Monday, July 19, 2010

[S016-1] Special Session: Computational Intelligence in Bioinformatics, Computational Biology, and Bioengineering I
Monday, July 19, 8:40AM-10:00AM, Room: 133
Chair: Michael A. Lones, Jung-Hsien Chiang, Alexandru Floares, Gilles Bernot, Alioune Ngom, Francesco Masulli

8:40AM A Dynamic Graph to Fold Amino Acid Interaction Networks [#7104]. Omar Gaci
9:00AM Genetic Algorithm Feature-Based Resampling for Protein Structure Prediction [#7451]. Trent Higgs, Bela Stantic, Tamjidul Hoque and Abdul Sattar
9:20AM Clustered Memetic Algorithm for Protein Structure Prediction [#7555]. Md Kamrul Islam and Madhu Chetty

[S106-1] Special Session: Advances in Clustering Methods and Their Applications I
Monday, July 19, 8:40AM-10:00AM, Room: 134
Chair: Huseyin Seker, James C. Bezdek

8:40AM A Surface Reconstruction Method Based on Self-organizing Maps and Intrinsic Delaunay Triangulation [#545]. Renata Lucia Mendonca Ernesto do Rego and Aluizio Fausto Ribeiro Araujo
9:00AM Improved Kohonen Feature Map Probabilistic Associative Memory based on Weights Distribution [#522]. Shingo Noguchi and Yuko Osana
9:20AM Self Organizing Maps with the Correntropy Induced Metric [#177]. Rakesh Chalasani and Jose Principe

[PL-1] Plenary Talk: Sushmita Mitra
“Hybridization with Rough Sets”
Monday, July 19, 10:30AM-11:30AM, Room: 117
Chair: Fernando Gomide

[S016-2] Special Session: Computational Intelligence in Bioinformatics, Computational Biology, and Bioengineering II
Monday, July 19, 11:30AM-12:50PM, Room: 133
Chair: Michael A. Lones, Jung-Hsien Chiang, Alexandru Floares, Gilles Bernot, Alioune Ngom, Francesco Masulli

11:30AM Gene Ontology Classification: Building High-level Knowledge using Genetic Algorithms [#7893]. Laurence Amaral and Estevam Hruschka
11:50AM Binary-Organoid Particle Swarm Optimisation for Inferring Genetic Regulatory Networks [#8005]. Santi Chanthaphavong and Madhu Chetty
12:10PM Simplified Chain Folding Models as Metaheuristic Benchmark for Tuning Real Protein Folding Algorithms? [#7394]. Dragos Horvath and Camelia Chira
12:30PM *Parameter Estimation with Term-wise Decomposition in Biochemical Network GMA Models by Hybrid Regularized Least Squares-Particle Swarm Optimization* [#7588]. Prospero Naval, Luis Sison and Eduardo Mendoza

**[S106-2] Special Session: Advances in Clustering Methods and Their Applications II**
Monday, July 19, 11:30AM-12:50PM, Room: 134
Chair: Huseyin Seker, James C. Bezdek

11:30AM *A Novel Framework to Elucidate Core Classes in a Dataset* [#7256]. Daniele Soria and Jonathan M. Garibaldi

11:50AM *Clustering elliptical anomalies in sensor networks* [#39]. James Bezdek, Timothy Havens, James Keller, Christopher Leckie, Laurence Park, Marimuthu Palaniswami and Sutharshan Rajasegarar

12:10PM *Switched hybrid dynamic systems identification based on pattern recognition approach* [#432]. Omar Ayad, Moamar Sayed-Mouchaweh and P. Billaudel

12:30PM *Dynamic Fuzzy c-Means (dFCM) Clustering for Continuously Varying Data Environments* [#366]. Radha Sandhir and Satish Kumar.

**[S016-3] Special Session: Computational Intelligence for Biopattern Data Analysis: Bioinformatics I**
Monday, July 19, 2:30PM-3:30PM, Room: 133
Chair: Elia Biganzoli, Leif Peterson, Alfredo Vellido, Paulo Lisboa, José D. Martin-Guerrero, Alioune Ngom, Roberto Tagliaferri

2:30PM *Genome-Wide Germline Single Nucleotide Polymorphisms for Cancer Classification in the Framingham Heart Study* [#849]. Leif Peterson, Jaya Paranilam, Jiaqiong Xu and Federico A. Monzon

2:50PM *Neural Network-based Taxonomic Clustering for Metagenomics* [#700]. Steven Essinger, Robi Polikar and Gail Rosen

3:10PM *DNA Base-Calling Using Polynomial Classifiers* [#537]. Omniyah Mohd, Khaled Assaleh, Ghaleb Husseini, Amin Majdalawieh and Scott Woodward

**[S106-3] Special Session: Advances in Clustering Methods and Their Applications III**
Monday, July 19, 2:30PM-3:30PM, Room: 134
Chair: Huseyin Seker, James C. Bezdek

2:30PM *Optimal Method for Growth in Dynamic Self Organizing Learning Systems* [#733]. Sampath Yerramalla, Edgar Fuller and Bojan Cukic

2:50PM *Spectral Clustering with Reverse Soft K-Nearest Neighbor Density Estimation* [#696]. Olcay Kursun

3:10PM *Building "invertible" fractals: Introduction to Context-Dependant Iterated Function Systems* [#415]. Timothee Leleu

