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- 2:30PM *EOG-Based Drowsiness Detection Using Convolutional Neural Networks*
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- 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*
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MoN1-6 Time Series Analysis I, Chair: Andrea Burattin, Room: 305E 155

- 1:30PM *Multi-Objective Cooperative Coevolution of Neural Networks for Time Series Prediction*
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- 2:50PM *Sets with Incomplete and Missing Data - NN Radar Signal Classification*
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MoN1-7 Approximate Dynamic Programming and Reinforcement Learning, Chair: Qinglai Wei, Room: 303 157

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- 1:50PM *Finite Horizon Stochastic Optimal Control of Nonlinear Two-Player Zero-Sum Games under Communication Constraint*
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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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Monday, July 7, 3:30PM-6:00PM 158

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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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- P106 *Stability Analysis of Nonlinear Time-Delay System with Delayed Impulsive Effects*
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- P107 *Learning Discriminative Low-Rank Representation for Image Classification*
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- P108 *Supervised Bayesian Sparse Coding for Classification*
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- P109 *Writer-Independent Handwritten Signature Verification Based on One-Class SVM Classifier*
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- P115 *A Model with Fuzzy Granulation and Deep Belief Networks for Exchange Rate Forecasting*
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- P117 *A Genetic Algorithm Based Double Layer Neural Network for Solving Quadratic Bilevel Programming Problem*
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- P118 *Detection of Filter-Like Cellular Automata Spectra*
Eurico Ruivo and Pedro de Oliveira
- P119 *A Brain-Like Multi-Hierarchical Modular Neural Network with Applications to Gas Concentration Forecasting*
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- P124 *A New Transfer Learning Boosting Approach Based on Distribution Measure with an Application on Facial Expression Recognition*
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- P125 *Adaptive Output Feedback Control for Cooperative Dynamic Positioning of Multiple Offshore Vessels*
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- P126 *Hierarchical Organization in Neuronal Functional Networks during Working Memory Tasks*
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- P127 *Shrunk Support Vector Clustering*
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- P128 *Oil Spill GF-1 Remote Sensing Image Segmentation Using an Evolutionary Feedforward Neural Network*
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- P129 *Deep Process Neural Network for Temporal Deep Learning*
Wenhao Huang and Haikun Hong
- P130 *Dynamic Boosting in Deep Learning Using Reconstruction Error*
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- P132 *A Classifier-Based Association Test for Imbalanced Data Derived from Prediction Theory*
Johannes Mohr, Sambu Seo and Klaus Obermayer
- P133 *Issues on Sampling Negative Examples for Predicting Prokaryotic Promoters*
Eduardo Gusmao and Marcilio de Souto
- P134 *Singular Spectrum Analysis of P300 for Classification*
Shirin Enshaeifar, Saeid Sanei and Clive Cheong Took
- P135 *Vessel Segmentation in Retinal Images with a Multiple Kernel Learning Based Method*
Xiaoming Liu, Zhigang Zeng and Xiaoping Wang
- P136 *Content-Based Image Retrieval by Dictionary of Local Feature Descriptors*
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- P137 *The Performance of a Recurrent Honn for Temperature Time Series Prediction*
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- P140 *Adaptive Control of Wind Turbine Generator System Based on RBF-PID Neural Network*
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- P143 *Unsupervised Robust Bayesian Feature Selection*
Jianyong Sun and Aimin Zhou
- P144 *Competitive Two-Island Cooperative Coevolution for Training Elman Recurrent Networks for Time Series Prediction*
Rohitash Chandra
- P145 *Universal Approximation Propriety of Flexible Beta Basis Function Neural Tree*
Souhir Bouaziz, Adel M. Alimi and Ajith Abraham

Monday, July 7, 4:00PM-6:00PM 165

Special Session: MoN2-1 Concept Drift, Domain Adaptation & Learning in Dynamic Environments I,

Chair: Giacomo Boracchi and Manuel Roveri, Room: 308 165

- 4:00PM *Trotting Gait Planning for a Quadruped Robot with High Payload Walking on Irregular Terrain*
Nan Hu, Shaoyuan Li, Dan Huang and Feng Gao
- 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 Fazel, 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, Muhaini 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 Ferrarini
- 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 167

- 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 Balaguer
- 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 169

- 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 Alamgir 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 170

- 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 171

- 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*
Mashud 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, Chengxu 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: 303 172

- 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 173

Special Session: TuN1-1 International Workshop on Computational Energy Management in Smart Grids I, Chair: Stefano Squartini and Derong Liu, Room: 308 173

- 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 and Montserrat 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*
Zhaobin Wang, Xiaoguang Sun, Yaonan Zhang, Yide Ma, Hongjuan Zhang, Yurun Ma and Weiyang Xie
- 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, Mahbulul 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 Georgijevic
- 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

3:10PM *A Google Approach for Computational Intelligence in Big Data*
Andreas Antoniadis and Clive Cheong Took

TuN1-5 Feedforward Neural Networks II, Chair: Brijesh Verma, Room: 305D 177

- 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 *MofN Rule 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 178

- 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 179

Poster Session: PN2 Poster Session 2, Chair: Danil Prokhorov, Room: Posters Area (Level 3) 179

- 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 Sio-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 Pathirana, 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 Jianzhuang 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 Combing KPCA with PNN*
Chenxi Dai, Zhigang Liu and Yan Cui

- P328 *Classifying Web Documents Using Term Spectral Transforms and Multi-Dimensional Latent Semantic Representation*
Haijun Zhang, Shifu Bie and Bin Luo
- P329 *A Hopfield Neural Network Based Algorithm for Haplotype Assembly from Low-Quality Data*
Xiao Chen, Qinke Peng, Libin Han and Xiao Wang
- P330 *Distributed Control for Second-Order Leader-Following Multi-Agent Systems with Heterogeneous Leader*
Hongjing Liang, Yingchun Wang, Zhanshan Wang and Huaguang Zhang
- P331 *A Multiplicative Update Algorithm for Nonnegative Convex Polyhedral Cone Learning*
Qizhao Cai, Kan Xie and Zhaoshui He
- P332 *Neural-Based Adaptive Integral Sliding Mode Tracking Control for Nonlinear Interconnected Systems*
Wen-Shyong Yu and Chien-Chih Weng
- P333 *IR Remote Sensing Image Registration Based on Multi-Scale Feature Extraction*
Jun Kong, Min Jiang and Yi-Ning Sun
- P334 *Learning Rates of Neural Network Estimators via the New FNNs Operators*
Yi Zhao and Dansheng Yu
- P335 *Image Encryption Based on Compressed Sensing and Blind Source Separation*
Zuyuan Yang, Yong Xiang and Chuan Lu
- P336 *A Modular Neural Network Architecture that Selects a Different Set of Features per Module*
Diogo Severo, Everson Verissimo, George Cavalcanti and Ing Ren Tsang
- P337 *Extracting Nonlinear Correlation for the Classification of Single-Trial EEG in a Finger Movement Task*
Jun Lu, Kan Xie and Zeng Tang
- P338 *Vessel Maneuvering Model Identification Using Multi-Output Dynamic Radial-Basis-Function Networks*
Ning Wang, Nuo Dong and Min Han
- P339 *Intrusion Detection Using a Cascade of Boosted Classifiers (CBC)*
Mubasher Baig, El-Sayed El-Alfy and Mian Awais
- P340 *Data Dimensionality Reduction Approach to Improve Feature Selection Performance Using Sparsified SVD*
Pengpeng Lin, Jun Zhang and Ran An
- P341 *Visualization and Pattern Discovery of Social Interactions and Repost Propagation in Sina Weibo*
Xuming Huang, Cong Quan, Shuwei Liu and Yuanyuan Man
- P342 *A Transductive Support Vector Machine with Adjustable Quasi-Linear Kernel for Semi-Supervised Data Classification*
Bo Zhou, Chenlong Hu and Jinglu Hu
- P343 *Multi-Kernel Linear Programming Support Vector Regression with Prior Knowledge*
Jinzhu Zhou
- P344 *An Autonomous Trader Agent for the Stock Market Based on Online Sequential Extreme Learning Machine Ensemble*
Rodolfo C. Cavalcante and Adriano Oliveira
- P345 *An Ordinal Kernel Trick for a Computationally Efficient Support Vector Machine*
Yara Rizk, Nicholas Mitri and Mariette Awad

