artificial Bee Colony Based Self-Organized Scheduling System
Ana Madureira, Bruno Cunha and Ivo Pereira

6:00PM Particle Swarm Optimization with Population Adaptation
Nanda Dulal Jana, Swagatam Das and Jaya Sil

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Tuesday, July 8, 1:30PM-3:30PM

Special Session: TuE1-1 Evolutionary Computation for Planning and Scheduling, Chair: Jian Xiong, Room: 203A

1:30PM A Benchmark Generator for Dynamic Capacitated Arc Routing Problems
Min Liu, Hemant Singh and Tapabrata Ray

1:50PM A Co-Evolutionary Teaching-Learning-Based Optimization Algorithm for Stochastic RCPSP
Huanyu Zheng, Ling Wang and Shengyao Wang

2:10PM A Memetic Algorithm with a New Split Scheme for Solving Dynamic Capacitated Arc Routing Problems
Min Liu, Hemant Singh and Tapabrata Ray

2:30PM Agile Earth Observing Satellites Mission Planning Using Genetic Algorithm Based on High Quality Initial Solutions
Zang Yuan, Yingwu Chen and Renjie He

2:50PM Behavioral Learning of Aircraft Landing Sequencing Using a Society of Probabilistic Finite State Machines
Jiangjun Tang and Hussein Abbass

3:10PM Evolving Machine-Specific Dispatching Rules for a Two-Machine Job Shop using Genetic Programming
Rachel Hunt, Mark Johnston and Mengjie Zhang

Special Session: TuE1-2 Swarm Intelligence for Real-World Engineering Optimization, Chair: Boyang Qu, Room: 203B

1:30PM An Enhanced Non-Dominated Sorting Based Fruit Fly Optimization Algorithm for Solving Environmental Economic Dispatch Problem
Xiaolong Zheng, Ling Wang and Shengyao Wang

1:50PM Particle Swarm Optimization for Integrated Yard Truck Scheduling and Storage Allocation Problem
Ben Niu, Ting Xie, Qiqi Duan and Lijing Tan

2:10PM Similarity- and Reliability-Assisted Fitness Estimation for Particle Swarm Optimization of Expensive Problems
Tong Liu, Chaoli Sun, Jianchao Zeng and Yaochu Jin

2:30PM Binary Bacterial Foraging Optimization for Solving 0/1 Knapsack Problem
Ben Niu and Ying Bi

2:50PM A Discrete Artificial Bee Colony Algorithm for the Parallel Machine Scheduling Problem in DYO Painting Company
Damla Kizilay, M. Fatih Tasgetiren, Onder Bulut and Bilgehan Bostan

3:10PM Locality-Sensitive Hashing Based Multiobjective Memetic Algorithm for Dynamic Pickup and Delivery Problems
Fangxiao Wang, Yuan Gao and Zexuan Zhu
Special Session: TuE1-3 Complex Networks and Evolutionary Computation, Chair: Jing Liu, Room: 203C

1:30PM  A Compression Optimization Algorithm for Community Detection
Jianshe Wu, Lin Yuan, Qingliang Gong, Wenping Ma, Jingjing Ma and Yangyang Li

1:50PM  Decomposition Based Multiobjective Evolutionary Algorithm for Collaborative Filtering Recommender Systems
Shanfeng Wang, Maoguo Gong, Lijia Ma, Qing Cai and Licheng Jiao

2:10PM  A Memetic Algorithm Using Local Structural Information for Detecting Community Structure in Complex Networks
Caihong Mu, Jin Xie, Ruochen Liu and Licheng Jiao

2:30PM  Ant Colony Clustering Based on Sampling for Community Detection
Xiaojing Song, Junzhong Jia, Cuicui Yang and Xiuzhen Zhang

2:50PM  A Differential Evolution Box-Covering Algorithm for Fractal Dimension on Complex Networks
Li Kuang, Zhiyong Zhao, Feng Wang, Yuanxiang Li, Fei Yu and Zhijie Li

3:10PM  An Intelligent Ant Colony Optimization for Community Detection in Complex Networks
Caihong Mu, Jian Zhang and Licheng Jiao

Special Session: TuE1-4 Evolutionary Algorithms with Statistical and Machine Learning Techniques, Chair: Aimin Zhou, Room: 203D

1:30PM  HMOEDA_LLE: A Hybrid Multi-Objective Estimation of Distribution Algorithm Combining Locally Linear Embedding
Yuzhen Zhang, Guangming Dai, Lei Peng and Maocai Wang

1:50PM  Behavioral Study of the Surrogate Model-Aware Evolutionary Search Framework
Bo Liu, Qin Chen, Qingfu Zhang, Georges Gielen and Vic Grout

2:10PM  A Clustering Based Multiobjective Evolutionary Algorithm
Hu Zhang, Shenmin Song, Aimin Zhou and Xiao-Zhi Gao

2:30PM  Creating Stock Trading Rules Using Graph-Based Estimation of Distribution Algorithm
Xianmeng Li, Wen He and Kotaro Hirasawa

2:50PM  Grammar Based Genetic Programming with Bayesian Network
Pak-Kan Wong, Leung-Yau Lo, Man-Leung Wong and Kwong-Sak Leung

3:10PM  A First Attempt on Evolutionary Prototype Reduction for Nearest Neighbor One-Class Classification
Bartosz Krawczyk, Isaac Triguero, Salvador Garcia, Michal Wozniak and Francisco Herrera

Tuesday, July 8, 3:30PM-6:00PM
Poster Session: PE2 Poster Session II, Chair: Tadahiko Murata, Room: Posters Area (Level 2)

P301  A Multi-Swarm Particle Swarm Optimization with Orthogonal Learning for Locating and Tracking Multiple Optima in Dynamic Environments
Ruochen Liu, Xu Niu and Licheng Jiao

P302  Regression Ensemble with PSO Algorithms Based Fuzzy Integral
James Liu, Yulin He and Yanxing Hu

P303  An Improved Quantum-Behaved Particle Swarm Optimization Based on Linear Interpolation
Shouyong Jiang and Shengxiang Yang

P304  Evolving Hierarchical Gene Regulatory Networks for Morphogenetic Pattern Formation of Swarm Robotics
Hyondong Oh and Yaochu Jin

P305  Avoiding Decoys in Multiple Targets Searching Problems Using Swarm Robotics
Zhongyang Zheng, Junzhi Li, Jie Li and Ying Tan

P306  Particle Swarm Optimization for Integrity Monitoring in BDS/DR Based Railway Train Positioning
Jiang Liu, Bai-gen Cai and Jian Wang
Learning and Evolution of Genetic Network Programming with Knowledge Transfer
Xianneng Li, Wen He and Kotaro Hirasawa

An Improved JADE Algorithm for Global Optimization
Ming Yang, Zhihua Cai, Changhe Li and Jing Guan

Characterizing the Impact of Selection on the Evolution of Cooperation in Complex Networks
Shasha Feng, Shaolin Tan and Jinhu Lu

A Tabu Search Heuristic for the Single Row Layout Problem with Shared Clearances
Meng Yu, Xingquan Zuo and Chase C. Murray

A Weighting-Based Local Search Heuristic Algorithm for the Set Covering Problem
Chao Gao, Thomas Weise and Jinlong Li

Parallelization for Space Trajectory Optimization
Martin Schlueter and Masaharu Munetomo

Optimal Approximation of Stable Linear Systems with a Novel and Efficient Optimization Algorithm
Qiaoyong Jiang, Lei Wang, Xinhong Hei, Rong Fei, Dongdong Yang, Feng Zou, Hongye Li and Zijian Cao

Extending Minimum Population Search Towards Large Scale Global Optimization
Antonio Bolufe-Rohler and Stephen Chen

A New Penalty Function Method for Constrained Optimization Using Harmony Search Algorithm
Biao Zhang, Jun-hua Duan, Hong-yan Sang, Jun-qing Li and Hui Yan

Scatter Search Algorithm with Chaos Based Stochasticity
Donald Davendra, Roman Senkerik, Ivan Zelinka and Michal Pluhacek

Co-Operation of Biology Related Algorithms Meta-Heuristic in ANN-Based Classifiers Design
Shakhnaz Akhmedova and Eugene Semenkin

