

Monday, July 19, 2010

[CCDM] Classification, Clustering, and Data Mining

Monday, July 19, 8:40AM-10:00AM, Room: 118

Chair: John McCall

8:40AM *Two Novel Ant Colony Optimization Approaches for Bayesian Network Structure Learning* [#7664]. Yanghui Wu, John McCall and David Corne

9:00AM *Clustering by a Genetic Algorithm with Biased Mutation Operator* [#7821]. Benjamin Auffarth

9:20AM *Active Learning Genetic Programming for Record Deduplication* [#7426]. Junio de Freitas, Gisele Lobo Pappa, Altigran S, da Silva, Marcos A. Goncalves, Edleno Moura, Adriano Veloso, Alberto H. F. Laender and Moises de Carvalho

9:40AM *Generalized Rule Extraction and Traffic Prediction in the Optimal Route Search* [#31]. Huiyu Zhou, Shingo Mabu, Xianneng Li, Kaoru Shimada and Kotaro Hirasawa

[S121] Special Session: Differential Evolution

Monday, July 19, 8:40AM-10:00AM, Room: 119

Chair: Uday K. Chakraborty

8:40AM *Constrained Multi-Objective Optimization Algorithm with Diversity Enhanced Differential Evolution* [#7884]. Boyang Qu and Ponnuthurai N. Suganthan

9:00AM *Asynchronous Differential Evolution* [#7809]. Valentino Santucci and Alfredo Milani

9:20AM *Crossover and the Different Faces of Differential Evolution Searches* [#7468]. James Montgomery

9:40AM *An Analysis of the Operation of Differential Evolution at High and Low Crossover Rates* [#7438]. James Montgomery and Stephen Chen

[S080-1] Special Session: Grammars in Natural Computing I

Monday, July 19, 8:40AM-10:00AM, Room: 120

Chair: Bob McKay, Xuan Hoai Nguyen, Michael O'Neill, Yin Shan, Peter Whigham

8:40AM *Tree-Adjunct Grammatical Evolution* [#7731]. Eoin Murphy, Michael O'Neill, Edgar Galvan-Lopez and Anthony Brabazon

9:00AM *Grammatical Rules for the Automated Construction of Heuristics* [#7837]. German Terrazas and Natalio Krasnogor

9:20AM *Investigating Mapping Order in piGE* [#7980]. David Fagan, Miguel Nicolau, Michael O'Neill, Edgar Galvan-Lopez, Anthony Brabazon and Sean McGarraghy

9:40AM *An Examination on the Modularity of Grammars in Grammatical Evolutionary Design* [#7710]. John Mark Swafford and Michael O'Neill

[EA-1] Engineering Applications I

Monday, July 19, 8:40AM-10:00AM, Room: 121

Chair: Marco Mussetta

8:40AM *Reconstruction of the non-minimum phase response of chirped fiber Bragg gratings using an adaptive genetic algorithm* [#7700]. Filipe Ferreira, Paulo Almeida, Carlos Antunes and Henrique Silva

9:00AM *A Multi-objective Optimization Application in Friction Stir Welding: Considering Thermo-mechanical Aspects* [#7706]. Cem Celal Tutum and Jesper Henri Hattel

9:20AM *Optimization of a Linear Generator for Sea-Wave Energy Conversion by means of a Hybrid Evolutionary Algorithm* [#7283]. Andrea Pirisi, Marco Mussetta, Giambattista Grusso and Riccardo E. Zich

9:40AM *Optimizing Detector Distribution in V-detector Negative Selection Using A Constrained Multiobjective Immune Algorithm* [#7302]. Fang Liu, Maoguo Gong, Jingjing Ma, Licheng Jiao and Wei Zhang

[S037] Special Session: Computational Intelligence Approaches to Process Mining and Optimisation

Monday, July 19, 8:40AM-10:00AM, Room: 122

Chair: Christopher Turner

8:40AM *Mining Sequences for Patterns with Non-Repeating Symbols* [#7785]. Michal Walicki and Diogo R. Ferreira

9:00AM *Functionalization of Microarray Devices: Process Optimization Using a Multiobjective PSO and Multiresponse MARS Modeling* [#7459]. Laura Villanova, Paolo Falcaro, Davide Carta, Irene Poli, Rob Hyndman and Kate Smith-Miles

9:20AM *Automatic Determination of Parameters' Values for Heuristics Miner++* [#7978]. Andrea Burattin and Alessandro Sperduti

9:40AM *Meta-learning for Data Summarization Based on Instance Selection Method* [#7587]. Kate Smith-Miles and Rafiqul Islam

[MMP] Poster Session: Poster Session I

Monday, July 19, 9:00AM-12:00PM, Room: Foyer 2

Chair: Christophe Marsala

P101 *Two-stage based Ensemble Optimization for Large-Scale Global Optimization* [#7306]. Yu Wang and Bin Li

P102 *An Artificial Immune System for Extracting Fuzzy Rules in Credit Scoring* [#7267]. Ehsan Kamaloo and Mohammad Saniee Abadeh

P103 *Identifying Online Credit Card Fraud using Artificial Immune Systems* [#7486]. Anthony Brabazon, Jane Cahill, Peter Keenan and Daniel Walsh