**[S134-1] Special Session: Intelligent Sensor Networks I**
Monday, July 19, 3:30PM-4:30PM, Room: 133
Chair: Sandeep Chandana, Henry Leung


4:10PM Fuzzy Decision Fusion for Single Target Classification in Wireless Sensor Networks [#291]. Serca Gök, Adnan Yazici, Ahmet Coşar and Roy George

[S136-1] Special Session: Image Characterization and Feature Extraction I
Monday, July 19, 3:30PM-4:30PM, Room: 134
Chair: Belén Prados Suárez, Eduard Montseny

3:30PM A New Fuzzy Approach to Brain Tumor Segmentation [#473]. Nelly Gordillo, Eduard Montseny and Pilar Sobrevilla

3:50PM Evaluation of Adaptive FRIFS Method through several Classification Comparisons [#392]. Vincent Bombardier, Laurent Wendling and Emmanuel Schmitt

4:10PM Enhanced Weakly Trained Frontal Face Detector for Surveillance Purposes [#419]. Wael Louis, Konstantinos N. Plataniotis and Yong Man Ro

[S016-4] Special Session: Computational Intelligence in Bioinformatics, Computational Biology, and Bioengineering III
Monday, July 19, 4:50PM-6:30PM, Room: 133
Chair: Michael A. Lones, Jung-Hsien Chiang, Alexandru Floares, Gilles Bernot, Alioune Ngom, Francesco Masulli


5:10PM Alignment versus Variation Methods for Clustering Microarray Time-Series Data [#7539]. Numanul Subhani, Yifeng Li, Alioune Ngom and Luis Rueda

5:30PM Effective Parameter Estimation for S-system Models using LPMs and Evolutionary Algorithms [#7113]. Shuhei Kimura, Yusuke Amano, Koki Matsumura and Mariko Okada-Hatakeyama

5:50PM Genetic Algorithm based Fuzzy Multiple Regression for the Nocturnal Hypoglycaemia Detection [#7085]. Sai Ho Ling, Hung Nguyen and Kit Yan Chan

6:10PM Integration of Functional Information of Genes in Fuzzy Clustering of Short Time Series Gene Expression Data [#7701]. Ashish Anand, Nikhil Pal and Ponnuthurai Suganthan

[S106-4] Special Session: Advances in Clustering Methods and Their Applications IV
Monday, July 19, 4:50PM-6:30PM, Room: 134
Chair: Huseyin Seker, James C. Bezdek


5:10PM Robust Mixture Modeling using the Pearson Type VII Distribution [#351]. Jianyong Sun, Ata Kaban and Jonathan M. Garibaldi

5:30PM Performance Evaluation of a Community Structure Finding Algorithm Using Modularity and C-rand Measures [#269]. Harun Pirim, Dilip Gautam, Tanmay Bhowmik, Andy Perkins and Burak Eksioğlu

5:50PM Clustering using SOFM and Genetic Algorithm [#105]. Jose Carlos Palomares, Agustin Aguera, Juan Jose Gonzalez and Jose Gabriel Ramiro
6:10PM SOAR - Sparse Oracle-based Adaptive Rule Extraction: Knowledge Extraction from Large-Scale Datasets to Detect Credit Card Fraud[#151]. Nick Ryman-Tubb and Artur d'Avila Garcez
Tuesday, July 20, 2010

[S016-5] Special Session: Computational Intelligence for Biopattern Data Analysis
Tuesday, July 20, 8:00AM-10:00AM, Room: 133
Chair: Leif Peterson, Elia Biganzoli, Alfredo Vellido

8:00AM Cohort-based Kernel Visualisation with Scatter Matrices [#825]. Enrique Romero, Ana Sofia Fernandes, Tingting Mu and Paulo Lisboa


8:40AM Modeling the Listeria monocytogenes survival/death curves using Wavelet Neural Networks [#21]. Mahdi Amina, Vassilis Kodogiannis, Efstathios Panagou and George Nychas

9:00AM Flexible Parametric Modelling of the Hazard Function in Breast Cancer Studies [#386]. Ilaria Ardoino, Federico Ambrogi, Chris Bajdik, Paulo Lisboa, Elia Biganzoli and Patrizia Boracchi

9:20AM Improving Recall Values in Breast Cancer Diagnosis with Incremental Background Knowledge [#697]. Catarina Silva, Bernardete Ribeir and Noel Lopes

9:40AM Classification of Micro-array Gene Expression Data using Neural Networks [#584]. David Tian and Keith Burley

[S122] Special Session: Computational Intelligence and Cyberinfrastructure in Medical Informatics and e-Health
Tuesday, July 20, 8:00AM-10:00AM, Room: 134
Chair: Shang-Ming Zhou, Mike Gravenor, Ronan Lyons, Sinead Brophy

8:00AM Construction of Parsimonious Takagi-Sugeno Fuzzy Rule Based Model in Characterising Impacts of Child Health, Socioeconomic Deprivations on Educational Outcomes [#307]. Shang-Ming Zhou, Ronan Lyons and Mike Gravenor

8:20AM Context-Aware Knowledge Modelling for Decision Support in E-Health [#583]. Obinna Anya, Hissam Tawfik, Saad Amin, Atulya Nagar and Khaled Shaalan