Scientific Algorithms for the Car Renter Salesman Problem
Denis Felipe, Elizabeth Goldbarg and Marco Goldbarg

A Proposal on Analysis Support System Based on Association Rule Analysis for Non-Dominated Solutions
Shinya Watanabe, Yuta Chiba and Masahiro Kanazaki

GEAS: A GA-ES-Mixed Algorithm for Parameterized Optimization Problems - Using CLS Problem as an Example
Xing Zhou, Wei Peng and Bo Yang

Application of Computational Intelligence for Source Code Classification
Marcos Alvares, Fernando Buarque and Tshilidzi Marwala

Genetic Algorithm with Spatial Receding Horizon Control for the Optimization of Facility Locations
Xiao-Bing Hu and Mark S Leeson

Tuning a Multiple Classifier System for Side Effect Discovery Using Genetic Algorithms
Jenna Reps, Uwe Aickelin and Jonathan Garibaldi

Cooperation with Potential Leaders in Evolutionary Game Study of Networking Agents
Jianlei Zhang, Chunyan Zhang, Tianguang Chu and Ming Cao

Multi-Objective Optimization Model Based on Steady Degree for Teaching Building Evacuation
Pengfei Duan, Shengwu Xiong, Zhongbo Hu, Qiong Chen and Xinlu Zhong

Evolutionary Clustering Algorithm for Community Detection Using Graph-Based Information
Gema Bello-Orgaz and David Camacho

Applying Conversion Matrix to Robots for Imitating Motion Using Genetic Algorithms
Mari Nishiyama and Hitoshi Iba

Optimization of Combinational Logic Circuits Through Decomposition of Truth Table and Evolution of Sub-Circuits
Francisco Manfrini, Helio Barbosa and Heder Bernadino
P329  Reordering Dimensions for Radial Visualization of Multidimensional Data - A Genetic Algorithms Approach  
Binh Huynh Thi Thanh, Long Tran Van, Hoai Nguyen Xuan, Anh Nguyen Duc and Truong Pham Manh

P330  An Evolutionary Approach for Combining Results of Recommender Systems Techniques Based on Collaborative Filtering  
Edjalma Queiroz Silva, Celso Goncalves Camilo-Junior, Luiz Mario Lustosa Pascoal and Thierson Couto Rosa

Tuesday, July 8, 4:00PM-6:00PM ................................................................. 345

Special Session: TuE2-1 Nature-Inspired Constrained Optimization, Chair: Helio Barbosa, Room: 203A.. 345

4:00PM  Differential Evolution with a Species-Based Repair Strategy for Constrained Optimization  
Chenyang Bu, Wenjian Luo and Tao Zhu

4:20PM  Differential Evolution with Combined Variants for Dynamic Constrained Optimization  
María-Yaneli Ameca-Alducin, Efren Mezura-Montes and Nicandro Cruz-Ramírez

4:40PM  Solving Problems with a Mix of Hard and Soft Constraints Using Modified Infeasibility Driven Evolutionary Algorithm (IDEA-M)  
Hemant Singh, Md. Asaifuddoula and Tapabrata Ray

5:00PM  Differential Evolution with a Constraint Consensus Mutation for Solving Optimization Problems  
Noha Hamza, Ruhul Sarker and Daryl Essam

5:20PM  Constraint Handling in Agent-Based Optimization by Independent Sub-Swarms  
Daniel Poole, Christian Allen and Thomas Rendall

5:40PM  United Multi-Operator Evolutionary Algorithms  
Saber Elsayed, Ruhul Sarker and Daryl Essam

Special Session: TuE2-2 Computational Intelligence in Bioinformatics, Chair: Michael G. Epitropakis,  
Room: 203B .................................................................................................. 346

4:00PM  A Memetic Hybrid Method for the Molecular Distance Geometry Problem with Incomplete Information  
Marco S. Nobile, Andrea G. Citrolo, Paolo Cazzaniga, Daniela Besozzi and Giancarlo Mauri

4:20PM  GAMI-CRM: Using De Novo Motif Inference to Detect Cis-Regulatory Modules  
Jeffrey A. Thompson and Clare Bates Congdon

4:40PM  An Immune Network Approach to Learning Qualitative Models of Biological Pathways  
Wei Pang and George Coghill

5:00PM  Multi-Dimensional Scaling and MODELLER-Based Evolutionary Algorithms for Protein Model Refinement  
Yan Chen, Yi Shang and Dong Xu

5:20PM  A Modified Bat Algorithm to Predict Protein-Protein Interaction Network  
Archana Chowdhury, Pratyusha Rakshit, Amit Konar and Atulya Nagar

5:40PM  Evolutionary Algorithms Applied to Likelihood Function Maximization During Poisson, Logistic, and Cox Proportional Hazards Regression Analysis  
Leif Peterson

Special Session: TuE2-3 Single Objective Numerical Optimization I, Chair: Qingfu Zhang and Bo Liu,  
Room: 203C .................................................................................................. 347

4:00PM  A Surrogate-Assisted Differential Evolution Algorithm with Dynamic Parameters Selection for Solving Expensive Optimization Problems  
Saber Elsayed, Tapabrata Ray and Ruhul Sarker

4:20PM  A Hybrid Surrogate Based Algorithm (HSBA) to Solve Computationally Expensive Optimization Problems  
Hemant Singh, Amitay Isaacs and Tapabrata Ray
4:40PM Evaluating the Performance of Group Counseling Optimizer on CEC 2014 Problems for Computational Expensive Optimization
Subhodip Biswas, Mohammad A. Eita, Swagatam Das and Athanasios V. Vasilakos

5:00PM Solving the IEEE-CEC 2014 Expensive Optimization Test Problems by Using Single-Particle MVMO
Istvan Erlich, Jose L. Rueda and Sebastian Wildenhues

5:20PM SO-MODS: Optimization for High Dimensional Computationally Expensive Multi-Modal Functions with Surrogate Search
Tipaluck Krityakierne, Juliane Mueller and Christine Shoemaker

Special Session: TuE2-4 Data Mining and Machine Learning Meet Evolutionary Computation, Chair: Zhun Fan, Room: 203D

4:00PM An Evolutionary Multi-Objective Approach for Prototype Generation
Alejandro Rosales-Perez, Hugo Jair Escalante, Carlos A. Coello Coello, Jesus A. Gonzalez and Carlos A. Reyes-Garcia

4:20PM Use EMO to Protect Sensitive Knowledge in Association Rule Mining by Removing Items
Peng Cheng, Jeng-Shyang Pan and Chun-Wei Lin

4:40PM An Online Evolutionary Rule Learning Algorithm with Incremental Attribute Discretization
Essam Debie, Kamran Shafii, Kathryn Merrick and Chris Lokan

5:00PM An External Archive Guided Multiobjective Evolutionary Approach Based on Decomposition for Continuous Optimization
Yexing Li, Xinye Cai, Zhun Fan and Qingfu Zhang

5:20PM Multi-Objective Differential Evolution with Leadership Enhancement (MODEL)
Farid Bourennani, Shahryar Rahnamayan and Greg F. Naterer

5:40PM On the Performance of Classification Algorithms for Learning Pareto-Dominance Relations
Sunith Bandaru, Amos Ng and Kalyanmoy Deb

Wednesday, July 9, 1:30PM-3:30PM

WeE1-1 Multi-Objective Evolutionary Algorithms I, Chair: Kalyanmoy Deb, Room: 203A

1:30PM A Review of Hybrid Evolutionary Multiple Criteria Decision Making Methods
Robin Purshouse, Kalyanmoy Deb, Maszatul M. Mansor, Sanaz Mostaghim and Rui Wang

1:50PM MOEA/D with Tabu Search for Multiobjective Permutation Flow Shop Scheduling Problems
Ahmad Alhindi and Qingfu Zhang

2:10PM Online Objective Reduction for Many-Objective Optimization Problems
Yiu-ming Cheung and Fangqing Gu

2:30PM Diversity Preservation with Hybrid Recombination for Evolutionary Multiobjective Optimization
Sen Bong Gee and Kay Chen Tan

2:50PM An Evolutionary Approach to the Solution of Multi-Objective Min-Max Problems in Evidence-Based Robust Optimization
Simone Alicino and Massimiliano Vasile

3:10PM Kriging Model Based Many-Objective Optimization with Efficient Calculation of Expected Hypervolume Improvement
Chang Luo, Koji Shimoyama and Shigeru Obayashi