P104 *Dynamic Signature Verification through the Longest Common Subsequence Problem and Genetic Algorithms* [#7942]. Alejandro Flores-Mendez and Manuel Bernal-Urbina

P105 *A Comparative Study of Diversity in Evolutionary Algorithms* [#7559]. Jayakanth Jayachandran and Steven Corns

P106 *Evolutionary Heuristics for Automatic Discoveries of Cellular Automata Simulating AND gates* [#7637]. Emmanuel Sapin

P107 *Generating Topological Map from Occupancy Grid-map using Virtual Door Detection* [#7639]. Kwangro Joo, Tae-Kyeong Lee, Sanghoon Baek and Se-Young Oh

P108 *Evolvable Mechanics: Hardware tools for evolutionary robotics* [#7492]. Bill Bigge and Inman Harvey

- P109** *What is the relationship between behavioral robustness and distributed mechanisms of cognitive behavior?* [#7317]. Jose A. Fernandez-Leon and Tom Froese
- P110** *Differential Evolutionary Approach Guided by the Functional Constraint Network to Solve Program Synthesis Problem* [#7422]. Jelena Sanko and Jaan Penjam
- P111** *Constrained Optimization Using Artificial Immune System* [#7297]. Kumlachew Woldemariam and Gary Yen
- P112** *Non-rigid 3D Face Shape Reconstruction using a Genetic Algorithm* [#7467]. Jong-Min Park, Hyun-Chul Choi and Se-Young Oh
- P113** *Cooperative Co-evolution for Large Scale Optimization Through More Frequent Random Grouping* [#7543]. Mohammad Nabi Omidvar, Xiaodong Li, Zhenyu Yang and Xin Yao
- P114** *Using Unrestricted Loops in Genetic Programming for Image Classification* [#7944]. Jan Larres, Mengjie Zhang and Will Browne
- P115** *Predicting Protein-Ligand Binding Site with Support Vector Machine* [#7499]. Ginny Y. Wong and Frank H. Leung
- P116** *Determination of chemo-responses for osteosarcoma using a hybrid evolutionary algorithm* [#7087]. Chan Kit Yan, Hailong Zhu, Ching Lau, Tharam Singh Dillon and Sai Ho Ling

[NO-1] Numerical Optimization I

Monday, July 19, 11:30AM-12:50PM, Room: 118

Chair: Tomohiro Yoshikawa

- 11:30AM** *Improving CMA-ES by Random Evaluation on the Minor Eigenspace* [#7735]. Chun-Kit Au and Ho-Fung Leung
- 11:50AM** *Evolving Search Spaces to Emphasize the Performance Difference of Real-Coded Crossovers Using Genetic Programming* [#7412]. Shinichi Shirakawa, Noriko Yata and Tomoharu Nagao
- 12:10PM** *A Competitive PSO Based on Evaluation with Priority for Finding Plural Solutions* [#7794]. Yu Taguchi, Yuta Kanamori, Hidehiro Nakano, Akihide Utani and Arata Miyauchi
- 12:30PM** *Optimal Reactive Power Planning for Load Margin Improvement using Multi Agent Immune EP* [#19]. Aminudin Norziana, Abdul Rahman Titik Khawa, Musirin Ismail and Zakaria Zuhaina

[RO-1] Representations and Operators I

Monday, July 19, 11:30AM-12:50PM, Room: 119

Chair: Kalyanmoy Deb

- 11:30AM** *Parallelization of Binary and Real-Coded Genetic Algorithms on GPU using CUDA* [#7993]. Ramnik Arora, Rupesh Tulshyan and Kalyanmoy Deb
- 11:50AM** *Genetic Programming for Expert Systems* [#7132]. Konrad Sickel and Joachim Hornegger
- 12:10PM** *Improving GP Classification Performance by Injection of Decision Trees* [#7781]. Rikard Konig, Ulf Johansson, Tuve Lofstrom and Lars Niklasson
- 12:30PM** *GE, explosive grammars and the lasting legacy of bad initialisation* [#7262]. Robin Harper

[S080-2] Special Session: Grammars in Natural Computing II

Monday, July 19, 11:30AM-12:50PM, Room: 120

Chair: Xuan Hoai Nguyen, Michael O'Neill, Yin Shan, Peter Whigham, Bob McKay

11:30AM *Evolving Trading Strategies for a Limit-order Book Generator* [#7826]. Peter Whigham, Rasika Withanawasam, Timothy Crack and Inguruwatt Premachandra

11:50AM *Higher-Order Functions in Aesthetic EC Encodings* [#7417]. James McDermott, Jonathan Byrne, John Mark Swafford, Michael O'Neill and Anthony Brabazon

12:10PM *Evolving Stories: Grammar Evolution for Automatic Plot Generation* [#7388]. Vinh Bui, Hussein Abbass and Axel Bender

12:30PM *Language evolution, social phenomena* [#7241]. Piotr Pietron and Unold Olgierd

[EA-2] Engineering Applications II

Monday, July 19, 11:30AM-12:50PM, Room: 121

Chair: Hussein Abbass

11:30AM *Multi-Agent Framework for Remote Diagnostics* [#7560]. Danil Prokhorov

11:50AM *An Approach for Fault Diagnosis based on Bio-inspired Strategies* [#8008]. Lidice Camps-Echeverria, Orestes Llanes-Santiago and Antonio J. Silva-Neto