Tuesday, July 8, 4:00PM-6:00PM 186**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 *WVN: 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 Altahhan
- 5:20PM *User Daily Activity Pattern Learning: A Multi-Memory Modeling Approach*
Shan Gao and Ah-Hwee Tan
- 5:40PM *Mobile Humanoid Agent with Mood Awareness for Elderly Care*
Di Wang and Ah-Hwee Tan
- 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 Fakhru Alam
- 4:40PM *A Flocking-Like Technique to Perform Semi-Supervised Learning*
Roberto Guelleri, 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*
Murillo 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, Zihua 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 Chrisina 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 *A New Ensemble Method for Multi-Label Data Stream Classification in Non-Stationary Environment*
Ge Song and Yunming Ye
- 3:30PM *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 Yiu-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, Debaditya 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

WeI1-1 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*
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 200

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. Goedel, 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, Ritambhar 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 Garcez 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 Jinxi Zhao
- P524 *A New Multi-Task Learning Based Wi-Fi Location Approach Using $L_{1/2}$ -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

- P533 *Learning Features from High Speed Train Vibration Signals with Deep Belief Networks*
Jipeng Xie, Yan Yang, Tianli Li and Weidong Jin
- P534 *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
- P535 *Bayesian Network Scores Based Text Localization in Scene Images*
Khalid Iqbal, Xu-Cheng Yin, Hong-Wei Hao, Sohail Asghar and Hazrat Ali
- P536 *Implementation of Memristive Neural Networks with Spike-Rate-Dependent Plasticity Synapses*
Yide Zhang, Zhigang Zeng and Shiping Wen
- P537 *Evaluation of Active Position Detection in Vehicular Ad Hoc Networks*
Kiran Penna, Venkatesh Yalavarthi, Huirong Fu and Ye Zhu
- P538 *Smart Bandwidth Management Using a Recurrent Neuro-Evolutionary Technique*
Rabia Arshad, Gul Muhammad Khan and Sahibzada Ali Mahmud
- P539 *Analog Memristive Time Dependent Learning Using Discrete Nanoscale RRAM Devices*
Aniket Singha, Bhaskaran Muralidharan and Bipin Rajendran
- P540 *Data Intensive Parallel Feature Selection Method Study*
Zhanquan Sun and Zhao Li
- P541 *Kernel Ridge Regression Classification*
Jinrong He, Lixin Ding, Lei Jiang and Ling Ma
- P542 *Causality Traces for Retrospective Learning in Neural Networks - Introduction of Parallel and Subjective Time Scales*
Katsunari Shibata
- P543 *Hardware Implementation of KLMS Algorithm Using FPGA*
Xiaowei Ren, Pengju Ren, Badong Chen, Tai Min and Nanning Zheng
- P544 *Parallelized Neural Networks as a Service*
Altaf Ahmad Huqqani, Erich Schikuta and Erwin Mann

Wednesday, July 9, 4:00PM-6:00PM..... 207

Special Session: WeN2-1 Plenary and Discussion Session of International Workshops, Chair: Stefano Squartini and Nistor Grozavu, Room: 308 207

- 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 Vrancx, Room: 305A 207

- 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 Vrancx, Matthew E. Taylor, Daniel Kudenko and Ann Nowe
- 5:20PM *Policy Gradient Approaches for Multi-Objective Sequential Decision Making*
Simone Parisi, Matteo Pirota, 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..... 208

- 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*
Khosa 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..... 209

- 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*
Shirin 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 211

- 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 Mehrkanoon, Rocco Langone and Johan Suykens
- 4:40PM *An Efficient Parallel ISODATA Algorithm Based on Kepler GPUs*
Shiquan 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 212

- 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: 303 212

- 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 213

- 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 214**Special Session: ThN1-1 Architectures and Theories of the Brain, Chair: Asim Roy, Room: 308 214**

- 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 215

- 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 216

- 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 *Ensemble Learning for Keyword Extraction from Event Descriptions*
Pedro Geadas, Ana Alves and Bernardete Ribeiro
- 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 217

- 1:30PM *Unmanned Aerial Vehicles (UAV) Heading Optimal Tracking Control Using Online Kernel-Based HDP Algorithm*
Fuxiao Tan, Derong Liu, Xinpeng Guan and Bin Luo
- 1:50PM *Scalarization-Based Pareto Optimal Set of Arms Identification Algorithms*
Madalina Drugan and Ann Nowe
- 2:10PM *Approximate Model-Assisted Neural Fitted Q-Iteration*
Thomas Lampe and Martin Riedmiller
- 2:30PM *Explore to See, Learn to Perceive, Get the Actions for Free: SKILLABILITY*
Varun Kompella, Marijn Stollenga, Matthew Luciw and Juergen Schmidhuber
- 2:50PM *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 218

- 1:30PM *Pinning Dynamic Complex Networks by Time-Varying Controller-Vertex Set*
Yujuan Han, Wenlian Lu and Tianping Chen
- 1:50PM *Distributed LQR Design for Multi-Agent Systems on Directed Graph Topologies*
Tao Feng, Huaguang Zhang, Yanhong Luo and Yingchun Wang
- 2:10PM *Impact of Ratio k on Two-Layer Neural Network with Dynamic Optimal Learning Rate*
Tong Zhang and C. L. Philip Chen
- 2:30PM *A Neural Model of Mentalization/Mindful Based Psychotherapy*
Abbas Edalat and Lin Zheng
- 2:50PM *Incremental Face Recognition Using Rehearsal and Recall Processes*
Sangwook Kim, Mallipeddi Rammohan and Lee Minh
- 3:10PM *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 219

- 1:30PM *Case Study of Zhang Matrix Inverse for Different ZFs Leading to Different Nets*
Dongsheng Guo, Binbin Qiu, Zhende Ke, Zhi Yang and Yunong Zhang
- 1:50PM *Neurodynamics-Based Robust Eigenstructure Assignment for Second-Order Descriptor Systems*
Xinyi Le, Zheng Yan and Jun Wang
- 2:10PM *Oscillation Analysis of the Solutions for a Four Coupled FHN Network Model with Delays*
Chunhua Feng and Rejean Plamondon
- 2:30PM *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
- 2:50PM *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
- 3:10PM *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 220**Poster Session: PN4 Poster Session 4, Chair: Pablo Estevez, Room: Posters Area (Level 3) 220**