WeE1-2 Evolutionary Games and Multi-Agent Systems, Chair: Hussein Abbass, Room: 203B

1:30PM Effects of Ensemble Action Selection on the Evolution of Iterated Prisoner's Dilemma Game Strategies
Takahiko Sudo, Yusuke Nojima and Hisao Ishibuchi

1:50PM The Structure of a Probabilistic 2-State Finite Transducer Representation for Prisoner's Dilemma
Jeffrey Tsang

2:10PM Competitive Coevolutionary Training of Simple Soccer Agents from Zero Knowledge
Christiaan Scheepers and Andries Engelbrecht
2:30PM  Online Generation of Trajectories for Autonomous Vehicles Using a Multi-Agent System
        Garrison Greenwood, Saber Elsayed, Ruhul Sarker and Hussein Abbass

2:50PM  A Cooperative Coevolutionary Approach to Multi-Robot Formation Control
        Seung-Mok Lee and Hyun Myung

3:10PM  Graph Centrality Measures and the Robustness of Cooperation
        Menglin Li and Colm O'Riordan

Special Session: WeE1-3 Hybrid Evolutionary Computational Methods for Complex Optimization Problems,
        Chair: Kit Yan Chan, Room: 203C
        351

1:30PM  Non-Invasive Detection of Hypoglycemic Episodes in Type1 Diabetes Using Intelligent Hybrid Rough
        Neural System
        Sai Ho Ling, Phyo Phyo San, Hak Keung Lam and Hung Nguyen

1:50PM  Image Deblurring Using a Hybrid Optimization Algorithm
        Kit Yan Chan, N. Rajakaruna, C. Rathnayake and I. Murray

2:10PM  An Algorithm for Scalable Clustering: Ensemble Rapid Centroid Estimation
        Mitchell Yuwono, Steven W. Su, Bruce D. Moulton, Ying Guo and Hung T. Nguyen

2:30PM  Evolutionary Regional Network Modeling for Efficient Engineering Optimization
        Jyh-Cheng Yu and Zhi-Fu Liang

2:50PM  Quantum Bacterial Foraging Optimization Algorithm
        Fei Li, Yuting Zhang and Haibo Li

3:10PM  A Cultural Algorithm for Spatial Forest Harvest Scheduling
        Wan-Yu Liu and Chun-Cheng Lin

Special Session: WeE1-4 Large Scale Global Optimization, Chair: Xiaodong Li, Room: 203D
        352

1:30PM  A Hybrid Adaptive Coevolutionary Differential Evolution Algorithm for Large-Scale Optimization
        Sishi Ye, Guangming Dai and Lei Peng

1:50PM  Cooperative Co-Evolution with a New Decomposition Method for Large-Scale Optimization
        Sedigheh Mahdavi, Mohammad Ebrahim Shiri and Shahryar Rahnamayan

2:10PM  Variable Grouping Based Differential Evolution Using an Auxiliary Function for Large Scale Global
        Optimization
        Fei Wei, Yuping Wang and Tingting Zong

2:30PM  Solving Dynamic Double-Row Layout Problem via an Improved Simulated Annealing Algorithm
        Shengli Wang, Xingquan Zuo and Xinchao Zhao

2:50PM  Effective Decomposition of Large-Scale Separable Continuous Functions for Cooperative
        Co-Evolutionary Algorithms
        Mohammad Nabi Omidvar, Yi Mei and Xiaodong Li

3:10PM  Variable Neighborhood Decomposition for Large Scale Capacitated Arc Routing Problem
        Yi Mei, Xiaodong Li and Xin Yao

WeI1-1 Intel Special Session on Big Data Analytics, Chair: Catherine Huang, Room: 311A
        353

1:30PM  Practice in Analyzing Corporate Textual Data
        Phil Tian

1:50PM  Intel Hadoop and Its Use Cases
        Keith Qi

2:10PM  Big Data Foundation Platform for Video Analytics Demo
        Albert Hu

2:30PM  Cloud based Air Quality Monitoring at Scale
        Fred Jiang

2:50PM  Big Data Foundation Platform for Video Analytics Demo
        Albert Hu
3:10PM  Cloud based Air Quality Monitoring at Scale Demo
Fred Jiang

Wednesday, July 9, 3:30PM-6:00PM ................................................................. 353

Poster Session: PE3 Poster Session III, Chair: Tadahiko Murata, Room: Posters Area (Level 2).............. 353

P501  A New Dynamic Probabilistic Particle Swarm Optimization with Dynamic Random Population Topology
Qingjian Ni, Cen Cao and Xushan Yin

P502  An Adaptive PSO Based on Motivation Mechanism and Acceleration Restraint Operator
Jiangshao Gu and Xuanhua Shi

P503  The Enhanced Vector of Convergence for Particle Swarm Optimization Based on Constrict Factor
Wei Zhang, Yanan Gao and Chengxing Zhang

P504  Evolutionary Semi-Supervised Learning with Swarm Intelligence
Xiaohua Xu, Lin Lu, Ping He, Jie Ding and Yongsheng Ju

P505  A Fast Restarting Particle Swarm Optimizer
Junqi Zhang, Xiong Zhu, Wei Wang and Jing Yao

P506  Dimensions Cooperate by Euclidean Metric in Particle Swarm Optimization
Zezhou Li, Junqi Zhang, Wei Wang and Jing Yao

P507  Biclustering of Gene Expression Data Using Particle Swarm Optimization Integrated with Pattern-Driven Local Search
Yangyang Li, Xiaolong Tian, Licheng Jiao and Xiangrong Zhang

P508  Simulating the Coevolution of Language and Long-Term Memory
Lan Shuai, Zhen Wang and Tao Gong

P509  Evolutionary Clustering with Differential Evolution
Gang Chen, Wenjian Luo and Tao Zhu

P510  Smart Hybrid Genetic Algorithms in the Bandwidth Optimization of a PIFA Antenna
Mohammad Riyad Ameerudden and Harry Rughooputh

P511  Evolutionary Many-Objective Optimization by MO-NSGA-II with Enhanced Mating Selection
Shao-Wen Chen and Tsung-Che Chiang

P512  A Niching Two-Layered Differential Evolution with Self-Adaptive Control Parameters
Yongxin Luo, Sheng Huang and Jinglu Hu

P513  Application of the MOAA for the Optimization of CORAIL Assemblies for Nuclear Reactors
Valerio Lattarulo, Benjamin A. Lindley and Geoffrey T. Parks

P514  A Hybrid Approach Based on Genetic Algorithms for Solving the Clustered Vehicle Routing Problem
Petrica Pop and Camelia Chira

P515  Identifying and Exploiting the Scale of a Search Space in Differential Evolution
James Montgomery, Stephen Chen and Yasser Gonzalez-Fernandez

P516  Enhancing Relevance Re-Ranking Using Nature-Inspired Meta-Heuristic Optimization Algorithms
Amel Ksibi, Anis Ben Ammar and Chokri Ben Amar

P517  Can Deterministic Chaos Improve Differential Evolution for the Linear Ordering Problem?
Pavel Kromer, Ivan Zelinka and Vaclav Snasel

P518  Two Parameter Update Schemes for Recurrent Reinforcement Learning
Jin Zhang and Dietmar Maringer

P519  Differential Evolution Strategy Based on the Constraint of Fitness Values Classification
Zhihui Li, Zhigang Shang, Jane Jing Liang and Boyang Qu

P520  A Lagrangian and Surrogate Information Enhanced Tabu Search for the MMKP
Skander Htiouech and Sadok Bouamama
Estimation of Distribution Algorithms Based Unmanned Aerial Vehicle Path Planner Using a New Coordinate
Peng Yang, Ke Tang and Jose Antonio Lozano

An Uncultivated Wolf Pack Algorithm for High-Dimensional Functions and Its Application in Parameters Optimization of PID Controller
Husheng Wu, Fengming Zhang and Lushan Wu

On the Inference of Deterministic Chaos: Evolutionary Algorithm and Metabolic P System Approaches
Luca Marchetti, Vincenzo Manca and Ivan Zelinka

A New Method and Application for Controlling the Steady-State Probability Distributions of Probabilistic Boolean Networks
Meng Yang, Rui Li and Tianguang Chu