12:10PM *Reducing Energy Use and Operational Cost of Air Conditioning Systems with Multi-objective Evolutionary Algorithms* [#7164]. Cristian Perfumo, John K. Ward and Julio H. Braslavsky

12:30PM *Multi-Objective Tuning of Nonlinear PID Controllers for Greenhouse Environment using Evolutionary Algorithms* [#7462]. Haigen Hu, Lihong Xu, Ruihua Wei and Zhu Bingkun

[CDA-1] Classification, Clustering, Data Analysis, and Data Mining I

Monday, July 19, 11:30AM-12:50PM, Room: 122

Chair: Lourdes Araujo

11:30AM *Using Evolutionary Computation to Improve SVM Classification* [#7764]. Uday Kamath, Amarda Shehu and Kenneth De Jong

11:50AM *Training a Classifier for the Selection of Good Query Expansion Terms with a Genetic Algorithm* [#7069]. Lourdes Araujo and Joaquin Perez-Iglesias

12:10PM *Clustering with Differential Evolution Particle Swarm Optimization* [#7198]. Rui Xu, Jie Xu and Donald Wunsch

12:30PM *Evolving Natural Language Grammars without Supervision* [#7095]. Lourdes Araujo and Jesus Santamaria

[SA-1] Self-adaptation I

Monday, July 19, 2:30PM-3:30PM, Room: 118

Chair: Grant Dick

2:30PM *Design and Experimental Evaluation of Multiple Adaptation Layers in Self-optimizing Particle Swarm Optimization* [#7109]. Thomas Ritscher, Sabine Helwig and Rolf Wanka

2:50PM *A Mixed Strategy for Evolutionary Programming Based on Local Fitness Landscape* [#8016]. Liang Shen and Jun He

3:10PM *Are Long Jumps of Cauchy Mutations Effective in Fast Evolutionary Programming?* [#7374]. Yong Liu

[RO-2] Representations and Operators II

Monday, July 19, 2:30PM-3:30PM, Room: 119

Chair: Thomas Baeck

2:30PM *A robust optimization approach using Kriging metamodels for robustness approximation in the CMA-ES* [#7180]. Johannes Kruisselbrink, Michael Emmerich, Andre Deutz and Thomas Baeck

2:50PM *A Comparison of the Generalization Ability of Different Genetic Programming Frameworks* [#7398]. Mauro Castelli, Luca Manzoni, Sara Silva and Leonardo Vanneschi

3:10PM *Study on Effect of MOGA with Interactive Island Model using Visualization* [#7366]. Masafumi Yamamoto, Tomohiro Yoshikawa and Takeshi Furuhashi

[MO-1] Multiobjective Optimization I

Monday, July 19, 2:30PM-3:30PM, Room: 120

Chair: K.C. Tan

2:30PM *An Investigation on Sampling Technique for Multi-objective Restricted Boltzmann Machine* [#7304]. Vui Ann Shim, Kay Chen Tan and Jun Yong Chia

2:50PM *Ordering and Visualisation of Many-objective Populations* [#7820]. David Walker, Richard Everson and Jonathan Fieldsend

3:10PM *A New Self-Adaptive Approach for Evolutionary Multiobjective Optimization* [#7641]. Lucas Batista, Felipe Campelo, Frederico Guimaraes and Jaime Ramirez

[DCS] Defense and Cyber Security

Monday, July 19, 2:30PM-3:30PM, Room: 121

Chair: Alice Smith

2:30PM *Unveiling Skype Encrypted Tunnels using GP* [#7221]. Riyad Alshammari and A. Nur Zincir-Heywood

2:50PM *An Analysis of Clustering Objectives for Feature Selection Applied to Encrypted Traffic Identification* [#7550]. Carlos Bacquet, Nur Zincir-Heywood and Malcolm Heywood

3:10PM *Optimizing Tactical Military MANETs With a Specialized PSO* [#7217]. Yunchol Cho, Jeffrey Smith and Alice Smith

[S064] Special Session: Software Packages Based on Evolutionary Computation and Other Metaheuristics

Monday, July 19, 2:30PM-3:30PM, Room: 122

Chair: Thomas Hanne, Rolf Dornberger

2:30PM *Sferes_v2: Evolvin' in the Multi-Core World* [#7484]. Jean-Baptiste Mouret and Stephane Doncieux

2:50PM *The jMetal Framework for Multi-Objective Optimization: Design and Architecture* [#7272]. Juan Durillo, Antonio Nebro and Enrique Alba

3:10PM *JEAF: A Java Evolutionary Algorithm Framework* [#7683]. Pilar Caamano, Rafael Tedin, Alejandro Paz-Lopez and Jose Antonio Becerra

[MAP] Poster Session: Poster Session II

Monday, July 19, 3:00PM-6:00PM, Room: Foyer 2

Chair: Fernando Gomide

P301 *A Monte-Carlo Ant Colony System for Scheduling Multi-mode Projects with Uncertainties to Optimize Cash flows* [#7440]. Chen Wei-neng, Zhang Jun, Liu Ou and Liu Hai-lin