- 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

- P708 *Moving Towards Accurate Monitoring and Prediction of Gold Mine Underground Dam Levels*
Ali Hasan and Bhekisipho Twala
- P709 *Convolutional Deep Belief Networks for Feature Extraction of EEG Signal*
Yuanfang Ren and Yan Wu
- P710 *Newton's Method Backpropagation for Complex-Valued Holomorphic Multilayer Perceptrons*
Diana La Corte and Yi Ming Zou
- P711 *Fuzzy c-Means Clustering with a New Regularization Term for Image Segmentation*
Guangpu Shao
- P712 *Direct Adaptive Neural Network Control of a Class of Nonlinear Systems*
Baobin Miao and Tieshan Li
- P713 *Hybrid SVM/HMM Architectures for Statistical Model-Based Voice Activity Detection*
YingWei Tan, WenJu Liu, Wei Jiang and Hao Zheng
- P714 *Novel Stability Criteria of T-S Fuzzy Hopfield Neural Networks with Time-Varying Delays and Uncertainties*
Caigen Zhou, Xiaoqin Zeng and Jianjiang Yu
- P715 *A Collaborative Filtering Framework Based on Local and Global Similarities with Similarity Tie-Breaking Criteria*
Andre Lopes, Ricardo Prudencio and Byron Bezerra
- P716 *SVM Classification for Imbalanced Data Sets Using Conformal Kernel Transformations*
Yong Zhang, Panpan Fu and Wenzhe Liu
- P717 *Analysis of Disease Association and Susceptibility for SNP Data Using Emotional Neural Networks*
Xiao Wang, Qinke Peng and Tao Zhong
- P718 *Artificial Immune System Application for Solving Dynamic Optimization Problems*
Zhijie Li, Yuanxiang Li, Kuang Li and Fei Yu
- P719 *Synchronization Control of Hybrid-Coupled Heterogeneous Complex Networks*
Jianqiang Hu, Jinling Liang and Jinde Cao
- P720 *Robust LS-SVR Based on Variational Bayesian and Its Applications*
Kefeng Ning, Min Liu, Mingyu Dong and Zhansong Wu
- P721 *Label Propagation and Soft-Similarity Measure for Graph Based Constrained Semi-Supervised Learning*
Zhao Zhang, Mingbo Zhao and Tommy W.S. Chow
- P722 *An Improved RBM Based on Bayesian Regularization*
Guangyuan Pan and Junfei Qiao
- P723 *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
- P724 *Robust Bilinear Matrix Recovery by Tensor Low-Rank Representation*
Zhao Zhang and Mingbo Zhao
- P725 *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
- P726 *Joint Multiple Dictionary Learning for Tensor Sparse Coding*
Yifan Fu, Junbin Gao, Yanfeng Sun and Xia Hong
- P727 *Dependent Stochastic Blockmodels*
Eunsil Gim, Juho Lee and Seungjin Choi
- P728 *Splitted Neural Networks for Better Performance of Antenna Optimization*
Linh Ho Manh, Francesco Grimaccia, Marco Mussetta and Riccardo E. Zich
- P729 *Learning Features with Structure-Adapting Multi-View Exponential Family Harmoniums*
Kang Yoonseop and Choi Seungjin
- P730 *Outdoor Scene Understanding Using SEVI-BOVW Model*
Haibing Zhang, Shirong Liu and Chaoliang Zhong

- P731 *Global Exponential Stability of Delayed Hopfield Neural Network on Time Scale*
Xuehui Mei and Haijun Jiang
- P732 *Application of Neural Networks to Evaluate Experimental Data of Galvanic Zincing*
Peter Michal, Jan Pitel, Alena Vagaska and Ivo Bukovsky
- P733 *Iris Liveness Detection Methods in the Mobile Biometrics Scenario*
Ana F. Sequeira, Juliano Murari and Jaime S. Cardoso
- P734 *Nonnegative Shifted Tensor Factorization in Time Frequency Domain*
Qiang Wu, Ju Liu, Fengrong Sun, Jie Li and Andrzej Cichocki
- P735 *Modeling of Vertical Mill Raw Meal Grinding Process and Optimal Setting of Operating Parameters Based on Wavelet Neural Network*
Xiaofeng Lin and Zhe Qian
- P736 *Kernel Robust Mixed-Norm Adaptive Filtering*
Jin Liu, Hua Qu, Badong Chen and Wentao Ma
- P737 *Soft-Constrained Nonnegative Matrix Factorization via Normalization*
Long Lan, Naiyang Guan, Xiang Zhang, Dacheng Tao and Zhigang Luo
- P738 *Latency-Based Probabilistic Information Processing in a Learning Feedback Hierarchy*
Alexander Gepperth
- P739 *Improving the Genetic-Algorithm-Optimized Wavelet Neural Network for Stock Market Prediction*
Yu Fang, Kamaladdin Fataliyev, Lipo Wang, Xiuju Fu and Yaoli Wang
- P740 *Optimal Software Maintenance Policy Based on Reliability and Risk*
Xiaoping Wang, Fang Zhou and Yi Shen
- P741 *Forecasting Electricity Consumption in South Africa: ARMA, Neural Networks and Neuro-Fuzzy Systems*
Lufuno Marwala and Twala Bhekisipho
- P742 *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..... 226

Special Session: ThN2-1 Applications of Neural Networks for Financial Modeling and Forecasting,

Chair: Massimo Panella, Room: 308 226

- 4:00PM *Adaptively Weighted Support Vector Regression for Financial Time Series Prediction*
Zhijie Li, Yuanxiang Li, Fei Yu and Dahai Ge
- 4:20PM *A Higher-Order Fuzzy Neural Network for Modeling Financial Time Series*
Massimo Panella, Luca Liparulo and Andrea Proietti
- 4:40PM *Beating The S-and-P 500 Index - A Successful Neural Network Approach*
Mininder Sethi, Philip Treleven and Sebastian Del Bano Rollin
- 5:00PM *Stock Volatility Prediction Using Multi-Kernel Based Extreme Learning Machine*
Feng Wang, Zhiyong Zhao, Xiaodong Li and Fei Yu
- 5:20PM *Augmented Neural Networks for Modelling Consumer Indebtness*
Alexandros Ladas, Jon Garibaldi, Rodrigo Scarpel and Uwe Aickelin
- 5:40PM *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..... 227

- 4:00PM *Locally Linear Embedding Algorithm Based on OMP for Incremental Learning*
Yiqin Leng, Li Zhang and Jiwen Yang
- 4:20PM *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 228

- 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 Cz 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 230

- 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*
Muhaini 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 Capecchi, Enmei Tu, Nicola Saywell, Yixiong Chen, Jin Hu and Zeng-Guang Hou

ThN2-5 Signal and Image Processing, Chair: Pau-Choo Chung, Room: 305D 231

- 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 Pai, 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 Woergetter

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 234

- 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, Anwasha 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 235

- 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 235

- 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..... 237

- 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 238

- 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 Kijisirikul
- 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 239**Special Session: FrN2-1 Computational Intelligence Algorithms for Digital Audio Applications,
Chair: Stefano Squartini and Francesco Piazza, Room: 308 239**

- 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 Communiello, 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

12:10PM *Transfer Learning Emotion Manifestation Across Music and Speech*
Eduardo Coutinho, Jun Deng and Bjorn Schuller

12:30PM *A Novel Intelligent Systems for Speech Recognition*
Washington Silva and Ginalber Serra

Special Session: FrN2-2 Intelligent Computing for Complex & Big Data Analysis in Health and Biomedical Informatics, Chair: Amit Kumar and Shang-Ming Zhou, Room: 305A 240

10:30AM *Domain Transfer Nonnegative Matrix Factorization*
Jim Jing-Yan Wang, Yijun Sun and Halima Bensmail

10:50AM *Identifying Stable Breast Cancer Subgroups Using Semi-Supervised Fuzzy c-Means on a Reduced Panel of Biomarkers*
Daphne Teck Ching Lai and Jonathan Garibaldi

11:10AM *Mining Textual Data from Primary Healthcare Records - Automatic Identification of Patient Phenotype Cohorts*
Shang-Ming Zhou, Muhammad Rahman, Mark Atkinson and Sinead Brophy