Evolutionary Community Detection in Social Networks
Tiantian He and Keith C.C. Chan

Experiments in Program Synthesis with Grammatical Evolution: A Focus on Integer Sorting
Michael O’Neill, Miguel Nicolau and Alexandros Agapitos

A Social-Evolutionary Approach to Compose a Similarity Function Used on Event Recommendation
Luiz Mario Lustosa Pascoal, Celso Goncalves Camilo-Junior, Edjalma Queiroz Silva and Thierson Couto Rosa

Applying Evolutionary Computation for Evolving Ontologies
Oliviu Matei, Diana Contras and Petrica Pop

Wednesday, July 9, 4:00PM-6:00PM ................................................................. 357

Special Session: WeE2-1 Evolutionary Computation in Dynamic and Uncertain Environments,
Chair: Michalis Mavrovouniotis, Room: 203A ......................................................... 357

4:00PM Find Robust Solutions Over Time by Two-Layer Multi-Objective Optimization Method
Yinan Guo, Meirong Chen, Haobo Fu and Yun Liu

4:20PM Niching-Based Self-adaptive Ensemble DE with MMTS for Solving Dynamic Optimization Problems
Sheldon Hui and Ponnuthurai Nagaratnam Suganthan

4:40PM Interactive and Non-Interactive Hybrid Immigrants Schemes for Ant Algorithms in Dynamic Environments
Michalis Mavrovouniotis and Shengxiang Yang

5:00PM What Are Dynamic Optimization Problems?
Haobo Fu, Peter Lewis, Bernhard Sendhoff, Ke Tang and Xin Yao

5:20PM A Dynamic History-Driven Evolutionary Algorithm
Chi Kin Chow and Shiu Yin Yuen

5:40PM Adaptive Particle Swarm Optimization with Variable Relocation for Dynamic Optimization Problems
Zhi-Hui Zhan and Jun Zhang

Special Session: WeE2-2 Intelligent Design for Reliable Cloud Computing, Chair: Wei-Chang Yeh,
Room: 203B ............................................................................................................ 359

4:00PM Macroscopic Indeterminacy Swarm Optimization (MISO) Algorithm for Real-Parameter Search
Po-Chun Chang and Xiangjian He

4:20PM A Cooperative Honey Bee Mating Algorithm and Its Application in Multi-Threshold Image Segmentation
Yunzhi Jiang, Zhenlun Yang, Zhifeng Hao, Yinglong Wang and Huojiao He

4:40PM A RFID Network Design Methodology for Decision Problem in Health Care
Chun-Hua Chou, Huang Chia-Ling and Po-Chun Chang

5:00PM Pareto Simplified Swarm Optimization for Grid-Computing Reliability and Service Makspan in Grid-RMS
Wei Shang-Chia, Yeh Wei-Chang and Yen Tso-Jung
5:20PM  *A New Grouping Genetic Algorithm for the MapReduce Placement Problem in Cloud Computing*
Xiaoyong Xu and Maolin Tang

5:40PM  *Composite SaaS Scaling in Cloud Computing Using a Hybrid Genetic Algorithm*
Zeratul Mohd Yusoh and Maolin Tang

**Special Session: WeE2-3 Single Objective Numerical Optimization II, Chair: Jane Jing Liang and Boyang Qu, Room: 203C**

5:20PM  *A Differential Evolution with Replacement Strategy for Real-Parameter Numerical Optimization*
Changjian Xu, Han Huang and Shujin Ye

4:00PM  *Composite SaaS Scaling in Cloud Computing Using a Hybrid Genetic Algorithm*
Zeratul Mohd Yusoh and Maolin Tang

4:20PM  *Evaluating the Mean-Variance Mapping Optimization on the IEEE-CEC 2014 Test Suite*
Istvan Erlich, Jose L. Rueda and Sebastian Wildenhues

4:40PM  *Influence of Regions on the Memetic Algorithm for the Special Session on Real-Parameter Single Objective Optimization*
Daniel Molina, Benjamin Lacroix and Francisco Herrera

5:00PM  *Analysis and Classification of Optimisation Benchmark Functions and Benchmark Suites*
Robert Garden and Andries Engelbrecht

5:20PM  *Testing United Multi-Operator Evolutionary Algorithms on the CEC2014 Real-Parameter Numerical Optimization*
Saber Elsayed, Ruhul Sarker, Daryl Essam and Noha Hamza

5:40PM  *Improving the Search Performance of SHADE Using Linear Population Size Reduction*
Ryoji Tanabe and Alex Fukunaga

**WeE2-4 Learning Classifier Systems, Chair: Hisao Ishibuchi, Room: 203D**

4:00PM  *Towards Better Generalization in Pittsburgh Learning Classifier Systems*
Shubhra Kanti Karmaker Santu, Md. Mustafizur Rahman, Md. Monirul Islam and Kazuyuki Murase

4:20PM  *GP-Based Kernel Evolution for L2-Regularization Networks*
Simone Scardapane, Danilo Comminiello, Michele Scarpiniti and Aurelio Uncini

4:40PM  *Generalized Classifier System: Evolving Classifiers with Cyclic Conditions*
Xianneng Li, Wen He and Kotaro Hirasawa

5:00PM  *Applying LCS to Affective Images Classification in Spatial-Frequency Domain*
Po-Ming Lee and Tzu-Chien Hsiao

5:20PM  *A Novel Genetic Algorithm Approach for Simultaneous Feature and Classifier Selection in Multi Classifier System*
Tien Thanh Nguyen, Alan Wee-Chung Liew, Minh Toan Tran, Xuan Cuong Pham and Mai Phuong Nguyen

5:40PM  *Lookup Table Partial Reconfiguration for an Evolvable Hardware Classifier System*
Kyrre Glette and Paul Kaufmann

**Special Session: WeC2-1 CIS and WCCI Competition Session, Chair: Swagatam Das and Alessandro Sperduti, Room: 311A**

4:00PM  *IEEE CIS Ghosts Challenge 2013*
Alessandro Sperduti

4:45PM  *Evolutionary Computation for Dynamic Optimization Problems*
Changhe Li, Michalis Mavrovouniotis, Shengxiang Yang and Xin Yao

5:10PM  *Optimization of Problems with Multiple Interdependent Components*
Sergey Polyakovskiy, Markus Wagner, Mohammad Reza Bonyadi, Frank Neumann and Zbigniew Michalewicz

5:35PM  *First Neural Connectomics Challenge: From Imaging to Connectivity*
Demian Battaglia
Thursday, July 10, 1:30PM-3:30PM

**ThE1-1 Ant Colony Optimization, Chair: Andries Engelbrecht, Room: 203A**

1:30PM *Ant Colony Optimization and Hypergraph Covering Problems*
Ankit Pat

1:50PM *Confidence-Based Ant Random Walks*
Ping He, Ling Lu, Xiaohua Xu, Kanwen Li, Heng Qian and Wei Zhang

2:10PM *The Coupled EigenAnt Algorithm for Shortest Path Problems*
Eugenius Kaszkurewicz, Amit Bhaya, Jayadeva Jayadeva and Joao Marcos Meirelles da Silva

2:30PM *Accelerating Ant Colony Optimization-Based Edge Detection on the GPU Using CUDA*
Laurence Dawson and Iain Stewart

2:50PM *Absorption in Model-Based Search Algorithms for Combinatorial Optimization*
Zijun Wu and Michael Kolonko

3:10PM *Elitism-Based Immigrants for Ant Colony Optimization in Dynamic Environments: Adapting the Replacement Rate*
Michalis Mavrovouniotis and Shengxiang Yang

**ThE1-2 Opposition-Based Learning and Differential Evolution, Chair: Shahryar Rahnamayan, Room: 203B**

1:30PM *Gaussian Adaptation Based Parameter Adaptation for Differential Evolution*
Rammohan Mallipeddi, Guohua Wu, Minho Lee and Ponnuthurai Nagaratnam Suganthan

1:50PM *Toward Using Type-II Opposition in Optimization*
Hojjat Salehinejad, Shahryar Rahnamayan and Hamid R. Tizhoosh

2:10PM *Improved Differential Evolution with Adaptive Opposition Strategy*
Huichao Liu, Zhijian Wu, Hui Wang, Shahryar Rahnamayan and Changshou Deng