P302 *Clonal Selection Algorithm for Image Compression* [#7190]. Liu Ruo Chen, Jiao Licheng, Zhang Wei and Ma Jingjing

P303 *Extracting Discriminative Information from E-mail for Spam Detection Inspired by Immune System* [#7094]. Yuanchun Zhu and Ying Tan

P304 *A Coevolutionary Chromosome Encoding Scheme for High Dimensional Search Spaces* [#7278]. Jonatan Gomez and Elizabeth Leon

P305 *Analysis of evolutionary process using evolutionary activity and modular schema analysis* [#7571]. Young-Seol Lee and Sung-Bae Cho

P306 *Continuous Non-revisiting Genetic Algorithm with Random Search Space Re-partitioning and One-Gene-Flip Mutation* [#7322]. Chi Kin Chow and Shiu Yin Yuen

P307 *Constraint Handling Procedure for Multiobjective Particle Swarm Optimization* [#7295]. Gary Yen and Wen-Fung Leong

P308 *Capacitated Arc Routing Problem in Uncertain Environments* [#7564]. Yi Mei, Ke Tang and Xin Yao

P309 *Evolutionary Computation Based Nonlinear Transformations to Low Dimensional Spaces for Sensor Data Fusion and Visual Data Mining.* [#7357]. Julio J. Valdes

P310 *Classification of Hypoglycemic Episodes for Type 1 Diabetes Mellitus based on Neural Networks* [#7086]. Kit Yan Chan, Sing Ho Ling, Tharam Singh Dillon and Hung Nguyen

P311 *Time-Varying Constraints and Other Practical Problems in Real-World Scheduling Applications* [#8017]. Arvind Mohais, Maksud Ibrahimov, Sven Schellenberg, Neal Wagner, and Zbigniew Michalewicz

P312 *An Effective GSA Based Memetic Algorithm for Permutation Flow Shop Scheduling* [#7060]. Xiangtao Li, Jianan Wang, Junping Zhou and Minghao Yin

[CEC / IT-1] Invited Talk 1: Simon Lucas

“Playing Games with Computational Intelligence”

Monday, July 19, 3:30PM-4:30PM, Room: 117

Chair: Gary Fogel

[SA-2] Self-adaptation II

Monday, July 19, 4:50PM-6:30PM, Room: 118

Chair: Janez Brest

4:50PM *Gaussian Adaptation as a unifying framework for continuous black-box optimization and adaptive Monte Carlo sampling* [#7726]. Christian L. Mueller and Ivo F. Sbalzarini

5:10PM *Chaos Driven Differential Evolution in the Task of Chaos Control Optimization* [#7783]. Roman Senkerik, Donald Davendra, Ivan Zelinka and Zuzana Oplatkova

5:30PM *Self-Adapting Semantic Sensitivities for Semantic Similarity Based Crossover* [#7323]. Quang Uy Nguyen, Bob McKay, Michael O'Neill and Xuan Hoai Nguyen

5:50PM *The Utility of Scale Factor Adaptation in Differential Evolution* [#7721]. Grant Dick

6:10PM *A Genetic Algorithm for the Optimization of Admission Scheduling Strategy in Hospitals* [#7200]. Ni Chen, Zihui Zhan, Jun Zhang, Ou Liu and Hailin Liu

[DCO-1] Discrete and Combinatorial Optimization I

Monday, July 19, 4:50PM-6:30PM, Room: 119

Chair: Andreas Ernst

4:50PM *A Hybrid Lagrangian Particle Swarm Optimization Algorithm for the Degree-Constrained Minimum Spanning Tree Problem* [#7371]. Andreas Ernst

5:10PM *A Binary Particle Swarm Optimization Approach to Fault Diagnosis in Parallel and Distributed Systems* [#7520]. Rafael Falcon, Marcio Almeida and Amiya Nayak

5:30PM *Ant Colony Optimization for Automated Storage and Retrieval System* [#7121]. Bo Xing, Wen-Jing Gao, Fulufhelo V. Nelwamondo, Kimberly Battle and Tshilidzi Marwala

5:50PM *Discrete Particle Swarm Optimization for the Orienteering Problem* [#7745]. Zulal Sevkli and Erdogan Sevilgen

6:10PM *Particle Swarm Optimization with Spanning Tree Representation for Ising Spin Glasses* [#7914]. Andrei Bautu and Henri Luchian

[S013] Special Session: Niching Methods for Multimodal Optimization

Monday, July 19, 4:50PM-6:30PM, Room: 120

Chair: Xiaodong Li

4:50PM *Towards Scalability in Niching Methods* [#7409]. Marcel Kronfeld and Andreas Zell

5:10PM *Novel Multimodal Problems and Differential Evolution with Ensemble of Restricted Tournament Selection* [#7933]. Boyang Qu and Ponnuthurai N. Suganthan

5:30PM *Species-based Evolutionary Algorithms for Multimodal Functions: A brief review* [#7269]. Jian-Ping Li, Xiao-Dong Li and Alastair Wood

5:50PM *Comparing lbest PSO Niching algorithms Using Different Position Update Rules* [#7245]. Xiaodong Li and Kalyanmoy Deb