11:30AM *Using EEG Artifacts for BCI Applications*
Wanli Ma, Dat Tran, Tien Pham, Trung Le and Hong Lin

11:50AM *Comparison of Distance Metrics for Hierarchical Data in Medical Databases*
Diman Hassan, Uwe Aickelin and Christian Wagner

12:10PM *Investigating the Impacts of Epilepsy on EEG-Based Person Identification Systems*
Dinh Phung, Dat Tran, Wanli Ma, Phuoc Nguyen and Tien Pham

Special Session: FrN2-3 Data-Driven Adaptive Dynamic Programming, Chair: Derong Liu and Haibo He, Room: 305B 241

10:30AM *Online Learning Control Based on Projected Gradient Temporal Difference and Advanced Heuristic Dynamic Programming*
Jian Fu, Haibo He, Aihong Tang and Sujuan Wei

10:50AM *A Kalman Filter-Based Actor-Critic Learning Approach*
Bin Wang and Dongbin Zhao

11:10AM *Self-Learning PD Algorithms Based on Approximate Dynamic Programming for Robot Motion Planning*
Huiyuan Yang, Qi Guo, Xin Xu and Chuanqiang Lian

11:30AM *Near Optimal Event-Based Control of Nonlinear Discrete Time Systems in Affine Form with Measured Input Output Data*
Avimanyu Sahoo, Hao Xu and Sarangapani Jagannathan

11:50AM *Event-Triggered Reinforcement Learning Approach for Unknown Nonlinear Continuous-Time System*
Xiangnan Zhong, Zhen Ni, Haibo He, Xin Xu and Dongbin Zhao

12:10PM *Longitudinal Control of Hypersonic Vehicles Based on Direct Heuristic Dynamic Programming Using ANFIS*
Xiong Luo, Yi Chen, Jennie Si and Feng Liu

FrN2-4 Data Mining and Knowledge Discovery, Chair: Paulo Adeodato and Alessandro Sperduti, Room: 305C 242

10:30AM *A Study on Asynchronous System in P300 Speller Based on User's Intention of Input*
Kohei Kawai, Tomohiro Yoshikawa and Takeshi Furuhashi

10:50AM *Insights on Prediction of Patients' Response to Anti-HIV Therapies through Machine Learning*
Rogerio Rosa, Rafael Santos, Adamo Brito and Katia Guimaraes

11:10AM *Recognizing Cross-Lingual Textual Entailment with Co-Training Using Similarity and Difference Views*
Jiang Zhao and Man Lan

11:30AM *A Novel Algorithm for Mining Behavioral Patterns from Wireless Sensor Networks*
Md Mamunur Rashid, Iqbal Gondal and Joarder Kamruzzaman

- 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

Special Session: FrN3-1 Intelligent Adaptive Fault Tolerant Control and Optimization, Chair: Huaguang Zhang and Haibo He, Room: 308 245

- 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 246

- 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 247

- 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 Mehrkanon, Anna Marconato, Johan Schoukens and Johan Suykens

FrN3-4 Cognition, Bio-Inspired and Biomorphic Systems, Chair: Ali Minai, Room: 305C 248

- 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 249

- 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 Kipouros
- 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 250

- 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 251

Special Session: FrN4-1 Computational Intelligence in Cyber Security, Chair: Frank Jiang and Longbing Cao, Room: 308..... 251

- 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, Zhihua 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 252

- 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 Piazzentin 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

- 5:20PM *Developing a Few-Channel Hybrid BCI System by Using Motor Imagery with SSVEP Assist*
Li-Wei Ko, Shih-Chuan Lin and Meng-Shue Song
- 5:40PM *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 Leonardis, Michele Barsotti, Vitoantonio Bevilacqua, Antonio Frisoli and Massimo Bergamasco

FrN4-3 Support Vector Machines and Kernel Methods, Chair: Alessandro Sperduti, Room: 305B..... 253

- 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*
Rosha Pokharel, Sohan Seth and Jose Principe

FrN4-4 Feature Extraction and Classification Systems, Chair: Emil Eirola, Room: 305C..... 254

- 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 Matsumoto and Emilio Del-Moral-Hernandez
- 5:40PM *The Delta Test: The 1-NN Estimator as a Feature Selection Criterion*
Emil Eirola, Amaury Lendasse, Francesco Corona and Michel Verleysen

FrN4-5 Machine Learning and Applications II, Chair: Giacomo Boracchi, Room: 305D..... 255

- 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, Ah-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 Stomatias, 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

DETAILED PROGRAM (FUZZ-IEEE 2014)..... 259**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, Llorenc 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 Kambouras, Room: 201B 260

- 1:30PM *Lattice Computing (LC) Meta-Representation for Pattern Classification*
George Papakostas and Vassilis Kambouras
- 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 Kambouras, Vassilis Tsoukalas and Lefteris Moussiades
- 2:50PM *One Side Lattice Memory Reduced Ordering Function Allows Discrimination in Resting State fMRI*
Manuel Grana and Darya Chyzyk
- 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 ..262

- 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 262

Poster Session: PF1 Fuzzy Clustering and Classification, Chair: Laszlo Szilagyι and Feng Wan, Room: Posters Area (Level 2)..... 262

- 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 Szilagyι, Gellert Denesi and Sandor Miklos Szilagyι
- 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, Bodhisattwa 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

- 4:40PM *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
- 5:00PM *Adaptive Robust Tracking Control of Surface Vessels Using Dynamic Constructive Fuzzy Neural Networks*
Ning Wang, Bijun Dai, Yancheng Liu and Min Han
- 5:20PM *Dynamically Evolving Fuzzy Classifier for Real-Time Classification of Data Streams*
Rashmi Dutta Baruah, Plamen Angelov and Diganta Baruah
- 5:40PM *Globally Fuzzy Model Based Adaptive Variable Structure Control for a Class of Nonlinear Time-Varying Systems*
Chih-Lyang Hwang
- 6:00PM *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 268

- 4:00PM *On the Alpha-Universal Multiple I Restriction Method for General Fuzzy Reasoning*
Yiming Tang and Xiaomei Li
- 4:20PM *The Properties and Information Measures for Information Sets*
Manish Agarwal, Madasu Hanmandlu and Kanad Biswas
- 4:40PM *FTFBE: A Numerical Approximation for Fuzzy Time-Fractional Bloch Equation*
Ali Ahmadian, Chee Seng Chan, Soheil Salahshour and Vembarasan Vaitheeswaran
- 5:00PM *A Fuzzy Logic Based Bargaining Model in Discrete Domains: Axiom, Elicitation and Property*
Jieyu Zhan, Xudong Luo, Cong Feng and Wenjun Ma
- 5:20PM *From Data to Granular Data and Granular Classifiers*
Rami Al-Hmouz, Pedrycz Witold, Belamash Abdulla and Morfeq Ali
- 5:40PM *Positive Definite Kernel Functions on Fuzzy Sets*
Jorge Guevara Diaz, Roberto Hirata Jr and Stephane Canu

Tuesday, July 8, 1:30PM-3:30PM 269

Special Session: TuF1-1 Computing with Words in Decision Making, Chair: Francisco Herrera and Luis Martinez, Room: 201A 269

- 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: Irina Perfilieva 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 Korjani 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 $F^{\wedge}I$ -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 Sadgehi 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

Special Session: TuF1-5 Advances to Type-2 Fuzzy Logic Control, Chair: Hao Ying and Tufan Kumbasar, Room: 303..... 273

- 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 274

Poster Session: PF2 Fuzzy Modeling, Control, & Applications I, Chair: Tsuyoshi Nakamura and Gwo-Ruey Yu, Room: Posters Area (Level 2) 274