2:30PM *Differential Evolution Assisted by a Surrogate Model for Bilevel Programming Problems*
Jaqueline Angelo, Eduardo Krempser and Helio Barbosa

2:50PM *Adaptive Inflationary Differential Evolution*
Edmondo Minisci and Massimiliano Vasile

3:10PM *Computing Opposition by Involving Entire Population*
Shahryar Rahnamayan, Jude Jesuthasan, Farid Bourennani, Hojjat Salehinejad and Greg F. Naterer

**ThE1-3 Genetic Programming, Chair: Michael O'Neill, Room: 203C**

1:30PM *Adaptive Genetic Network Programming*
Xianneng Li, Wen He and Kotaro Hirasawa

1:50PM *Evolving Exact Integer Algorithms with Genetic Programming*
Thomas Weise, Mingxu Wan, Ke Tang and Xin Yao

2:10PM *A Sequential Genetic Programming Method to Learn Forward Construction Heuristics for Order Acceptance and Scheduling*
Su Nguyen, Mengjie Zhang and Mark Johnston

2:30PM *Anomaly Detection in Crowded Scenes Using Genetic Programming*
Cheng Xie and Lin Shang

2:50PM *A Genetic Programming Approach to Distributed QoS-Aware Web Service Composition*
Yang Yu, Hui Ma and Mengjie Zhang

3:10PM *Generating Lambda Term Individuals in Typed Genetic Programming Using Forgetful A*
Tomas Kren and Roman Neruda
**ThE1-4 Heuristics, Metaheuristics and Hyper-heuristics I, Chair: Graham Kendall, Room: 203D.........365**

1:30PM  *AIRP: A Heuristic Algorithm for Solving the Unrelated Parallel Machine Scheduling Problem*  
Luciano Perdigao Cota, Matheus Nohra Haddad, Marcone Jamilson Freitas Souza and Vitor Nazario Coelho

1:50PM  *Heuristic Space Diversity Management in a Meta-Hyper-Heuristic Framework*  
Jacomine Grobler, Andries Engelbrecht, Graham Kendall and V.S.S. Yadavalli

2:10PM  *An Improved Bilevel Evolutionary Algorithm Based on Quadratic Approximations*  
Ankur Sinha, Pekka Malo and Kalyanmoy Deb

2:30PM  *A Cooperative Approach between Metaheuristic and Branch-and-Price for the Team Orienteering Problem with Time Windows*  
Lianguan Ke

2:50PM  *Hyper-Heuristics with Penalty Parameter Adaptation for Constrained Optimization*  
Yu-Jun Zheng, Bei Zhang and Zhen Cheng

3:10PM  *Control of Numeric and Symbolic Parameters with a Hybrid Scheme Based on Fuzzy Logic and Hyper-heuristics*  
Eduardo Segredo, Carlos Segura and Coromoto Leon

**Industrial Session: ThE1-5 Computational Intelligence on Predictive Maintenance and Optimization, Chair: Shiji Song and Christoph Hametner, Room: 303........................................................................366**

1:30PM  *A Decomposition-Based Algorithm for Dynamic Economic Dispatch Problems*  
Eman Sayed, Daryl Essam, Ruhul Sarker and Saber Elsayed

1:50PM  *Minimizing Makespan for a No-Wait Flowshop Using Tabu Mechanism Improved Iterated Greedy Algorithm*  
Jianya Ding, Shiji Song, Rui Zhang and Cheng Wu

2:10PM  *Black-Hole PSO and SNO for Electromagnetic Optimization*  
Matteo Ruello, Francesco Grimaccia, Marco Mussetta and Riccardo E. Zich

2:30PM  *Dynamic Neural Networks for Jet Engine Degradation Prediction and Prognosis*  
S. Kiakojoori and K. Kiakojoori

2:50PM  *Recognition of Sintering State in Rotary Kiln Using a Robust Extreme Learning Machine*  
Hua Chen, Jing Zhang, Xiaogang Zhang and Hongping Hu

3:10PM  *Model Based Lithium Ion Cell Ageing Data Analysis*  
Christoph Hametner, Wenzel Prochazka, Amra Suljanovic and Stefan Jakubek

**Thursday, July 10, 3:30PM-6:00PM.................................................................367**

**Poster Session: PE4 Poster Session IV, Chair: Tadahiko Murata, Room: Posters Area (Level 2)...............367**

P701  *Dynamic Multi-Objective Optimization Using Charged Vector Evaluated Particle Swarm Optimization*  
Kyle Harrison, Beatrice Ombuki-Berman and Andries Engelbrecht

P702  *A New Self-Adaptive PSO Based on the Identification of Planar Regions*  
Eddy Mesa, Juan David Velasquez and Patricia Jaramillo

P703  *PSO-Based Evacuation Simulation Framework*  
Pei-Chuan Tsai, Chih-Ming Chen and Ying-ping Chen

P704  *PSO-Based Update Memory for Improved Harmony Search Algorithm to the Evolution of FBBFNT Parameters*  
Souhir Bouaziz, Adel M. Alimi and Ajith Abraham

P705  *Fuzzy Multiobjective Differential Evolution Using Performance Metrics Feedback*  
Chatkaew Jariyatantiwait and Gary Yen

P706  *Multiobjective Evolutionary Algorithm Portfolio: Choosing Suitable Algorithm for Multiobjective Optimization Problem*  
Shiu Yin Yuen and Xin Zhang
A Novel Algorithm for Many-Objective Dimension Reductions: Pareto-PCA-NSGA-II
Ronghua Shang, Kun Zhang and Licheng Jiao

An Experimental Analysis of Evolutionary Algorithms for the Three-Objective Oil Derivatives Distribution Problem
Thatiana Souza, Elizabeth Goldbarg and Marco Goldbarg

A New Strategy for Finding Good Local Guides in MOPSO
Man Fai Leung, Sin Chun Ng, Chi Chung Cheung and Andrew K Lui

An Inter-Molecular Adaptive Collision Scheme for Chemical Reaction Optimization
James J.Q. Yu, Victor O.K. Li and Albert Y.S. Lam

Analysis of Constraint Handling Methods for the Gravitational Search Algorithm
Daniel Poole, Christian Allen and Thomas Rendall

Distributed Wireless Sensor Scheduling for Multi-Target Tracking Based on Matrix-Coded Parallel Genetic Algorithm
Zixing Cai, Sha Wen and Lijue Liu

Effect of Pseudo Gradient on Differential Evolutionary for Global Numerical Optimization
Jinliang Ding, Lipeng Chen, Qingguang Xie, Tianyou Chai and Xiuping Zheng

Protein Folding Estimation Using Paired-Bacteria Optimizer
Mengshi Li, Tianyao Ji, Peter Wu, Shan He and Qinghua Wu

A Self-Adaptive Group Search Optimizer with Elitist Strategy
Xiang-wei Zheng, Dian-jie Lu and Zhen-hua Chen

Optimization Based on Adaptive Hinging Hyperplanes and Genetic Algorithm
Jun Xu, Xiangming Xi and Shuning Wang

Combining Multipopulation Evolutionary Algorithms with Memory for Dynamic Optimization Problems
Tao Zhu, Wenjian Luo and Lihua Yue

Micro-Differential Evolution with Vectorized Random Mutation Factor
Hojjat Salehinejad, Shahryar Rahnamayan and Hamid R. Tizhoosh

Application of BPSO with GA in Model-Based Fault Diagnosis of Traction Substation
Song Gao, Zhigang Liu, Chenxi Dai and Xiao Geng

Performance of AI Algorithms for Mining Meaningful Roles
Xuanxi Du and Xiaolin Chang

Using Estimation of Distribution Algorithm to Coordinate Decentralized Learning Automata for Meta-Task Scheduling
Jie Li and Junqi Zhang

A Modular Approach for Query Spotting in Document Images and Its Optimization Using Genetic Algorithms
Houssem Chatbri, Paul Kwan and Keisuke Kameyama

An Improved Genetic Algorithm for Dynamic Shortest Path Problems
Xuezhi Zhu, Wenjian Luo and Tao Zhu

A Novel Genetic Algorithm Considering Measures and Phrases for Generating Melody
Chia-Lin Wu, Chien-Hung Liu and Chuan-Kang Ting