6:10PM *Automatic Identification of the Niche Radius using Spatially-Structured Clearing Methods* [#7863]. Grant Dick

[S071] Special Session: Evolutionary Multiobjective Optimization for Defense Applications

Monday, July 19, 4:50PM-6:30PM, Room: 121

Chair: Hussein Abbass, Axel Bender, Slawo Wesolkowski

4:50PM *Co-evolutionary Search Path Planning under Constrained Information-Sharing for a Cooperative Unmanned Aerial Vehicle Team* [#7065]. Jean Berger and Jens Happe

5:10PM *A Hybrid Genetic Algorithm for Rescue Path Planning in Uncertain Adversarial Environment* [#7243]. Jean Berger, Khaled Jabeur, Abdeslem Boukhtouta, Adel Guitouni and Ahmed Ghanmi

5:30PM *Multiobjective Evolutionary Algorithm with Risk Minimization Applied to a Fleet Mix Problem* [#7103]. Kyle Willick, Slawomir Wesolkowski and Michael Mazurek

5:50PM *Tactical Fleet Mix Computation Using Multiobjective Evolutionary Optimization* [#7998]. Leanne Stuiwe, Slawo Wesolkowski and Ahmed Ghanmi

6:10PM *An Adaptive Ensemble of Fuzzy ARTMAP Neural Networks for Video-Based Face Classification* [#7881]. Jean-Francois Connolly, Eric Granger and Robert Sabourin

[CDA-2] Classification, Clustering, Data Analysis, and Data Mining II

Monday, July 19, 4:50PM-6:30PM, Room: 122

Chair: Rajesh Dave

4:50PM *A Swarm Intelligence Based Clustering Approach for Outlier Detection* [#7449]. Shafiq Alam, Dobbie Gillian, Riddle Patricia and Naeem M. Asif

5:10PM *A Context-Sensitive Crossover Operator for Clustering Applications* [#7423]. Amit Banerjee and Rajesh Dave

5:30PM *Bottom-up Evolutionary Subspace Clustering* [#7523]. Ali Vahdat, Malcolm Heywood and Nur Zincir-Heywood

5:50PM *The Proposal of a Velocity Memoryless Clustering Swarm* [#7793]. Alexandre Szabo, Ana Karina Fontes Prior and Leandro Nunes de Castro

6:10PM *Unsupervised Evolutionary Clustering Algorithm for Mixed Type Data* [#7443]. Zhi Zheng, Maoguo Gong, Jingjing Ma, Licheng Jiao and Qiaodi Wu

Tuesday, July 20, 2010**[AIS] Artificial Immune Systems**

Tuesday, July 20, 8:00AM-10:00AM, Room: 118

Chair: Andy Tyrrell

8:00AM *The Diagnostic Dendritic Cell Algorithm for Robotic Systems* [#7621]. Ran Bi, Jon Timmis and Andy Tyrrell

8:20AM *Entropic Divergence for Population Based Optimization Algorithms* [#7324]. Vincenzo Cutello, Giuseppe Nicosia, Mario Pavone and Giovanni Stracquadanio

8:40AM *A Practical Study on Shape Space and Its Occupancy in Negative Selection* [#7105]. Wanli Ma, Dat Tran and Dharmendra Sharma

9:00AM *An immuno-inspired approach to find the steady state solution of Riccati equations not solvable by Schur method* [#7773]. Mateus Giesbrecht and Celso Bottura

9:20AM *A Concentration-based Artificial Immune Network for Continuous Optimization* [#7405]. Guilherme Coelho and Fernando Von Zuben

9:40AM *On the Diversity Mechanisms of opt-aiNet: a Comparative Study with Fitness Sharing* [#7350]. Fabricio de Franca, Guilherme Coelho and Fernando Von Zuben

[CS-1] Coevolutionary Systems I

Tuesday, July 20, 8:00AM-10:00AM, Room: 119

Chair: Eugene Eberbach

8:00AM *Comparison of cooperative and classical evolutionary algorithms for global supply chain optimisation* [#7830]. Maksud Ibrahimov, Neal Wagner, Arvind Mohais, Sven Schellenberg and Zbigniew Michalewicz

8:20AM *Coordinate System Archive for Coevolution* [#7818]. Wojciech Jaskowski and Krzysztof Krawiec

8:40AM *Tracking the Red Queen Effect by Estimating Features of Competitive Co-Evolutionary Fitness Landscapes* [#7469]. Yoshiaki Katada and Yuta Handa

9:00AM *Neuro-Evolution versus Particle Swarm Optimization for Competitive Co-evolution of Pursuit-Evasion Behaviors* [#7772]. Leo Langenhoven and Geoff Nitschke

9:20AM *A Cooperative Approach to The Artificial Bee Colony Algorithm* [#7346]. Mohammed El-Abd

9:40AM *Cooperative Co-evolutionary Algorithm in Satellite Imaging Scheduling of Cooperative Multiple Centers* [#7178]. Chong Wang, Ning Jing, Jun Li, Jun Wang and Hao Chen