- 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 Quadraped 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*
Keeley 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 FOU's*
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 Hagrass
- 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 Hagrass, 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
..... 279

- 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*
Xiaohu 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 Furuhashi
- 1:50PM *Investigation of the Effects of Nonverbal Information on Werewolf*
Daisuke Katagami, Shono Takaku, Michimasa Inaba, Hiroataka Osawa, Kosuke Shinoda, Junji Nishino and Fujio Toriumi
- 2:10PM *A Study on Extraction of Minority Groups in Questionnaire Data Based on Spectral Clustering*
Kazuto Inagaki, Tomohiro Yoshikawa and Takeshi Furuhashi
- 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..... 282

- 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 283

- 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 Gait Patterns of Anterior Cruciate Ligament Reconstructed Subjects*
Owais A Malik, S. M. N. Arosha Senanayake and Danish Zaheer
- 2:30PM *Fuzzy Chest Pain Assessment for Unstable Angina Based on Braunwald Symptomatic and Obesity Clinical Conditions*
Thiago Orsi, Ernesto Araujo and Ricardo Simoes
- 2:50PM *Fuzzy Breast Cancer Risk Assessment*
Aniele C. Ribeiro, Deborha P. Silva, and Ernesto Araujo
- 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..... 284

- 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 Tahar 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 Rowhanimesh

WeI1-1 Intel Special Session on Big Data Analytics, Chair: Catherine Huang, Room: 311A 285

- 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*
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 286

Poster Session: PF3 Fuzzy Theory & Decision Making, Chair: Christian Mayr and Anca Croitoru, Room: Posters Area (Level 2) 286

- 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

- P511 *Estimations, Convergences and Comparisons on Fuzzy Integrals of Sugeno, Choquet and Gould Type*
Anca Croitoru and Nikos Mastorakis
- P512 *An Approach to Covering-Based Rough Sets through Bipartite Graphs*
Jingqian Wang and William Zhu
- P513 *A Generalized Equilibrium Value-Based Approach for Solving Fuzzy Programming Problem*
Chenxia Jin, Yan Shi, Meng Yang and Fachao Li
- P514 *On Three Types of Covering-Based Rough Sets via Definable Sets*
Yanfang Liu and William Zhu
- P515 *Multi-Agent Evolutionary Design of Beta Fuzzy Systems*
Yosra Jarraya, Souhir Bouaziz, Adel M. Alimi and Ajith Abraham
- P516 *T-S Fuzzy Affine Linear Modeling Algorithm by Possibilistic C-Regression Models Clustering Algorithm*
Chung-Chun Kung and Hong-Chi Ku
- P517 *An Under-Sampling Method Based on Fuzzy Logic for Large Imbalanced Dataset*
Ginny Y. Wong, Frank H. F. Leung and Sai-Ho Ling
- P518 *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
- P519 *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 288

Special Session: WeF2-1 Human Symbiotic Systems II, Chair: Daisuke Katagami, Room: 201A 288

- 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'ichi 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
- 5:40PM *Development of Facial Expression Recognition for Training Video Customer Service Representatives*
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 289

- 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 Roisenberg
- 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 Khuankaew 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 Efcendic

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 Zbigniew 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

ThF1-4 Fuzzy Systems Modelling and Identification, Chair: Faa-Jeng Lin and Jozo Dujmovic, Room: 201D
..... 297

- 1:30PM *A New Monotonicity Index for Fuzzy Rule-Based Systems*
Lie Meng Pang, Kai Meng Tay and Chee Peng Lim
- 1:50PM *Sparse Fuzzy C-Regression Models with Application to T-S Fuzzy Systems Identification*
Minnan Luo, Fuchun Sun and Huaping Liu
- 2:10PM *A Systems Approach for Scheduling Aircraft Landings in JFK Airport*
Sina Khanmohammadi, Chun-An Chou, Harold W. Lewis III and Doug Elias
- 2:30PM *A New Fuzzy Ratio and Its Application to the Single Input Rule Modules Connected Fuzzy Inference System*
Chian Haur Jong, Kai Meng Tay and Chee Peng Lim
- 2:50PM *Fuzzy Uncertainty Assessment in RBF Neural Networks Using Neutrosophic Sets for Multiclass Classification*
Adrian Rubio-Solis and George Panoutsos
- 3:10PM *A New Adaptive Mamdani-Type Fuzzy Modeling Strategy for Industrial Gas Turbines*
Yu Zhang, Jun Chen, Chris Bingham and Mahdi Mahfouf
- 3:30PM *Introduction to Tunable Equivalence Fuzzy Associative Memories*
Estevao Esmi, Peter Sussner and Sandra Sandri

Thursday, July 10, 3:30PM-6:00PM..... 298

Poster Session: PF4 Fuzzy Modeling, Control, & Applications II, Chair: Tomoharu Nakashima and Neha Bharill, Room: Posters Area (Level 2)..... 298

- 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 Chunyan Miao
- 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 Baazaoui-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 Muntés-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 Repts
- 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, Takehiko 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 Hagraş
- 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 Hagraş
- 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, Jiangang 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 Vellasco 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, Chun-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*
Jianhai 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

- 11:10AM *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
- 11:30AM *Genetic Algorithm-Aided Dynamic Fuzzy Rule Interpolation*
Nitin Naik, Ren Diao and Qiang Shen
- 11:50AM *Antecedent Selection in Fuzzy Rule Interpolation Using Feature Selection Techniques*
Ren Diao, Shangzhu Jin and Qiang Shen
- 12:10PM *Fuzzy Rule Interpolation Based Fuzzy Signature Structure in Building Condition Evaluation*
Gergely Molnarka, Szilveszter Kovacs and Laszlo Koczy

FrF2-4 Fuzzy Decision Making and Decision Support Systems II, Chair: Vladik Kreinovich and Toshihiko Watanabe, Room: 201D 313

- 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
- 12:10PM *Handling Preferences Under Uncertainty in Recommender Systems*
Samia Boulkrinat, Allel Hadjali and Aicha Aissani-Mokhtari
- 12:30PM *Flexible Decision Support System Using Dynamic Partial Reconfiguration Technology*
Janos Grantner and Chinh Nguyen

Friday, July 11, 1:30PM-3:30PM 314

Special Session: FrF3-1 Recent Advances in Fuzzy-Model-Based Control Design and Analysis II, Chair: Hak-Keung Lam, Room: 201A 314

- 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 315

- 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 Alcalá-Fdez and Luis Magdalena

Special Session: FrF3-3 Theory of Type-2 Fuzzy Systems, Chair: Bob John, Jon Garibaldi and Simon Coupland, Room: 201C 316

- 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 317

- 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

FrF4-4 Fuzzy Models, Chair: Petrica C. Pop and Dimitar Filev, Room: 201D 320

- 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

DETAILED PROGRAM (IEEE CEC 2014)..... 323**Monday, July 7, 1:30PM-3:30PM 323****Special Session: MoE1-1 Computational Intelligence and Games, Chair: Kyung-Joong Kim and Sung-Bae Cho, Room: 203A..... 323**

- 1:30PM *Learning a Super Mario Controller from Examples of Human Play*
Geoffrey Lee, Min Luo, Fabio Zambetta and Xiaodong Li
- 1:50PM *Integrating Fuzzy Integral and Heuristic Search for Unit Micromanagement in RTS Games*
Tung Nguyen, Kien Nguyen and Ruck Thawonmas
- 2:10PM **Tego - A Framework for Adversarial Planning*
Daniel Ashlock and Philip Hingston
- 2:30PM *TURAN: Evolving Non-Deterministic Players for the Iterated Prisoner's Dilemma*
Marco Gaudesi, Elio Piccolo, Giovanni Squillero and Alberto Tonda
- 2:50PM *Evolving a Fuzzy Goal-Driven Strategy for the Game of Geister*
Andrew Buck, Tanvi Banerjee and James Keller
- 3:10PM *Deep Boltzmann Machine for Evolutionary Agents of Mario AI*
Hisashi Handa