Optimal Sizing of DGs and Storage for Microgrid with Interruptible Load Using Improved NSGA-II
Zhe Shi, Yonggang Peng and Wei Wei

Lion Algorithm for Standard and Large Scale Bilinear System Identification: A Global Optimization Based on Lion's Social Behavior
B. R. Rajakumar

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Miqing Li, Shengxiang Yang and Xiaohui Liu

4:40PM  MD-MOEA: A New MOEA Based on the Maximin Fitness Function and Euclidean Distances between Solutions
Adriana Menchaca-Mendez and Carlos A. Coello Coello

5:00PM  Multiobjective Test Problems with Complicated Pareto Fronts: Difficulties in Degeneracy
Hui Li, Qingfu Zhang and Jingda Deng

5:20PM  A Comparison Study of Binary Multi-Objective Particle Swarm Optimization Approaches for Test Case Selection
Luciano Souza, Ricardo Prudencio and Flavia Barros

5:40PM  The Effect of Different Local Search Algorithms on the Performance of Multi-Objective Optimizers
Martin Pilat and Roman Neruda

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4:20PM  Cultural Learning for Multi-Agent System and Its Application to Fault Management
Teran Juan, Aguilar Jose and Cerrada Mariela

4:40PM  Analyzing Prehistoric Hunter Behavior with Cultural Algorithms
Samuel Stanley, Thomas Palazzolo and David Warnke

5:00PM  GSCA: Reconstructing Biological Pathway Topologies Using a Cultural Algorithms Approach
Thair Judeh, Thaer Jayyousi, Lipi Acharya, Robert G. Reynolds and Dongxiao Zhu

5:20PM  A Social Metrics Based Process Model on Complex Social System
Xiangdong Che and Robert G. Reynolds

5:40PM  Online Knowledge-Based Evolutionary Multi-Objective Optimization
Bin Zhang, Kamran Shafi and Hussein Abbass

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Radka Polakova, Josef Tvrdik and Petr Bujok

4:20PM  Non-Uniform Mapping in Real-Coded Genetic Algorithms
Yashesh Dhebar, Kalyanmoy Deb and Sunith Bandaru

4:40PM  Bandits Attack Function Optimization
Preux Philippe, Munos Remi and Valko Michal

5:00PM  Differential Evolution with Rotation-Invariant Mutation and Competing-Strategies Adaptation
Petr Bujok, Josef Tvrdik and Radka Polakova

Zhongyi Hu, Yukun Bao and Tao Xiong

5:40PM  Memetic Differential Evolution Based on Fitness Euclidean-Distance Ratio
Jane Jing Liang, Boyang Qu, H. Song and Z. G. Shang
4:00PM  A Self-Organising Map Based Method for Understanding Features Associated with High Aesthetic Value Evolved Abstract Images
Allan Campbell, Vic Ciesielski and Karen Trist

4:20PM  When Artists Met Evospace-i
Francisco Fernandez de Vega, Mario Garcia-Valdez, Lilian Navarro, Cayetano Cruz, Patricia Hernandez, Tania Gallego and J. Vicente Albarran

4:40PM  Parallelization of Information Set Monte Carlo Tree Search
Nicholas Sephton, Peter Cowling, Edward Powley, Daniel Whitehouse and Nicholas Slaven

5:00PM  Comparing Crossover Operators in Neuro-Evolution with Crowd Simulations
Sunrise Wang, James Gain and Geoff Nitschke

5:20PM  Genotype Coding, Diversity, and Dynamic Environments: A Study on an Evolutionary Neural Network Multi-Agent System
Jaime Davila

5:40PM  The 2013 Multi-Objective Physical Travelling Salesman Problem Competition
Diego Perez, Edward Powley, Daniel Whitehouse, Spyridon Samothrakis, Simon Lucas and Peter Cowling

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4:00PM  Vessel Track Correlation and Association Using Fuzzy Logic and Echo State Networks
Hang Shao, Rami Abielmona, Rafael Falcon and Nathalie Japkowicz

4:20PM  Automatic Target Recognition Using Multiple-Aspect Sonar Images
Xiaoguang Wang, Xuan Liu, Nathalie Japkowicz and Stan Matwin

4:40PM  Base Station Switching Problem for Green Cellular Networks with Social Spider Algorithm
James J.Q. Yu and Victor O.K. Li

5:00PM  Deployment Optimization of Near Space Airships Based on MOEA/D with Local Search
Zhao Wang, Maoguo Gong, Qing Cai, Lijia Ma and Licheng Jiao

5:20PM  Novel Traffic Signal Timing Adjustment Strategy Based on Genetic Algorithm
Hsiao-Yu Tung, Wei-Chiu Ma and Tian-Li Yu

5:40PM  Encodings for Evolutionary Algorithms in Smart Buildings with Energy Management Systems
Ingo Mauser, Marita Dorscheid, Florian Allerding and Hartmut Schmeck
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8:10AM  **Declarative Process Discovery with Evolutionary Computing**  
        Seppe vanden Broucke, Jan Vanthienen and Bart Baesens

8:30AM  **Control-Flow Discovery from Event Streams**  
        Andrea Burattin, Alessandro Sperduti and Wil M. P. van der Aalst

8:50AM  **Perturbing Event Logs to Identify Cost Reduction Opportunities: A Genetic Algorithm-Based Approach**  
        W.Z. Low, J. De Weerdt, M.T. Wynn, A.H.M. ter Hofstede, Wil M. P. van der Aalst and Seppe vanden Broucke

9:10AM  **A Clustering-Based Approach for Exploring Sequences of Compiler Optimizations**  
        Luiz Martins, Ricardo Nobre, Alexandre Delbem, Eduardo Marques and Joao Cardoso

9:30AM  **A Study on Non-Correspondence in Spread between Objective Space and Design Variable Space for Trajectory Designing Optimization Problem**  
        Toru Yoshida and Tomohiro Yoshikawa

9:50AM  **Ensemble Bayesian Model Averaging in Genetic Programming**  
        Alexandros Agapitos, Michael O'Neill and Anthony Brabazon

FrE1-3 Estimation of Distribution Algorithms and Machine Learning, Chair: Jose Antonio Lozano, Room: 203C

8:10AM  **Extending Distance-Based Ranking Models in Estimation of Distribution Algorithms**  
        Josu Ceberio, Ekhine Irurozki, Alexander Mendiburu and Jose Antonio Lozano

8:30AM  **Quantum-Inspired Evolutionary Algorithm with Linkage Learning**  
        Bo Wang, Hua Xu and Yuan Yuan

8:50AM  **Investigation on Efficiency of Optimal Mixing on Various Linkage Sets**  
        Shih-Ming Wang, Yu-Fan Tung and Tian-Li Yu

9:10AM  **A Locally Weighted Metamodel for Pre-Selection in Evolutionary Optimization**  
        Qixiao Liao, Aimin Zhou and Guixu Zhang

9:30AM  **Use Model Building on Discretization Algorithms for Discrete EDAs to Work on Real-Valued Problems**  
        Yi-En Su and Tian-Li Yu

9:50AM  **Transformation of Input Space Using Statistical Moments: EA-Based Approach**  
        Ahmed Kattan, Michael Kampouridis, Yew-Soon Ong and Khalid Mehamdi

FrE1-4 Evolutionary Computation Theory and Parameter Optimization, Chair: Yaochu Jin, Room: 203D380

8:10AM  **A Progressive Random Walk Algorithm for Sampling Continuous Fitness Landscapes**  
        Katherine Malan and Andries Engelbrecht

8:30AM  **Runtime Analysis of Selection Hyper-Heuristics with Classical Learning Mechanisms**  
        Fawaz Alanazi and Per Kristian Lehre

8:50AM  **Particle Swarm Convergence: An Empirical Investigation**  
        Christopher Cleghorn and Andries Engelbrecht

9:10AM  **Phase Transition Particle Swarm Optimization**  
        Ji Ma, Junqi Zhang, Wei Wang and Jing Yao

9:30AM  **Fitness Level Based Adaptive Operator Selection for Cutting Stock Problems with Contiguity**  
        Kai Zhang, Thomas Weise and Jinfeng Li

9:50AM  **Parameter Optimization by Means of Statistical Quality Guides in F-Race**  
        Ronald Klazar and Andries Engelbrecht