8:40AM Creating Health Typologies with Random Forest Clustering [#348]. Ping Sun, Irena Begaj, Iris Fermin and Jim McManus

9:00AM Retinal Image Classification using a Histogram Based Approach [#397]. Mohd Hanafi Ahmad Hijazi, Frans Coenen and Yalin Zheng

9:20AM SVM with Entropy Regularization and Particle Swarm Optimization for Identifying Children’s Health and Socioeconomic Determinants of Education Attainments Using Linked Datasets [#420]. Shang-Ming Zhou, Ronan Lyons, Owen Bodger, Joanne Demmler and Mark Atkinson

[S082-1] Special Session: Commercialization of CI Research Outcomes I
Tuesday, July 20, 11:30AM-12:50PM, Room: 133
Chair: Ali M S Zalzala, Keeley A Crockett

11:30AM Marketing Computational Intelligence in Industry [#7070]. Arthur Kordon

11:50AM Robust Evolution Optimization at the Edge of Chaos: Commercialization of Culture Algorithms [#7846]. Xiangdong Che, Mostafa Ali and Robert Reynolds

12:10PM Commercializing Computational Intelligence Techniques in a Business Intelligence Application [#7992]. Hussein Al-Natsheh and Ali Zalzala
**[S200-1] Special Session: Computational Intelligence in Earth and Environmental Sciences I**

Tuesday, July 20, 11:30AM-12:50PM, Room: 134
Chair: Vladimir Krasnopolsky, Dimitri Solomatine, Vladimir Cherkassky, Julio Valdes

11:30AM *Multi-model Ensemble Forecasting in High Dimensional Chaotic System [#794].* Michael Siek and Dimitri Solomatine

11:50AM *ANN-based Representation of Parametric and Residual Uncertainty of Models [#674].* Francesca Pianosi, Durga Lal Shrestha and Dimitri Solomatine

12:10PM *Uncertainty with the Gamma Test for Model Input Data Selection [#292].* Dawei Han, Weizhong Yan and Ali Moghaddamnia

12:30PM *Forecasting Airborne Pollen Concentration of Poaceae (Grass) and Oleaceae (Olive), using Artificial Neural Networks and Genetic Algorithms, in Thessaloniki, Greece. [#266].* Dimitris Voukantsis, Kostas Karatzas, Athanasios Damialis and Despina Vokou

**[S082-2] Commercialization of CI Research Outcomes II**

Tuesday, July 20, 2:30PM-3:30PM, Room: 133
Chair: Ali M S Zalzala, Keeley A Crockett

2:30PM *The Yorkshire Enterprise Fellowship: A Framework for Successful Commercialization of Computational Intelligence Research [#535].* Stephen Smith

2:50PM *Goal Orientated Conversational Agents - the rocky road to commercialization [#207].* Keeley Crockett, Zuhair Bandar, James O'Shea and David Mclean

3:10PM *Commercialisation of an Artificially Intelligent Deception Detection System in the Current Security Climate [#264].* David Mclean, Zuhair Bandar, Jim O'Shea and Keeley Crockett

**[S136-2] Special Session: Image Characterization and Feature Extraction II**

Tuesday, July 20, 2:30PM-3:30PM, Room: 134
Chair: Belén Prados Suárez, Eduard Montseny

2:30PM *Filtering False Detections of Small Multiple Sclerosis Lesions using Fuzzy Regional Analysis [#607].* Francesc Xavier Aymerich, Pilar Sobrevilla, Eduard Montseny and Alex Rovira

2:50PM *Oppositional Fuzzy Image Thresholding [#453].* Fares Al-Qunaieer, Hamid Tizhoosh and Shahryar Rahnamayan

3:10PM *Color Component Feature Selection in Feature-Level Fusion Based Color Face Recognition [#378].* Seung Ho Lee, Jae Young Choi, Konstantinos Plataniotis and Yong Man Ro

**[S134-2] Special Session: Intelligent Sensor Networks II**

Tuesday, July 20, 3:30PM-4:30PM, Room: 133
Chair: Sandeep Chandana, Henry Leung

3:30PM *An Energy Aware Fuzzy Unequal Clustering Algorithm for Wireless Sensor Networks [#77].* Hakan Bagci and Adnan Yazici

3:50PM *Context-Aware Collective Decision Making based on Fuzzy Outranking [#523].* Sandeep Chandana and Henry Leung

4:10PM *On the Use of Unified And-Or Fuzzy Operator for Distributed Node Exhaustion Attack Decision-making in Wireless Sensor Networks [#408].* Salman Khan and Zubair Baig
**[S148-1] Special Session: Soft Computing in Medical Imaging I**
Tuesday, July 20, 3:30PM-4:30PM, Room: 134
Chair: Sergio Damas, Gerald Schaefer

3:30PM *Microcalcification Detection in Mammograms Using Interval type-2 Fuzzy logic System with Automatic Membership Function Generation* [#534]. Suraphon Chumklin, Sansanee Auephanwiriyakul and Nipon Theera-Umpon

3:50PM *Using Type-II Fuzzy Function for Diagnosing Brain Tumors based on Image Processing Approach* [#30]. Muhammad Hussein Fazel Zarandi, Marzieh Zarinbal, Amir Zarinbal, I. Burhan Turkse and Mina Izadi