Special Session: MoE1-2 Memetic Computing, Chair: Zexuan Zhu and Wenjin Gong, Room: 203B..... 324

- 1:30PM *A Memetic Algorithm for Solving Permutation Flow Shop Problems with Known and Unknown Machine Breakdowns*
Humyun Fuad Rahman, Ruhul Sarker, Daryl Essam and Guijuan Chang
- 1:50PM *Remote Sensing Imagery Clustering Using an Adaptive Bi-Objective Memetic Method*
Ailong Ma, Yanfei Zhong and Liangpei Zhang
- 2:10PM *A Memetic Algorithm Based on Immune Multi-Objective Optimization for Flexible Job-Shop Scheduling Problems*
Jingjing Ma, Yu Lei, Zhao Wang and Licheng Jiao
- 2:30PM *A Memetic Algorithm for Solving Flexible Job-Shop Scheduling Problems*
Wenping Ma, Yi Zuo, Jiulin Zeng, Shuang Liang and Licheng Jiao
- 2:50PM *Hybridizing the Dynamic Mutation Approach with Local Searches to Overcome Local Optima*
Kuai Wei and Michael J. Dinneen
- 3:10PM *Memetic Algorithm with Adaptive Local Search Depth for Large Scale Global Optimization*
Can Liu and Bin Li

Special Session: MoE1-3 Evolutionary Computer Vision, Chair: Mengjie Zhang, Vic Ciesielski and Mario Koppen, Room: 203C 324

- 1:30PM *Neural Network Ensembles for Image Identification Using Pareto-Optimal Features*
Wissam A. Albukhanajer, Yaochu Jin and Johann A. Briffa
- 1:50PM *Automatic Evolutionary Medical Image Segmentation Using Deformable Models*
Andrea Valsecchi, Pablo Mesejo, Linda Marrakchi-Kacem, Stefano Cagnoni and Sergio Damas
- 2:10PM *Cost-Sensitive Texture Classification*
Gerald Schaefer, Bartosz Krawczyk, Niraj Doshi and Tomoharu Nakashima
- 2:30PM *Genetic Algorithms Based Feature Combination for Salient Object Detection, for Autonomously Identified Image Domain Types*
Syed Saud Naqvi, Will N. Browne and Christopher Hollitt
- 2:50PM *Unsupervised Learning for Edge Detection Using Genetic Programming*
Wenlong Fu, Mark Johnston and Mengjie Zhang

Special Session: MoE1-4 Theoretical Foundations of Bio-inspired Computation, Chair: Pietro Oliveto, Room: 203D 325

- 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 326

Poster Session: PE1 Poster Session I, Chair: Tadahiko Murata, Room: Posters Area (Level 2) 326

- 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 *Bare Bones Particle Swarm with Scale Mixtures of Gaussians for Dynamic Constrained Optimization*
Mauro Campos and Renato Krohling
- 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 Evolutionary Approach to the Evolution of Aesthetic Maps for a RTS Game*
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 Turkey 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

Monday, July 7, 4:00PM-6:00PM 331

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-NSGAI*
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 Mohammadi, 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... 332

- 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 Abbass

Special Session: MoE2-3 Evolutionary Computation in Combinatorial Optimization, Chair: Rong Qu, Room: 203C 333

- 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 334

- 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

- 5:00PM *A Discrete Artificial Bee Colony Algorithm for the Economic Lot Scheduling Problem with Returns*
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

Tuesday, July 8, 1:30PM-3:30PM 336

**Special Session: TuE1-1 Evolutionary Computation for Planning and Scheduling, Chair: Jian Xiong,
Room: 203A 336**

- 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 337**

- 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

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- 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*
Xiangjing Song, Junzhong Ji, 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** 339

- 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*
Xianneng 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 340**Poster Session: PE2 Poster Session II, Chair: Tadahiko Murata, Room: Posters Area (Level 2)** 340

- 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

- P307 *Learning and Evolution of Genetic Network Programming with Knowledge Transfer*
Xianneng Li, Wen He and Kotaro Hirasawa
- P308 *An Improved JADE Algorithm for Global Optimization*
Ming Yang, Zhihua Cai, Changhe Li and Jing Guan
- P309 *Characterizing the Impact of Selection on the Evolution of Cooperation in Complex Networks*
Shasha Feng, Shaolin Tan and Jinhu Lu
- P310 *A Tabu Search Heuristic for the Single Row Layout Problem with Shared Clearances*
Meng Yu, Xingquan Zuo and Chase C. Murray
- P311 *A Weighting-Based Local Search Heuristic Algorithm for the Set Covering Problem*
Chao Gao, Thomas Weise and Jinlong Li
- P312 *Parallelization for Space Trajectory Optimization*
Martin Schlueter and Masaharu Munetomo
- P313 *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
- P314 *Extending Minimum Population Search Towards Large Scale Global Optimization*
Antonio Bolufe-Rohler and Stephen Chen
- P315 *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
- P316 *Scatter Search Algorithm with Chaos Based Stochasticity*
Donald Davendra, Roman Senkerik, Ivan Zelinka and Michal Pluhacek
- P317 *Co-Operation of Biology Related Algorithms Meta-Heuristic in ANN-Based Classifiers Design*
Shakhnaz Akhmedova and Eugene Semenkin
- P318 *Scientific Algorithms for the Car Renter Salesman Problem*
Denis Felipe, Elizabeth Goldberg and Marco Goldberg
- P319 *A Proposal on Analysis Support System Based on Association Rule Analysis for Non-Dominated Solutions*
Shinya Watanabe, Yuta Chiba and Masahiro Kanazaki
- P320 *GEAS: A GA-ES-Mixed Algorithm for Parameterized Optimization Problems - Using CLS Problem as an Example*
Xing Zhou, Wei Peng and Bo Yang
- P321 *Application of Computational Intelligence for Source Code Classification*
Marcos Alvares, Fernando Buarque and Tshilidzi Marwala
- P322 *Genetic Algorithm with Spatial Receding Horizon Control for the Optimization of Facility Locations*
Xiao-Bing Hu and Mark S Leeson
- P323 *Tuning a Multiple Classifier System for Side Effect Discovery Using Genetic Algorithms*
Jenna Repts, Uwe Aickelin and Jonathan Garibaldi
- P324 *Cooperation with Potential Leaders in Evolutionary Game Study of Networking Agents*
Jianlei Zhang, Chunyan Zhang, Tianguang Chu and Ming Cao
- P325 *Multi-Objective Optimization Model Based on Steady Degree for Teaching Building Evacuation*
Pengfei Duan, Shengwu Xiong, Zhongbo Hu, Qiong Chen and Xinlu Zhong
- P326 *Evolutionary Clustering Algorithm for Community Detection Using Graph-Based Information*
Gema Bello-Orgaz and David Camacho
- P327 *Applying Conversion Matrix to Robots for Imitating Motion Using Genetic Algorithms*
Mari Nishiyama and Hitoshi Iba
- P328 *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*
Maria-Yaneli Ameca-Alducin, Efren Mezura-Montes and Nicandro Cruz-Ramirez
- 4:40PM *Solving Problems with a Mix of Hard and Soft Constraints Using Modified Infeasibility Driven Evolutionary Algorithm (IDEA-M)*
Hemant Singh, Md. Asafuddoula 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 347