FrE1-5 Multimodal Optimization and Population Initialization, Chair: Jonathan Fieldsend, Room: 303

8:10AM  **A Globally Diversified Island Model PGA for Multimodal Optimization**  
        Lifeng Zhang and Rong He

8:30AM  **A Topological Niching Covariance Matrix Adaptation for Multimodal Optimization**  
        Marcio Pereira, Mauro Roisenberg and Guenther Neto
Balancing the Exploration and Exploitation in an Adaptive Diversity Guided Genetic Algorithm
Fatemeh Vafaee, Gyorgy Turan, Peter Nelson and Tanya Berger-Wolf

Compensate Information from Multimodal Dynamic Landscapes: An Anti-Pathology Cooperative Coevolutionary Algorithm
Xingguang Peng, Xiaokang Lei and Kun Liu

A Review of Population Initialization Techniques for Evolutionary Algorithms
Borhan Kazimipour, Xiaodong Li and A. K. Qin

Running Up Those Hills: Multi-Modal Search with the Niching Migratory Multi-Swarm Optimiser
Jonathan Fieldsend

Friday, July 11, 10:30AM-12:30PM

FrE2-1 Multi-Objective Evolutionary Algorithms III, Chair: Slawomir Wesolkowski, Room: 203A

10:30AM Multi-Scenario Optimization Using Multi-Criterion Methods: A Case Study on Byzantine Agreement Problem
Ling Zhu, Kalyanmoy Deb and Sandeep Kulkarni

10:50AM Multi-Objective Evolutionary Recurrent Neural Network Ensemble for Prediction of Computational Fluid Dynamic Simulations
Christopher Smith, John Doherty and Yaochu Jin

11:10AM TraDE: Training Device Selection Via Multi-Objective Optimization
Slawomir Wesolkowski, Nevena Francetic and Stuart Grant

11:30AM Multi-view Clustering of Web Documents Using Multi-Objective Genetic Algorithm
Wahid Abdul, Xiaoying Gao and Andreae Peter

11:50AM Visual Examination of the Behavior of EMO Algorithms for Many-Objective Optimization with Many Decision Variables
Hiroyuki Masuda, Yusuke Nojima and Hisao Ishibuchi

12:10PM Sensitivity Analysis of Parallel Cell Coordinate System in Many-Objective Particle Swarm Optimization
Wang Hu, Gary Yen and Xin Zhang

FrE2-2 Numerical Optimization, Chair: Joao M. Sousa, Room: 203B

10:30AM Real-Parameter Optimization with OptBees
Renato Maia, Leandro de Castro and Walmir Caminhas

10:50AM A Levy Flight-Based Hybrid Artificial Bee Colony Algorithm for Solving Numerical Optimization Problems
Hai Shan, Toshiyuki Yasuda and Kazuhiro Ohkura

11:10AM Comparison of Random Number Generators in Particle Swarm Optimization Algorithm
Ke Ding and Ying Tan

11:30AM A Evolutionary Algorithm Based on Covariance Matrix Leaning and Searching Preference for Solving CEC 2014 Benchmark Problems
Lei Chen, Hai-Lin Liu, Zhe Zheng and Shengli Xie

Vitor Leite, Carlos Silva, Joao Claro and Joao M. Sousa

12:10PM A New Self-Learning TLBO Algorithm for RBF Neural Modelling of Batteries in Electric Vehicles
Zhile Yang, Kang Li, Aoife Foley and Cheng Zhang

FrE2-3 Coevolution and Collective Behavior, Chair: Grant Dick, Room: 203C

10:30AM Codynamic Fitness Landscapes of Coevolutionary Minimal Substrates
Hendrik Richter

10:50AM Model Representation and Cooperative Coevolution for Finite-State Machine Evolution
Grant Dick and Xin Yao
11:10AM Evolutionary Path Planning of a Data Mule in Wireless Sensor Network by Using Shortcuts
Shao-You Wu and Jing-Sin Liu

11:30AM Coevolutionary Genetic Algorithm for Variable Ordering in CSPs
Muhammad Rezaul Karim and Malek Mouhoub

11:50AM A Co-Evolutionary Multi-Objective Approach for a K-Adaptive Graph-Based Clustering Algorithm
Hector D. Menendez, David F. Barrero and David Camacho

12:10PM Evolving Multiplication as Emergent Behavior in Cellular Automata Using Conditionally Matching Rules
Michal Bidlo

FrE2-4 Biometrics, Bioinformatics and Biomedical Applications, Chair: Mengjie Zhang, Room: 203D
10:30AM Combining Graph Connectivity and Genetic Clustering to Improve Biomedical Summarization
Hector D. Menendez, Laura Plaza and David Camacho

10:50AM Selecting the Optimal EEG Electrode Positions for a Cognitive Task Using an Artificial Bee Colony with Adaptive Scale Factor Optimization Algorithm
Shreyasi Dutta, Pratyusha Rakshit, Amit Konar and Atulya Nagar

11:10AM A New GP-Based Wrapper Feature Construction Approach to Classification and Biomarker Identification
Soha Ahmed, Mengjie Zhang and Lifeng Peng

11:30AM An Examination of Synchronisation in Artificial Gene Regulatory Networks
Jonathan Byrne, Miguel Nicolau, Anthony Brabazon and Michael O'Neill

11:50AM Memetic Algorithm for Sorting Unsigned Permutations by Reversals
Jose Luis Soncco-Alvarez and Mauricio Ayala-Rincon

12:10PM Evolved Neural Networks for HIV-1 Co-Receptor Identification
Gary Fogel, Enoch Liu, Marco Saleni, Susanna Lamers and Michael McGrath

FrE2-5 Robotics and Engineering Applications, Chair: Amiram Moshaiov, Room: 303

10:30AM Analysis of Fitness Noise in Particle Swarm Optimization: From Robotic Learning to Benchmark Functions
Ezequiel Di Mario, Inaki Navarro and Alcherio Martinoli

10:50AM A Comparison of Neural Networks and Physics Models as Motion Simulators for Simple Robotic Evolution
Christiaan Pretorius, Mathys du Plessis and John Gonsalves

11:10AM Family Bootstrapping: A Genetic Transfer Learning Approach for Onsetting the Evolution for a Set of Related Robotic Tasks
Amiram Moshaiov and Amir Tal

11:30AM Is MO-CMA-ES Superior to NSGA-II for the Evolution of Multi-Objective Neuro-Controllers?
Amiram Moshaiov and Omer Abramovich

11:50AM Optimization of the Picking Sequence of an Automated Storage and Retrieval System (AS/RS)
Rolf Dornberger, Thomas Hanne, Remo Ryter and Stauffer Michael

12:10PM Practical Application of an Evolutionary Algorithm for the Design and Construction of a Six-Inch Submarine
Khairul Alam, Tapabrata Ray and Sreenatha G. Anavatti

Friday, July 11, 1:30PM-3:30PM

FrE3-1 Large-Scale Problems and Real-World Applications, Chair: Ke Tang, Room: 203A

1:30PM A Novel Hybridization of Opposition-Based Learning and Cooperative Co-Evolutionary for Large-Scale Optimization
Borhan Kazimipour, Mohammad Nabi Omidvar, Xiaodong Li and A. K. Qin
1:50PM  Optimising Large Scale Public Transport Network Design Problems Using Mixed-Mode Parallel Multi-Objective Evolutionary Algorithms
Ian Cooper, Matthew John, Rhydian Lewis, Andrew Olden and Christine Mumford

2:10PM  Many-Objective Evolutionary Computation for Optimization of Separated-Flow Control Using a DBD Plasma Actuator
Takeshi Watanabe, Tomoaki Tatsukawa, Antonio Lopez Jaimes, Hikaru Aono, Taku Nonomura, Akira Oyama and Kozo Fujii

2:30PM  A Hybrid EA for High-Dimensional Subspace Clustering Problem
Lin Lin, Gen Mitsuo and Liang Yan

2:50PM  A Simplified Glowworm Swarm Optimization Algorithm
Ming-yu Du, Xiujuan Lei and Zhen-qiang Wu

3:10PM  An Improved Two Archive Algorithm for Many-Objective Optimization
Bingdong Li, Jinlong Li, Ke Tang and Xin Yao

FrE3-2 Evolvable Hardware and Software and Genetic Programming, Chair: Andy Song, Room: 203B.... 388