**[S016-6] Special Session: Computational Intelligence for Biopattern Data Analysis: Bioinformatics II**
Tuesday, July 20, 4:50PM-6:30PM, Room: 133
Chair: Elia Biganzoli, Leif Peterson, Alfredo Vellido, Paulo Lisboa, José D. Martín-Guerrero, Allione Ngom, Roberto Tagliaferri

4:50PM *Complexity Measures of Supervised Classifications Tasks: a Case Study for Cancer Gene Expression Data* [#87]. Marcilio C. P. de Souto, Ana C. Lorena, Newton Spolaor and Ivan G. Costa

5:10PM *On the Effectiveness of Discretization on Gene Selection of Microarray Data* [#226]. Veronica Bolon-Canedo, Noelia Sanchez-Marono and Amparo Alonso-Betanzos

5:30PM *Classification of LIBS Protein Spectra using Support Vector Machines and Adaptive Local Hyperplanes* [#487]. Tia Vance, Natasa Reljin, Aleksandar Lazarevic, Dragoljub Pokrajac, Vojislav Kecman, Nouredine Melikechi, Aristides Marcano, Yuri Markushin and Samantha McDaniel

5:50PM *Detecting Differentially Aberrant Genomic Regions in Multi-Sample Array CGH Experiments Using Nearest-Neighbor Multivariate Test* [#501]. Yuta Ishikawa and Ichiro Takeuchi

6:10PM *DNA Microarray Analysis Using Equalized Orthogonal Mapping* [#129]. Jagdish Patra, Nyttle George and Pramod Meher

**[S148-2] Special Session: Soft Computing in Medical Imaging II**
Tuesday, July 20, 4:50PM-6:30PM, Room: 134
Chair: Sergio Damas, Gerald Schaefer

4:50PM *3D level set image segmentation refined by intelligent agent swarms* [#7947]. David Feltell and Li Bai

5:10PM *GRASP and Evolutionary Path Relinking for Medical Image Registration based on Point Matching* [#7812]. Jose Santamaria, Oscar Cordon, Sergio Damas, Rafael Martí and Ricardo J. Palma

5:30PM *Neocortical Frame-free Vision Sensing and Processing through Scalable Spiking ConvNet Hardware* [#100]. Luis Camuñas Mesa, J. A. Pérez-Carrasco. C. Zmarreño-Ramos, T. Serrano-Gotarredona and B. Linares-Barranco

5:50PM *Region Of Interest Based Image Classification Using Time Series Analysis* [#396]. Ashraf Elsayed, Frans Coenen, Marta Garcia-Finana and Vanessa Sluming

6:10PM *Segmentation of Head MR Images Using Hybrid Neural Networks of Unsupervised Learning* [#182]. Toshimitsu Otani, Kazuhiro Sato, Hirokazu Madokoro and Atsushi Inugami
Wednesday, July 21, 2010

Wednesday, July 21, 8:00AM-10:00AM, Room: 133
Chair: Mihail Popescu, Jim Keller

8:00AM *An Ontological Fuzzy Smith-Waterman with Applications to Patient Retrieval in Electronic Medical Records [#295].* Mihail Popescu

8:20AM *Similarity Measures for Protein Structures based on Fuzzy Histogram Comparison [#445].* Thomas Fober and Eyke Hüllermeier

8:40AM *Computational Inference of Transcription Factor Cooperation by Fuzzy Frequent Itemset Mining [#271].* Francisco-Javier Lopez, Carlos Cano, Fernando Garcia and Armando Blanco

9:00AM *Study of Fault Feature Extraction Based on KPCA Optimized by PSO Algorithm [#300].* Pan Hongxia, Wei Xiuye and Huang Jinying

**[S029-1] Special Session: Medical and Educational Applications of Computer Intelligence to Benefit Society I**
Wednesday, July 21, 8:00AM-10:00AM, Room: 134
Chair: Keeley A Crockett, Bernadette Bouchon-Meunier

8:00AM *Artificial neural networks for non-invasive chromosomal abnormality screening of fetuses [#622].* Costas Neocleous, Kypros Nicolaides, Kleanthis Neokleous and Christos Schizas

8:20AM *Rule Extraction from Neural Networks for Medical Domains [#603].* Darren Dancey, Zuhair Bandar and David McLean

8:40AM *Fuzzy Predictive Models to Help Teachers in e-Learning Courses [#365].* Angela Nebot, Francisco Mugica and Felix Castro

9:00AM *Testing Potentials of Dynamic Quadratic Neural Unit for Prediction of Lung Motion during Respiration for Tracking Radiation Therapy [#749].* Ivo Bukovsky, Kei Ichiji, Noriyasu Homma, Makoto Yoshizawa and Ricardo Rodriguez

9:20AM *Development of Comparative Reading System Using 1D SOM for Brain Dock Examinations [#220].* Kazuhiro Sato, Sakura Kadowaki, Hirokazu Madokoro and Atsushi Inugami

9:40AM *Automatic Concept Type Identification from learning Resources [#270].* Sahar Changuel, Nicolas Labroche and Bernadette Bouchon-Meunier

**[S016-8] Special Session: Computational Intelligence for Biopattern Data Analysis: Biinformatics III**
Wednesday, July 21, 11:30AM-12:50PM, Room: 133
Chair: Elia Biganzoli, Leif Peterson, Alfredo Vellido, Paulo Lisboa, José D. Martín-Guerrero, Alioune Ngom, Roberto Tagliaferri