[MEA-1] Multi-objective Evolutionary Algorithms I

Tuesday, July 20, 8:00AM-10:00AM, Room: 120

Chair: Lino Costa

8:00AM *Multi-Objective Mobile Agent-based Sensor Network Routing using MOEA/D* [#7618]. Andreas Konstantinidis, Christoforos Charalambous, Aimin Zhou and Qingfu Zhang

8:20AM *Using Multiobjective metaheuristics to solve VRP with uncertain demands* [#7743]. Dalia Sulieman, Laetitia Jourdan and El-Ghazali Talbi

8:40AM *Progressively Interactive Evolutionary Multi-Objective Optimization Method Using Generalized Polynomial Value Functions* [#7997]. Ankur Sinha, Kalyanmoy Deb, Pekka Korhonen and Jyrki Wallenius

9:00AM *Optimization of Turning Process Parameters using Multi-objective Evolutionary algorithm* [#8000]. Rituparna Datta and Anima Majumder

9:20AM *Many-Objective Distinct Candidates Optimization using Differential Evolution on Centrifugal Pump Design Problems* [#7328]. Peter Dueholm Justesen and Rasmus K. Ursem

9:40AM *MOEA/D with NBI-style Tchebycheff approach for Portfolio Management* [#7470]. Qingfu Zhang, Hui Li, Dietmar Maringer and Edward Tsang

[S007] Special Session: Evolutionary Computer Vision

Tuesday, July 20, 8:00AM-10:00AM, Room: 121

Chair: Mengjie Zhang

8:00AM *Study of GP Representations for Motion Detection with Unstable Background* [#7935]. Andy Song and Brian Pinto

8:20AM *Evolving Cascades of Voting Feature Detectors for Vehicle Detection in Satellite Imagery* [#7804]. Krzysztof Krawiec, Bartosz Kukawka and Tomasz Maciejewski

8:40AM *Automatic Construction of Image Transformation Algorithms Using Feature Based Genetic Image Network* [#7591]. Yuta Nakano, Shinichi Shirakawa, Noriko Yata and Tomoharu Nagao

9:00AM *A Fitness Function Model for Detecting Ellipses with Estimation of Distribution Algorithms* [#7969]. Alberto Ochoa, Manuel Tejera and Marta Soto

9:20AM *Robust Fitting of Ellipses with Heuristics* [#7237]. Luis Gerardo De la Fraga and Gustavo M. Lopez Dominguez

9:40AM *Multi-Objective Genetic Programming for Object Detection* [#7867]. Thomas Liddle, Mark Johnston and Mengjie Zhang

[BIO-1] Biometrics, Bioinformatics, and Biomedical Applications I

Tuesday, July 20, 8:00AM-10:00AM, Room: 122

Chair: Gerry Dozier

8:00AM *Metaheuristic Assemblers of DNA strands: Noiseless and Noisy Cases* [#7656]. Gabriela Minetti and Enrique Alba

8:20AM *An Evolutionary Approach for Performing Multiple Sequence Alignment* [#7761]. Fernando Silva, Juan Sanchez-Perez, Juan Gomez Pulido and Miguel Vega-Rodriguez

8:40AM *Generic Spaced DNA Motif Discovery Using Genetic Algorithm* [#7870]. Tak-Ming Chan, Kwong-Sak Leung, Kin-Hong Lee and Pietro Lio'

9:00AM *Computational Discovery of Regulatory DNA Motifs Using Evolutionary Computation* [#7062]. Xi Li and Dianhui Wang

9:20AM *Simultaneous Informative Gene Selection and Clustering through Multiobjective Optimization* [#7129]. Anirban Mukhopadhyay, Ujjwal Maulik and Sanghamitra Bandyopadhyay

Human vs Computer Go

Tuesday, July 20, 8:00AM-6:30PM, Room: M212

[TuMP] Poster Session: Poster Session III

Tuesday, July 20, 9:00AM-12:00PM, Room: Foyer 2

Chair: Senen Barro

P501 *Learning Synchronization in Networked Complex Systems Using Genetic Algorithms* [#7791].

Shane Boulden, Antony Iorio and Hussein Abbass

P502 *A Modified Genetic Algorithm for Matching Building Sets with the Histograms of Forces* [#7879].

Andrew Buck, James Keller and Marjorie Skubic

P503 *A Genetic Algorithm for Generating Multiple Paths on Mesh Maps* [#7042]. Jun Inagaki, Tomoaki

Shirakawa, Tetsuo Shimono and Miki Haseyama

P504 *Reduction of electromagnetic field pollution in 3D space using a genetic algorithm* [#7068].

Tomislav Rolich and Darko Grundler

P505 *Tweaking a Tower of Blocks Leads to a TMBL: Pursuing Long Term Fitness Growth in Program*

Evolution [#8011]. Tony Lewis and George Magoulas

P506 *Construction of Classifier with Feature Selection Based on Genetic Programming* [#7670].

Anuradha Purohit, Narendra Chaudhari and Aruna Tiwari

P507 *Fitness Landscape Analysis for Evolutionary Non-Photorealistic Rendering* [#7568]. Jeff Riley and

Vic Ciesielski

P508 *Automatic Generation and Exploitation of Related Problems in Genetic Programming* [#7853].