- 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 Shafi, 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 349

WeE1-1 Multi-Objective Evolutionary Algorithms I, Chair: Kalyanmoy Deb, Room: 203A 349

- 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 350

- 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*
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

- P521 *Estimation of Distribution Algorithms Based Unmanned Aerial Vehicle Path Planner Using a New Coordinate*
Peng Yang, Ke Tang and Jose Antonio Lozano
- P522 *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
- P523 *On the Inference of Deterministic Chaos: Evolutionary Algorithm and Metabolic P System Approaches*
Luca Marchetti, Vincenzo Manca and Ivan Zelinka
- P524 *A New Method and Application for Controlling the Steady-State Probability Distributions of Probabilistic Boolean Networks*
Meng Yang, Rui Li and Tianguang Chu
- P525 *Evolutionary Community Detection in Social Networks*
Tiantian He and Keith C.C. Chan
- P526 *Experiments in Program Synthesis with Grammatical Evolution: A Focus on Integer Sorting*
Michael O'Neill, Miguel Nicolau and Alexandros Agapitos
- P527 *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
- P528 *Applying Evolutionary Computation for Evolving Ontologies*
Oliviu Matei, Diana Contrás 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 360

- 4:00PM *A Differential Evolution with Replacement Strategy for Real-Parameter Numerical Optimization*
Changjian Xu, Han Huang and ShuJin Ye
- 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 Optimisation*
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 360

- 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..... 362

- 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..... 362**ThE1-1 Ant Colony Optimization, Chair: Andries Engelbrecht, Room: 203A 362**

- 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 363

- 1:30PM *Gaussian Adaptation Based Parameter Adaptation for Differential Evolution*
Rammohan Mallipeddi, Guohua Wu, Minhoo Lee and Ponnuthurai Nagarathnam 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..... 364

- 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*
Liangjun 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

- P707 *A Novel Algorithm for Many-Objective Dimension Reductions: Pareto-PCA-NSGA-II*
Ronghua Shang, Kun Zhang and Licheng Jiao
- P708 *An Experimental Analysis of Evolutionary Algorithms for the Three-Objective Oil Derivatives Distribution Problem*
Thatiana Souza, Elizabeth Goldberg and Marco Goldberg
- P709 *A New Strategy for Finding Good Local Guides in MOPSO*
Man Fai Leung, Sin Chun Ng, Chi Chung Cheung and Andrew K Lui
- P710 *An Inter-Molecular Adaptive Collision Scheme for Chemical Reaction Optimization*
James J.Q. Yu, Victor O.K. Li and Albert Y.S. Lam
- P711 *Analysis of Constraint Handling Methods for the Gravitational Search Algorithm*
Daniel Poole, Christian Allen and Thomas Rendall
- P712 *Distributed Wireless Sensor Scheduling for Multi-Target Tracking Based on Matrix-Coded Parallel Genetic Algorithm*
Zixing Cai, Sha Wen and Lijue Liu
- P713 *Effect of Pseudo Gradient on Differential Evolutionary for Global Numerical Optimization*
Jinliang Ding, Lipeng Chen, Qingguang Xie, Tianyou Chai and Xiuping Zheng
- P714 *Protein Folding Estimation Using Paired-Bacteria Optimizer*
Mengshi Li, Tianyao Ji, Peter Wu, Shan He and Qinghua Wu
- P715 *A Self-Adaptive Group Search Optimizer with Elitist Strategy*
Xiang-wei Zheng, Dian-jie Lu and Zhen-hua Chen
- P716 *Optimization Based on Adaptive Hinging Hyperplanes and Genetic Algorithm*
Jun Xu, Xiangming Xi and Shuning Wang
- P717 *Combining Multipopulation Evolutionary Algorithms with Memory for Dynamic Optimization Problems*
Tao Zhu, Wenjian Luo and Lihua Yue
- P718 *Micro-Differential Evolution with Vectorized Random Mutation Factor*
Hojjat Salehinejad, Shahryar Rahnamayan and Hamid R. Tizhoosh
- P719 *Application of BPSO with GA in Model-Based Fault Diagnosis of Traction Substation*
Song Gao, Zhigang Liu, Chenxi Dai and Xiao Geng
- P720 *Performance of AI Algorithms for Mining Meaningful Roles*
Xuanni Du and Xiaolin Chang
- P721 *Using Estimation of Distribution Algorithm to Coordinate Decentralized Learning Automata for Meta-Task Scheduling*
Jie Li and Junqi Zhang
- P722 *A Modular Approach for Query Spotting in Document Images and Its Optimization Using Genetic Algorithms*
Housseem Chatbri, Paul Kwan and Keisuke Kameyama
- P723 *An Improved Genetic Algorithm for Dynamic Shortest Path Problems*
Xuezhi Zhu, Wenjian Luo and Tao Zhu
- P724 *A Novel Genetic Algorithm Considering Measures and Phrases for Generating Melody*
Chia-Lin Wu, Chien-Hung Liu and Chuan-Kang Ting
- P725 *Optimal Sizing of DGs and Storage for Microgrid with Interruptible Load Using Improved NSGA-II*
Zhe Shi, Yonggang Peng and Wei Wei
- P726 *Lion Algorithm for Standard and Large Scale Bilinear System Identification: A Global Optimization Based on Lion's Social Behavior*
B. R. Rajakumar
- P727 *Intelligent Search Optimized Edge Potential Function (EPF) Approach to Synthetic Aperture Radar (SAR) Scene Matching*
Yifei Wang and Jihao Yin

Thursday, July 10, 4:00PM-6:00PM..... 372**ThE2-1 Multi-Objective Evolutionary Algorithms II, Chair: Robin Purshouse, Room: 203A 372**

- 4:00PM *A Replacement Strategy for Balancing Convergence and Diversity in MOEA/D*
Zhenkun Wang, Qingfu Zhang, Maoguo Gong and Aimin Zhou
- 4:20PM *A Test Problem for Visual Investigation of High-Dimensional Multi-Objective Search*
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

ThE2-2 Cultural Algorithms and Knowledge Extraction in Evolutionary Algorithms, Chair: Robert G. Reynolds, Room: 203B 373

- 4:00PM *Cultural Algorithms Applied to the Evolution of Robotic Soccer Team Tactics: A Novel Perspective*
Mostafa Ali, Abdulmalik Morghem, Jafar AlBadarneh, Rami Al-Gharaibeh, Ponnuthurai Nagaratnam Suganthan and Robert G. Reynolds
- 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

Special Session: ThE2-3 Single Objective Numerical Optimization III, Chair: Ponnuthurai Nagaratnam Suganthan and Qin Chen, Room: 203C 374

- 4:00PM *Controlled Restart in Differential Evolution Applied to CEC2014 Benchmark Functions*
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
- 5:20PM *Partial Opposition-Based Adaptive Differential Evolution Algorithms: Evaluation on the CEC 2014 Benchmark Set for Real-Parameter Optimization*
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

ThE2-4 Music, Art, Creativity, Games and Multi-Agent Systems, Chair: Francisco Fernández de Vega, Room: 203D 375

- 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

ThE2-5 Real-World Applications I, Chair: Maoguo Gong and Qing Cai, Room: 303..... 376

- 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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FrE1-1 Differential Evolution, Chair: Carlos Segura, Room: 203A 377