11:30AM *Complementary Use of Cluster Analysis and Biplots to Discover and Validate Patterns of Gene Expression in Microarray Data [#400].* Niccolo Bassani, Federico Ambrogi, Danila Coradini, Patrizia Boracchi and Elia Mario Biganzoli

11:50AM *Gene regulatory networks with variable-order dynamic Bayesian networks [#430].* Jagath Rajapakse and Iti Chaturvedi

12:10PM *Evolving Spiking Neural Networks for Predicting Transcription Factor Binding Sites [#699].* Heike Sichtig, J. David Shaffer and Alberto Riva
12:30PM A comprehensive comparison of ML algorithms for gene expression data classification [#706]. Bruno Feres de Souza, Andre C.P.L.F. Carvalho and Carlos Soares

[S200-2] Special Session: Computational Intelligence in Earth and Environmental Sciences II
Wednesday, July 21, 11:30AM-12:50PM, Room: 134
Chair: Vladimir Krasnopolsky, Dimitri Solomatine, Vladimir Cherkassky, Julio Valdes
11:30AM Development of Neural Network Convection Parameterizations for Numerical Climate and Weather Prediction Models using Cloud Resolving Model Simulations [#765]. Vladimir Krasnopolsky, Michael Fox-Rabinovitz and Alexei Belochitski

[S134-3] Special Session: Intelligent Sensor Networks III
Wednesday, July 21, 2:30PM-3:30PM, Room: 133
Chair: Sandeep Chandana, Henry Leung
2:30PM Complex Situation Modeling in DistributedSensor Networks [#769]. Sandeep Chandana and Henry Leung
2:50PM Intelligent Sensor Design in Network based Automatic Control [#772]. Donglin Wang, Sandeep Chandana, Renlun He, Jiuqiang Han, Xiangyu Zhu, Ke Zou and Yong He

[S115-1] Special Session: Computational Intelligence in Computer Vision I
Wednesday, July 21, 2:30PM-3:30PM, Room: 134
Chair: Javier Montero, Jesus Chamorro-Martinez, Mike Nachtegaele
2:30PM An Adaptative Fuzzy Approach for Texture Modelling [#574]. Jesus Chamorro-Martinez and Pedro Manuel Martinez-Jimenez
2:50PM Tuning of a Hierarchical Fuzzy System for Video De-interlacing [#481]. Piedad Brox, Iluminada Baturone and Santiago Sanchez-Solano
3:10PM Basic properties of the interval-valued fuzzy morphological operators [#273]. Tom Melange, Mike Nachtegaele, Peter Sussner and Etienne Kerre

[S132-1] Special Session: Computational Finance and Economics I
Wednesday, July 21, 3:30PM-4:30PM, Room: 133
Chair: Daniel Parasciv, Uzay Kaymak, Agostino Capponi, Yago Saez, Robert Golan
3:30PM Fast and Effective Predictability Filters for Stock Price Series using Linear Genetic Programming [#7090]. Garnett Wilson and Wolfgang Banzhaf
3:50PM The effect of level of rationality on Macro-Activities of the Lucas-Island model [#7159]. Ahmed Okasha and Colin Johnson
4:10PM Complex Selection Processes: Dealing with Dependencies [#181]. Will Fleury

[S136-3] Special Session: Image Characterization and Feature Extraction III
Wednesday, July 21, 3:30PM-4:30PM, Room: 134
Chair: Belén Prados Suárez, Eduard Montseny
3:30PM Automatic Extraction of Linguistic Models for Image Description [#552]. Iluminada Baturone and Andres Gersnoviez
3:50PM A Fast Iris Location Based on Aggregating Gradient Approximation Using QMA-OWA Operator [601]. Yuniol Alvarez-Betancourt and Miguel Garcia-Silvente

4:10PM Extraction of thin color pattern from images for histology investigation [418]. Alexander Nedzved and Valery Starovoitov

[S016-9] Special Session: Computational Intelligence for the Pharmaceutical Industry
Wednesday, July 21, 4:50PM-6:30PM, Room: 133
Chair: José D. Martín-Guerrero, Paulo Lisboa, Roberto Tagliaferri

4:50PM Signaling Pathways Coupling Phenomena [743]. Michele Donato and Sorin Draghici

5:10PM Gene Ontology Fuzzy-Enrichment Analysis to investigate Drug Mode-of-Action [366]. Francesco Iorio, Loredana Murino, Diego di Bernardo, Giancarlo Raiconi and Roberto Tagliaferri

5:30PM Neural Network Based Drug Design for Diabetes Mellitus Using QSAR with 2D and 3D Descriptors [261]. Jagdish C. Patra and Kenny H. K. Chua

5:50PM Predicting Drug Absorption Rates Through Human Skin [688]. Yi Sun, Lun Tak Lam, Gary Moss, Maria Prapoulou, Rod Adams, Neil Davey, David Gray and Mark Brown

6:10PM Assessment of benefit vs. risk of drug therapy: the potential for outcome analysis with flexible models [842]. Paulo J.G. Lisboa, Ana Sofia Fernandes, Jose Manuel Fonseca, Chris Bajdik and Elia Biganzoli