1:30PM  Two Step Evolution Strategy for Device Motif BSIM Model Parameter Extraction
Yang Xiao, Martin Trefzer, James Walker, Simon Bale and Andy Tyrrell

1:50PM  Maximising Axiomatization Coverage and Minimising Regression Testing Time
Markus Wagner

2:10PM  A New Adaptive Kalman Filter by Combining Evolutionary Algorithm and Fuzzy Inference System
Yudan Huo, Zhihua Cai, Wenxin Gong and Qin Liu

2:30PM  Cartesian Genetic Programming as Local Optimizer of Logic Networks
Lukas Sekanina, Ondrej Ptak and Zdenek Vasicke

2:50PM  Wave Height Quantification Using Land Based Seismic Data with Grammatical Evolution
Sarah Donne, Miguel Nicolau, Christopher Bean and Michael O'Neill

3:10PM  Genetic Programming Based Activity Recognition on a Smartphone Sensory Data Benchmark
Feng Xie, Andy Song and Vic Ciesielski

FrE3-3 Swarm Intelligence, Chair: Thomas Runkler, Room: 203C .......................... 389

1:30PM  Swarm/Evolutionary Intelligence for Agent-Based Social Simulation
Andreas Janecek, Tobias Jordan and Fernando Buarque de Lima-Neto

1:50PM  Solving the Multidimensional Knapsack Problem Using a CUDA Accelerated PSO
Drahoslav Zan and Jiri Jaros

2:10PM  Multidimensional Scaling with Multiswarming
Thomas Runkler and James Bezdek

2:30PM  Chaos-Driven Discrete Artificial Bee Colony
Magdalena Metlicka and Donald Davendra

2:50PM  Web Bots Detection Using Particle Swarm Optimization Based Clustering
Shafiq Alam, Gillian Dobbie, Yun Sing Koh and Patricia Riddle

3:10PM  An Ant Colony Optimization Algorithm for Multi-Objective Clustering in Mobile Ad Hoc Networks
Chung-Wei Wu, Tsung-Che Chiang and Li-Chen Fu

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Steven Adriaensen, Tim Brys and Ann Nowe

1:50PM  Network Path Optimization Under Dynamic Conditions
Yaser Enaya and Kalyanmoy Deb

2:10PM  A Parallel Lagrangian-ACO Heuristic for Project Scheduling
Oswyn Brent, Dhananjay Thiruvady, Antonio Gomez-Iglesias and Rodolfo Garcia-Flores
A Multidirectional Physarum Solver for the Automated Design of Space Trajectories
Luca Masi and Massimiliano Vasile

A Genetic Programming-Based Hyper-heuristic Approach for Storage Location Assignment Problem
Jing Xie, Yi Mei, Andreas Ernst, Xiaodong Li and Andy Song

The Monarchy Driven Optimization Algorithm
Ritambhar Burman, Swagatam Das, Zhenjiang Ni, Zheshanul Haque, Athanasios V. Vasilakos and Soumyadip Chakraborti

A Combined MapReduce-Windowing Two-Level Parallel Scheme for Evolutionary Prototype Generation
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A Dynamic-Weighted Collaborative Filtering Approach to Address Sparsity and Adaptivity Issues
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Carry Trade Portfolio Optimization using Particle Swarm Optimization
Stuart Reid, Katherine Malan and Andries Engelbrecht

On the Edge of Feasibility: A Case Study of the Particle Swarm Optimizer
Mohammad Reza Bonyadi and Zbigniew Michalewicz

Linear Sparse Arrays Designed by Dynamic Constrained Multi-Objective Evolutionary Algorithm
Wei Dong and Sanyou Zeng

Mapping Constrained Optimization Problems to Penalty Parameters: An Empirical Study
Chenyong Si, Jianqiang Shen, Xuan Zou, Lei Wang and Qidi Wu

A Constrained Multi-Objective Surrogate-Based Optimization Algorithm
Prashant Singh, Ivo Couckuyt, Francesco Ferranti and Tom Dhaene

DMOPSO: Dual Multi-Objective Particle Swarm Optimization
Lee Ki-Baek and Kim Jong-Hwan

Demonstrator Selection in a Social Learning Particle Swarm Optimizer
Ran Cheng and Yaochu Jin

Filter Based Backward Elimination in Wrapper Based PSO for Feature Selection in Classification
Bach Hoai Nguyen, Bing Xue, Ivy Liu and Mengjie Zhang

An Archive Based Particle Swarm Optimisation for Feature Selection in Classification
Bing Xue, A. K. Qin and Mengjie Zhang

A Graph-Based Particle Swarm Optimisation Approach to QoS-Aware Web Service Composition and Selection
Alexandre Sawczuk da Silva, Hui Ma and Mengjie Zhang
Special Session: FrE4-3 Dynamic Multi-Objective Optimization, Chair: Marde Helbig, Room: 203C .......... 394

4:00PM  *Heterogeneous Dynamic Vector Evaluated Particle Swarm Optimisation for Dynamic Multi-Objective Optimisation*  
Marde Helbig and Andries Engelbrecht

4:20PM  *An Adaptive Diversity Introduction Method for Dynamic Evolutionary Multiobjective Optimization*  
Min Liu, Jinhua Zheng, Junnian Wang, Yuzhen Liu and Lei Jiang

4:40PM  *A Multiple Reference Point-Based Evolutionary Algorithm for Dynamic Multi-Objective Optimization with Undetectable Changes*  
Radhia Azzouz, Slim Bechikh and Lamjed Ben Said

5:00PM  *Artificial Bee Colony Induced Multi-Objective Optimization in Presence of Noise*  
Pratyusha Rakshit, Amit Konar and Atulya Nagar

5:20PM  *A Cascaded Evolutionary Multi-Objective Optimization for Solving the Unbiased Universal Electric Motor Family Problem*  
Timo Friedrich and Stefan Menzel

5:40PM  *Evolutionary Multiobjective Optimization in Dynamic Environments: A Set of Novel Benchmark Functions*  
Subhodip Biswas, Swagatam Das, Ponnuthurai Nagaratnam Suganthan and Carlos A. Coello Coello

Special Session: FrE4-4 Fireworks Algorithms for Optimization, Chair: Ying Tan, Room: 203D ............... 396

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Bei Zhang, Min-Xia Zhang and Yu-Jun Zheng

4:20PM  *Analysis on Global Convergence and Time Complexity of Fireworks Algorithm*  
Jianhua Liu, Shaoqiu Zheng and Ying Tan

4:40PM  *Adaptive Fireworks Algorithm*  
Junzhi Li, Shaoqiu Zheng and Ying Tan

5:00PM  *Dynamic Search in Fireworks Algorithm*  
Shaoqiu Zheng, Andreas Janecek, Junzhi Li and Ying Tan

5:20PM  *Maintaining Population Diversity in Brain Storm Optimization Algorithm*  
Shi Cheng, Yuhui Shi, Quande Qin, T. O. Ting and Ruibin Bai

5:40PM  *Fireworks Algorithm with Differential Mutation for Solving the CEC 2014 Competition Problems*  
Chao Yu, Lingchen Kelley, Shaoqiu Zheng and Ying Tan

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Zelinka Ivan, Lampinen Jouni, Senkerik Roman, Pluhacek Michal and Davendra Donald

4:20PM  *Knowledge Acquisition Issues for Intelligent Route Optimization by Evolutionary Computation*  
Masaki Suzuki, Setsuo Tsuruta, Rainer Knauf and Yoshitaka Sakurai

4:40PM  *A Memetic Algorithm for the Prize Collecting Traveling Car Renter Problem*  
Matheus Menezes, Marco Goldbarg and Elizabeth Goldbarg

5:00PM  *Network on Chip Optimization Based on Surrogate Model Assisted Evolutionary Algorithms*  
Mengyuan Wu, Ammar Karkar, Bo Liu, Alex Yakovlev and Georges Gielen

5:20PM  *A Genetic Algorithm for the Minimum Latency Pickup and Delivery Problem*  
Xin-Lan Liao, Chih-Hung Chien and Chuan-Kang Ting

5:40PM  *A Heuristic Approach to Greener Airport Ground Movement*  
Michal Weiszer, Jun Chen, Stefan Ravizza, Jason Atkin and Paul Stewart

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