Krzysztof Krawiec and Bartosz Wieloch

P509 *Polynomial modeling for manufacturing processes using backward elimination based genetic*

programming [#7088]. Chan Kit Yan, Tharam Singh Dillon and Che Kit Kwong

P510 *Genetic Programming - To much P and not enough G?* [#7556]. Robin Harper

P511 *Effective Design of Semiconductor Devices using Evolutionary-Based Derivative Free Optimization*

[#7578]. Giovanni Stracquadano, Concetta Drago, Vittorio Romano and Giuseppe Nicosia

P512 *Ecological Application of Evolutionary Computation: Improving Water Quality Forecasts for the*

Nakdong River, Korea [#7912]. Dong-Kyun Kim, Bob McKay, Haisoo Shin, YunGeun Lee and Xuan Hoai Nguyen

P513 *Proposal of a Multi-core Processor from the Viewpoint of Evolutionary Computation* [#7279]. Sato

Mikiko, Sato Yuji and Namiki Mitaro

P514 *Building low CO2 solutions to the Vehicle Routing Problem with Time Windows using an*

Evolutionary Algorithm [#7419]. Neil Urquhart, Emma Hart and Cathy Scott**[S027] Special Session: Ant Colony Optimization**

Tuesday, July 20, 11:30AM-12:50PM, Room: 118

Chair: Christian Blum, Thomas Stützle

11:30AM *Pre-scheduled and adaptive parameter variation in MAX-MIN Ant System* [#8004]. Michael

Maur, Manuel Lopez-Ibanez and Thomas Stuetzle

11:50AM *The One-Commodity Traveling Salesman Problem with Selective Pickup and Delivery: an Ant Colony Approach* [#7563]. Rafael Falcon, Xu Li, Amiya Nayak and Ivan Stojmenovic

12:10PM *Generalized Pheromone Update for Ant Colony Learning in Continuous State Spaces* [#7226]. Jelmer van Ast, Robert Babuska and Bart De Schutter

12:30PM *Beam-ACO for the Longest Common Subsequence Problem* [#7397]. Christian Blum

[S001-1] Special Session: Large Scale Global Optimization I

Tuesday, July 20, 11:30AM-12:50PM, Room: 119

Chair: Ke Tang

11:30AM *Large Scale Global Optimization using Self-adaptive Differential Evolution Algorithm* [#7392]. Janez Brest, Ales Zamuda, Iztok Fister and Mirjam Sepesy Maucec

11:50AM *Cooperative Co-evolution with Delta Grouping for Large Scale Non-separable Function Optimization* [#7597]. Mohammad Nabi Omidvar, Xiaodong Li and Xin Yao

12:10PM *Dynamic Multi-Swarm Particle Swarm Optimizer with Sub-regional Harmony Search* [#7938]. Shizheng Zhao, Ponnuthurai N. Suganthan and Swagatam Das

12:30PM *MA-SW-Chains: Memetic Algorithm Based on Local Search Chains for Large Scale Continuous Global Optimization* [#7330]. Daniel Molina, Manuel Lozano and Francisco Herrera

[MEA-2] Multi-objective Evolutionary Algorithms II

Tuesday, July 20, 11:30AM-12:50PM, Room: 120

Chair: El-Ghazali Talbi

11:30AM *A New Transgenetic Approach for the Biobjective Spanning Tree Problem* [#7501]. Silvia Monteiro, Elizabeth Goldberg and Marco Goldberg

11:50AM *A Fast and Accurate Solution of Constrained Optimization Problems Using a Hybrid Bi-Objective and Penalty Function Approach* [#7679]. Kalyanmoy Deb and Rituparna Datta

12:10PM *A Bi-objective Hybrid Genetic Algorithm to Minimize Energy Consumption and Makespan for Precedence-constrained Applications Using Dynamic Voltage Scaling* [#7673]. Mohand Mezmoz, Young Choon Lee, Nouredine Melab, El-Ghazali Talbi and Albert Y. Zomaya

12:30PM *A Multi-Objective Approach for Community Detection in Complex Network* [#7581]. Chuan Shi, Cha Zhong, Zhenyu Yan, Yanan Cai and Bin Wu

[EHS] Evolvable Hardware and Software

Tuesday, July 20, 11:30AM-12:50PM, Room: 121

Chair: Bernabe Dorronsoro

11:30AM *Modular Design from Gene Regulation in a Cellular System* [#7427]. Song Zhan, Julian Miller and Andy Tyrrell

11:50AM *Trajectories and Attractors as Specification for the Evolution of Behaviour in Cellular Automata* [#7540]. Stefano Nichele and Gunnar Tufte

12:10PM *Evolutionary Design Optimisation of a 32-Step Traffic Lights Controller* [#7856]. Elhadj Benkhelifa, Ashutosh Tiwari and Pipe Anthony

12:30PM *New requirements for off-line parameter calibration algorithms* [#7845]. Elizabeth Montero, Maria-Cristina Riff and Bertrand Neveu

[BIO-2] Biometrics, Bioinformatics, and Biomedical Applications II

Tuesday, July 20, 11:30AM-12:50PM, Room: 122

Chair: Gary Fogel

11:30AM *Parametric Evolution of a Bacterial Signalling System Formalized by Membrane Computing* [#7577]. Vladimir Sarpe, Afshin Esmaeili, Thane Kubik, Iman Yazdanbod, Christian Jacob and Michael Richter