[S029-2] Special Session: Medical and Educational Applications of Computer Intelligence to Benefit Society II
Wednesday, July 21, 4:50PM-6:30PM, Room: 134
Chair: Keeley A Crockett, Bernadette Bouchon-Meunier

4:50PM Application of a Semantic-Based Conversational Agent to Student Debt Management [116]. Karen O'Shea, Keeley Crockett and Zuhair Bandar

5:10PM Adaptive Neuro-Fuzzy Inference System (ANFIS) in Modelling Breast Cancer Survival [270]. Hazlina Hamdan and Jonathan M. Garibaldi

5:30PM Oscar: An Intelligent Conversational Agent Tutor to Estimate Learning Styles [235]. Annabel Latham, Keeley Crockett, David McLean, Bruce Edmonds and Karen O'Shea

5:50PM Fuzzy Inference for Learning Object Recommendation [362]. Mario Garcia-Valdez, Arnulfo Alanis and Brunnette Parra
Thursday, July 22, 2010

**[S132-2] Special Session: Computational Finance and Economics II**
Thursday, July 22, 8:00AM-10:00AM, Room: 133
Chair: Daniel Paraschiv, Uzay Kaymak, Agostino Capponi, Yago Saez, Robert Golan

8:00AM *Equilibrium Pricing Vector Based on the Hybrid Mean-Variance Theory with Investor's Subjectivity* [#220]. Takashi Hasuike

8:20AM *Modelling Preference Relaxation in e-Commerce* [#274]. Maciej Dabrowski and Thomas Acton


9:00AM *Modeling the Behavior of the Stock Market with an Artificial Immune System* [#7600]. Matthew Butler and Dimitar Kazakov


9:40AM *Interactive Evolutionary Multipleobjective Optimization using Dominance-based Rough Set Approach* [#7776]. Salvatore Greco, Benedetto Matarazzo and Roman Slowinski

**[S087-1] Special Session: Evolutionary Computation for Knowledge Discovery I**
Thursday, July 22, 8:00AM-10:00AM, Room: 134
Chair: Jorge Casillas, Jaume Bacardit

8:00AM *A Spiking Neural Representation for XCSF* [#7326]. Gerard Howard, Larry Bull and Pier-Luca Lanzi

8:20AM *A Grammar Based Ant Programming Algorithm for Mining Classification Rules* [#7728]. Juan Luis Olmo, Jose Raul Romero and Sebastian Ventura

8:40AM *Knowledge Discovery with Artificial Immune Systems for Hierarchical Multi-label Classification of Protein Functions* [#353]. Roberto Alves, Myriam Delgado and Alex Freitas

9:00AM *A Pittsburgh Multi-Objective Classifier for User Preferred Trajectories and Flight Navigation* [#7843]. Viet V. Pham, Lam T. Bui, Sameer Alam, Chris Lokan and Hussein A. Abbass

9:20AM *Dynamic matching range in Exemplar-based Learning Classifier System* [#7990]. Hiroyasu Matsushima, Kiyohiko Hattori, Hiroyuki Sato and Keiki Takadama

9:40AM *Evolved Apache Lucene SpanFirst Queries are Good Text Classifiers* [#7356]. Laurie Hirsch

**[S132-3] Special Session: Computational Finance and Economics III**
Thursday, July 22, 11:30AM-12:50PM, Room: 133
Chair: Daniel Paraschiv, Uzay Kaymak, Agostino Capponi, Yago Saez, Robert Golan

11:30AM *A Multiobjective Approach for Bidding Recommendations in Combinatorial Auctions* [#7984]. Yago Saez, Asuncion Mochon, Jose Luis Gomez-Barroso and Pedro Isasi

**[S087-2] Special Session: Evolutionary Computation for Knowledge Discovery II**
Thursday, July 22, 11:30AM-12:50PM, Room: 134
Chair: Jorge Casillas, Jaume Bacardit

11:30AM A preliminary study on the use of differential evolution for adjusting the position of examples in nearest neighbor classification [#7716]. Isaac Triguero, Salvador Garcia and Francisco Herrera

11:50AM Combined Feature Selection and Similarity Modeling in Case-Based Reasoning Using Hierarchical Memetic Algorithm [#8022]. Ning Xiong and Peter Funk

12:10PM An Evolutionary Attribute Clustering and Selection Method Based on Feature Similarity [#7868]. Tzung-Pei Hong, Po-Cheng Wang and Chuan-Kang Ting

12:30PM Feature Selection in Haptic-based Handwritten Signatures Using Rough Sets [#454]. Nizar Sakr, Fawaz Alsulaiman, Julio Valdes, Abdulmotaleb El Saddik and Nicolas Georganas

**[S132-4] Special Session: Computational Finance and Economics IV**
Thursday, July 22, 2:30PM-3:30PM, Room: 133
Chair: Daniel Paraschiv, Uzay Kaymak, Agostino Capponi, Yago Saez, Robert Golan

2:30PM A Fuzzy Model of the MSCI EURO Index Based on Content Analysis of European Central Bank Statements [#573]. Viorel Milea, Rui Almeida, Uzay Kaymak and Flavius Frasincar

2:50PM Modeling Loss Aversion and Biased Self-Attribution Using a Fuzzy Aggregation Operator [#575]. Milan Lovric, Uzay Kaymak and Jaap Spronk