- 8:10AM *Evolving Artificial Datasets to Improve Interpretable Classifiers*
Michael Mayo and Quan Sun
- 8:30AM *Differential Evolution in Constrained Sampling Problems*
Gervasio Varela, Pilar Caamano, Felix Orjales, Alvaro Deibe, Fernando Lopez-Pena and Richard Duro
- 8:50AM *Unsupervised Clustering and Multi-Optima Evolutionary Search*
Vassilis Plagianakos
- 9:10AM *A Novel Differential Evolution (DE) Algorithm for Multi-Objective Optimization*
Xin Qiu, Jianxin Xu and Kay Chen Tan
- 9:30AM *Differential Evolution Algorithm Applied to Non-Stationary Bandit Problem*
David L. St-Pierre and Jialin Liu
- 9:50AM *Effects of Population Initialization on Differential Evolution for Large Scale Optimization*
Borhan Kazimipour, Xiaodong Li and A. K. Qin

FrE1-2 Process Mining and Data Mining, Chair: Andrea Burattin, Room: 203B 378

- 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 Weerd, 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 379

- 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*
Qiuxiao 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 Jinlong 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 ... 381

- 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

- 8:50AM *Balancing the Exploration and Exploitation in an Adaptive Diversity Guided Genetic Algorithm*
Fatemeh Vafaee, Gyorgy Turan, Peter Nelson and Tanya Berger-Wolf
- 9:10AM *Compensate Information from Multimodal Dynamic Landscapes: An Anti-Pathology Cooperative Coevolutionary Algorithm*
Xingguang Peng, Xiaokang Lei and Kun Liu
- 9:30AM *A Review of Population Initialization Techniques for Evolutionary Algorithms*
Borhan Kazimipour, Xiaodong Li and A. K. Qin
- 9:50AM *Running Up Those Hills: Multi-Modal Search with the Niching Migratory Multi-Swarm Optimiser*
Jonathan Fieldsend

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- 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 383

- 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 Learning and Searching Preference for Solving CEC 2014 Benchmark Problems*
Lei Chen, Hai-Lin Liu, Zhe Zheng and Shengli Xie
- 11:50AM *Optimization of Power Flow with Energy Storage Using Genetic Algorithms*
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 384

- 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..... 385

- 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 Datta, 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 Salemi, Susanna Lamers and Michael McGrath

FrE2-5 Robotics and Engineering Applications, Chair: Amiram Moshaiov, Room: 303 386

- 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 Rytter 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

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FrE3-1 Large-Scale Problems and Real-World Applications, Chair: Ke Tang, Room: 203A 387

- 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, Xiu-juan 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 Minimizing Regression Testing Time*
Markus Wagner
- 2:10PM *A New Adaptive Kalman Filter by Combining Evolutionary Algorithm and Fuzzy Inference System*
Yudan Huo, Zhihua Cai, Wenyin Gong and Qin Liu
- 2:30PM *Cartesian Genetic Programming as Local Optimizer of Logic Networks*
Lukas Sekanina, Ondrej Ptak and Zdenek Vasicek
- 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

FrE3-4 Heuristics, Metaheuristics and Hyper-Heuristics II, Chair: Madalina Drugan, Room: 203D 390

- 1:30PM *Designing Reusable Metaheuristic Methods: A Semi-Automated Approach*
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

- 2:30PM *A Multidirectional Physarum Solver for the Automated Design of Space Trajectories*
Luca Masi and Massimiliano Vasile
- 2:50PM *A Genetic Programming-Based Hyper-heuristic Approach for Storage Location Assignment Problem*
Jing Xie, Yi Mei, Andreas Ernst, Xiaodong Li and Andy Song
- 3:10PM *The Monarchy Driven Optimization Algorithm*
Ritambhar Burman, Swagatam Das, Zheshanul Haque, Athanasios V. Vasilakos and Soumyadip Chakraborti

FrE3-5 Real-World Applications II, Chair: Isaac Triguero, Room: 303..... 391

- 1:30PM *Heuristic Optimization for Software Project Management with Impacts of Team Efficiency*
Nanlin Jin and Xin Yao
- 1:50PM *A Multiobjective Optimization Method Based on MOEA/D and Fuzzy Clustering for Change Detection in SAR Images*
Qiao Wang, Hao Li, Maoguo Gong, Linzhi Su and Licheng Jiao
- 2:10PM *A Novel Evaluation Function for LT Codes Degree Distribution Optimization*
Pei-Chuan Tsai, Chih-Ming Chen and Ying-ping Chen
- 2:30PM *A Combined MapReduce-Windowing Two-Level Parallel Scheme for Evolutionary Prototype Generation*
Isaac Triguero, Daniel Peralta, Jaume Bacardit, Salvador Garcia and Francisco Herrera
- 2:50PM *A Dynamic-Weighted Collaborative Filtering Approach to Address Sparsity and Adaptivity Issues*
Liang Gu, Peng Yang and Yongqiang Dong
- 3:10PM *Carry Trade Portfolio Optimization using Particle Swarm Optimization*
Stuart Reid, Katherine Malan and Andries Engelbrecht

Friday, July 11, 4:00PM-6:00PM 392

FrE4-1 Constraint-Handling and Preference-Handling, Chair: Ruhul Sarker, Room: 203A..... 392

- 4:00PM *On the Edge of Feasibility: A Case Study of the Particle Swarm Optimizer*
Mohammad reza Bonyadi and Zbigniew Michalewicz
- 4:20PM *Linear Sparse Arrays Designed by Dynamic Constrained Multi-Objective Evolutionary Algorithm*
Wei Dong and Sanyou Zeng
- 4:40PM *Mapping Constrained Optimization Problems to Penalty Parameters: An Empirical Study*
Chengyong Si, Jianqiang Shen, Xuan Zou, Lei Wang and Qidi Wu
- 5:00PM *A Constrained Multi-Objective Surrogate-Based Optimization Algorithm*
Prashant Singh, Ivo Couckuyt, Francesco Ferranti and Tom Dhaene
- 5:20PM *A Feature-Based Analysis on the Impact of Linear Constraints for e-Constrained Differential Evolution*
Shayan Poursoltan and Frank Neumann
- 5:40PM *DMOPSO: Dual Multi-Objective Particle Swarm Optimization*
Lee Ki-Baek and Kim Jong-Hwan

FrE4-2 Particle Swarm Optimization, Chair: Kazuaki Masuda, Room: 203B 393

- 4:00PM *Demonstrator Selection in a Social Learning Particle Swarm Optimizer*
Ran Cheng and Yaochu Jin
- 4:20PM *Filter Based Backward Elimination in Wrapper Based PSO for Feature Selection in Classification*
Bach Hoai Nguyen, Bing Xue, Ivy Liu and Mengjie Zhang
- 4:40PM *An Archive Based Particle Swarm Optimisation for Feature Selection in Classification*
Bing Xue, A. K. Qin and Mengjie Zhang
- 5:00PM *A Graph-Based Particle Swarm Optimisation Approach to QoS-Aware Web Service Composition and Selection*
Alexandre Sawczuk da Silva, Hui Ma and Mengjie Zhang

- 5:20PM *Task Allocation Under Communication Constraints Using Motivated Particle Swarm Optimization*
Medria Hardhienata, Valery Ugrinovskii and Kathryn Merrick
- 5:40PM *Serial PSO Results are Irrelevant in a Multi-Core Parallel World*
Andrew McNabb and Kevin Seppi

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 Nagarathnam Suganthan and Carlos A. Coello Coello

Special Session: FrE4-4 Fireworks Algorithms for Optimization, Chair: Ying Tan, Room: 203D 396

- 4:00PM *A Hybrid Biogeography-Based Optimization and Fireworks Algorithm*
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 Janeczek, 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

FrE4-5 Real-World Applications III, Chair: David Camacho, Room: 303 397

- 4:00PM *Evolutionary Algorithms Dynamics and Its Hidden Complex Network Structures*
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 Goldberg and Elizabeth Goldberg
- 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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