3:10PM Electricity Portfolios and Market Power [#7401]. Albert Banal-Estanel and Augusto Ruperez

**[S087-3] Special Session: Evolutionary Computation for Knowledge Discovery III**
Thursday, July 22, 2:30PM-3:30PM, Room: 134
Chair: Jorge Casillas, Jaume Bacardit

2:30PM Memory Control of Tabu Search with Genetic Fuzzy Systems [#238]. Vitor Marques and Fernando Gomide

2:50PM Ensemble Classifier Design by Parallel Distributed Implementation of Genetic Fuzzy Rule Selection for Large Data Sets [#8013]. Yusuke Nojima, Shingo Mihara and Hisao Ishibuchi

**[S134-4] Special Session: Intelligent Sensor Networks IV**
Thursday, July 22, 2:30PM-3:30PM, Room: Room 127
Chair: Sandeep Chandana, Henry Leung

2:30PM Development of Chebyshev Neural Network-based Smart Sensors for Noisy Harsh Environment [#426]. Jagdish C. Patra and Cedric Bornand

2:50PM Monitoring of Distributed Parameter Systems Based on a Sensor Network and ANFIS [#832]. Constantin Volosencu and Daniel Ioan Curiac

**[S036-1] Special Session: Intelligent Measurement Systems I**
Thursday, July 22, 3:30PM-4:30PM, Room: 133
Chair: Richard J. Duro, Gilles Mauris

3:30PM SYLPH: An Ambient Intelligence Based Platform for Integrating Heterogeneous Wireless Sensor Networks [#152]. Dante I. Tapia, Ricardo S. Alonso, Fernando De la Prieta, Carolina Zato, Sara Rodriguez, Emilio Corchado, Javier Bajo and Juan M. Corchado

3:50PM An Image Color Gradient preserving Color Constancy [#340]. Ramón Moreno, Manuel Grana and Alicia d'Anju
[S115-2] Special Session: Computational Intelligence in Computer Vision II
Thursday, July 22, 3:30PM-4:30PM, Room: 134
Chair: Javier Montero, Jesús Chamorro-Martínez, Mike Nachtegael

3:30PM A Fuzzy Filter for the Removal of Random Impulse Noise in Colour Video [#277]. Tom Melange, Mike Nachtegael and Etienne Kerre

3:50PM A New Approach for Defining a Fuzzy Color Space [#626]. Jose Manuel Soto-Hidalgo, Jesus Chamorro-Martinez and Daniel Sanchez

4:10PM Fuzzy Qualitative Complex Actions Recognition [#511]. Chee Seng Chan, Honghai Liu and Weng Kin Lai

[S036-2] Special Session: Intelligent Measurement Systems II
Thursday, July 22, 4:50PM-6:30PM, Room: 133
Chair: Richard J. Duro, Gilles Mauris

4:50PM Neural-based Quality Measurement of Fingerprint Images in Contactless Biometric Systems [#835]. Ruggero Donida Labati, Fabio Scotti and Vincenzo Piuri

5:10PM Adaptive on-line prediction soft sensing without historical data [#539]. Petr Kadlec and Bogdan Gabrys

5:30PM Use of a FIS for low cost student presence detector in e-learning 2.0 [#394]. Vincenzo Di Lecce, Antonella Giove and Alessandro Quarto

5:50PM Use of Artificial Neural Networks for Improving Fiber Optic Microbend Sensor Performance [#332]. Hasan Seckin Efendioglu, Tulay Yildirim and Kemal Fidanboylu

6:10PM An ANN Based Automatic Hyperspectral Image Processing System with Adaptive Dimensionality Reduction [#268]. Abraham Prieto, Daniel Souto, Richard Duro and Fernando Lopez-Pena

[S087-4] Special Session: Evolutionary Computation for Knowledge Discovery IV
[S115-3] CI in Computer Vision II
Thursday, July 22, 4:50PM-6:30PM, Room: 134
Chair: Jorge Casillas, Jaume Bacardit

4:50PM Automated Discovery of Vital Knowledge from Pareto-optimal Solutions: First Results from Engineering Design [#7622]. Sunith Bandaru and Kalyanmoy Deb

5:10PM A Multiobjective Variant of the Subdue Graph Mining Algorithm based on the NSGA-II Selection Mechanism [#7759]. Prakash Shelokar, Arnaud Quirin and Oscar Cordon

5:30PM A Distance-Based Mutation Operator for Learning Bayesian Network Structures using Evolutionary Algorithms [#7907]. Edmilson Santos, Estevam Hruschka, Eduardo Hruschka and Nelson Ebecken

5:50PM A Multi-Objective Evolutionary Concept Learner [#7270]. Celine Dandois, Federico Divina and Wim Vanhoof
Friday, July 23, 2010

[S143] Special Session: Motion Analysis  
Friday, July 23, 8:00AM-10:00AM, Room: 133  
Chair: Pedro Couto, Pedro Melo-Pinto, Charles Robinson

8:00AM **Eigenposes: Using Principal Components to Describe Body Configuration for Analysis of Postural Control Dynamics** [#323]. Joseph Skufca, Erik Boltz, Rakesh Pilkar and Charles Robinson

8:20AM **Bio-Inspired Model for Robust Motion Detection Under Noisy Conditions** [#185]. Russell Brinkworth and David O'Carroll

8:40AM **Adaptive Washout Filter Design with Human Visual-Vestibular Based (HVVB) for VR-based Motion Simulator** [#126]. Chin-I Huang

9:00AM **Fuzzy Controller for UAV-landing task using 3D-position Visual Estimation** [#397]. Miguel A. Oliva-Méndez, Iván F. Mondragón Pascual Campoy and Carol Martínez

9:20AM **Fuzzy Dynamic Model for Feature Tracking** [#278]. Pedro Couto, Nuno Lopes, Humberto Bustince and Pedro Melo-Pinto

9:40AM **Robot Visual Homing using Conjugate Gradient Temporal Difference Learning, Radial Basis Features and A Whole Image Measure** [#788]. Abdulrahman Altahhan

[S034-1] Special Session: Computational Intelligence on Consumer Games and Graphics Hardware (CIGPU) I  
Friday, July 23, 8:00AM-10:00AM, Room: 134  
Chair: Tony Lewis, W. B. Langdon, Simon Harding, Man Leung Wong

8:00AM **Data Mining Using Parallel Multi-Objective Evolutionary Algorithms on Graphics Hardware** [#7458]. Man Leung Wong and Geng Cui

8:20AM **GPU-Based Implementation of Spiking Neural Networks with Real-Time Performance & High Accuracy** [#573]. Dmitri Yudanov, Muhammad Shaaban, Roy Melton and Leon Reznik

8:40AM **High-Performance Bankruptcy Prediction Model using Graphics Processing Units** [#605]. Bernardete Ribeiro, Noel Lopes and Catarina Silva

9:00AM **FPGA Implementation of a Support Vector Machine for Classification and Regression** [#477]. Marta Ruiz-Llata, Guillermo Guarnizo and Mar Yebenes-Calvino

9:20AM **Neuromorphic Algorithms on Clusters of PlayStation 3s** [#751]. Tarek Taha, Pavan Yalamanchili, Mohammad Bhuiyan, Rommel Jalasutram, Chong Chen and Richard Linderman

9:40AM **Porting Autodock to CUDA** [#7216]. Sarnath Kannan and Raghavendra Ganji

[S036-3] Special Session: Intelligent Measurement Systems III  
Friday, July 23, 11:30AM-12:50PM, Room: 133  
Chair: Richard J. Duro, Gilles Mauris

11:30AM **Time Series Analysis of inertial-body signals for the extraction of dynamic properties from human gait** [#848]. Albert Sama, Diego E. Pardo-Ayala, Joan Cabestany and Alejandro Rodríguez-Moliner

11:50AM **Correntropy-based density-preserving data sampling as an alternative to standard cross-validation** [#127]. Marcin Budka and Bogdan Gabrys
11:30AM **PUGACE, A Cellular Evolutionary Algorithm framework on GPUs [#7223]**. Nicolas Soca, Jose Blengio, Martin Pedemonte and Pablo Ezzatti

11:50AM **Evolving a CUDA Kernel from an nVidia Template [#7404]**. W. B. Langdon and M. Harman

12:10PM **Parallel Hybrid Evolutionary Algorithms on GPU [#7616]**. The Van Luong, Nouredine Melab and El-Ghazali Talbi

12:30PM **An Analytical Study of GPU Computation for Solving QAPs by Parallel Evolutionary Computation with Independent Run [#7887]**. Shigeyoshi Tsutsui and Noriyuki Fujimoto

[S200-3] **Special Session: Computational Intelligence in Earth and Environmental Sciences III**  
Friday, July 23, 3:30PM-4:30PM, Room: 134  
Chair: Vladimir Krasnopolsky, Dimitri Solomatine, Vladimir Cherkassky, Julio Valdes

3:30PM **Probabilistic Robust Hyperbola Mixture Model for Interpreting Ground Penetrating Radar Data [#565]**. Huanhuan Chen and Anthony Cohn

3:50PM **Context-dependent Environmental Sound Monitoring using SOM coupled with LEGION [#271]**. Damiano Oldoni, Bert De Coensel, Michael Rademaker, Bernard De Baets and Dick Botteldooren

4:10PM **An Urban Traffic Speed Fusion Method Based on Principle Component Analysis and Neural Network [#10]**. Chenye Qiu, Xingquan Zuo, Chunlu Wang, Jianping Wu and Tianle Zhang

[S200-4] **Special Session: Computational Intelligence in Earth and Environmental Sciences IV**  
Friday, July 23, 4:50PM-6:30PM, Room: 134  
Chair: Vladimir Krasnopolsky, Dimitri Solomatine, Vladimir Cherkassky, Julio Valdes

4:50PM **Inflow Forecasting Models based on Artificial Intelligence [#66]**. Ronaldo Aquino, Milde Lira, Manoel Marinho, Isabela Tavares and Luiz Cordeiro

5:10PM **Application of artificial neural networks to the geochemical study of an impacted fluvial system [#550]**. Juan Lacassie and Javier Ruiz-Del-Solar

5:30PM **Potential Support Vector Machines and Self-Organizing Maps for phytoplankton discrimination [#632]**. Ismael F. Aymerich, Jaume Piera and Aureli Soria-Frisch

5:50PM **Identifying Causal Relationships in an Urban Information Modeling Framework [#579]**. Xiang Liu and Shaohua Tan