11:50AM *Grammar-Guided Evolutionary Automatic System for Autonomously Building Biological Oscillators* [#7288]. Jose Maria Font and Daniel Manrique

12:10PM *A Genetic Algorithm used to Fit Debye Functions to the Dielectric Properties of Tissues* [#7192]. Janet Clegg and Martin Robinson

12:30PM *Comparison of GA and PSO Performance in Parameter Estimation of Microbial Growth Models: A Case-Study Using Experimental Data* [#7703]. Dulce Calcada, Agostinho Rosa, Luis C. Duarte and Vitor V. Lopes

[NO-2] Numerical Optimization II

Tuesday, July 20, 2:30PM-3:30PM, Room: 118

Chair: Philip Hingston

2:30PM *Autonomous Bee Colony Optimization for Multi-objective Function* [#7315]. Fanchao Zeng, James Decraene, Malcolm Yoke Hean Low, Philip Hingston, Wentong Cai, Zhou Suiping and Mahinthan Chandramohan

2:50PM *Analysis of Dynamical Characteristic of Canonical Deterministic PSO* [#7644]. Kenya Jin'no and Takuya Shindo

3:10PM *A Particle Swarm Optimization Algorithm based on Orthogonal Design* [#7827]. Jie Yang, Abdesselam Bouzerdoum and Son Lam Phung

[S001-2] Special Session: Large Scale Global Optimization II

Tuesday, July 20, 2:30PM-3:30PM, Room: 119

Chair: Ke Tang

2:30PM *The Differential Ant-Stigmergy Algorithm for Large-Scale Global Optimization* [#7136]. Peter Korosec, Katerina Tashkova and Jurij Silc

2:50PM *Sequential DE Enhanced by Neighborhood Search for Large Scale Global Optimization* [#7273]. Hui Wang, Zhijian Wu, Shahryar Rahnamayan and Dazhi Jiang

3:10PM *Scaling eCGA Model Building via Data-Intensive Computing* [#7916]. Abhishek Verma, Xavier Llorca, Shivaram Venkataram, David Goldberg and Roy Campbell

[MO-2] Multiobjective Optimization II

Tuesday, July 20, 2:30PM-3:30PM, Room: 120

Chair: Gary Fogel

2:30PM *Multi-objective Robust Static Mapping of Independent Tasks on Grids* [#7699]. Bernabe Dorronsoro, Pascal Bouvry, J. Alberto Canero, Anthony A. Maciejewski and Howard Jay Siegel

2:50PM *Guided Pareto Local Search based Frameworks for Biobjective Optimization* [#7779]. Abdullah Alsheddy and Edward P.K. Tsang

3:10PM *Multi-Objective Optimisation by Reinforcement Learning* [#7606]. H.L. Liao and Q.H. Wu

[S077] Special Session: Hardware Aspects of Bio-Inspired Architectures and Systems

Tuesday, July 20, 2:30PM-3:30PM, Room: 121

Chair: Martin A. Trefzer, Andrew J. Greensted, Andy M. Tyrrell

2:30PM *Metamorphic Systems: A New Model for Adaptive System Design* [#7064]. Garrison Greenwood and Andy Tyrrell

2:50PM *Bio-Inspired Self-Testing and Self-Organizing Processing Arrays* [#7122]. Andre Stauffer and Joel Rossier

3:10PM *Principles of Protein Processing for a Self-Organising Associative Memory* [#29]. Omer Qadir, Jerry Liu, Jon Timmis, Gianluca Tempesti and Andy Tyrrell

[S038-1] Special Session: Evolutionary Algorithms with Statistical & Machine Learning Techniques I

Tuesday, July 20, 2:30PM-3:30PM, Room: 122

Chair: José Antonio Lozano, Aimin Zhou, Yew-Soon Ong, Qingfu Zhang

2:30PM *Classifier-assisted Constrained Evolutionary Optimization for Automated Geometry Selection of Orthodontic Retraction Spring* [#7301]. Dudy Lim, Yew Soon Ong, Rachman Setiawan and Muhammad Idris

2:50PM *Using a Markov network as a surrogate fitness function in a genetic algorithm* [#7686]. Alexander Brownlee, Olivier Regnier-Coudert, John McCall and Stewart Massie

3:10PM *Evolutionary design and statistical assessment of strategies in an adversarial domain* [#8006]. David Pelta and Pablo Villacorta

[TuAP] Poster Session: Poster Session IV

Tuesday, July 20, 3:00PM-6:00PM, Room: Foyer 2

Chair: Sylvie Gallichet

P701 *Hybrid Ant Colony Optimization, Genetic Algorithm, and Simulated Annealing for Image Contrast Enhancement* [#7677]. Pourya Hoseini and Mahrokh G. Shayesteh

P702 *Ant Colony Optimization Using Exploratory Ants for Constructing Partial Solutions* [#7892]. Akira Hara, Syuhei Matsushima, Takumi Ichimura and Tetsuyuki Takahama

P703 *New Pheromone Trail Updating Method of ACO for Satellite Control Resource Scheduling Problem* [#7609]. Na Zhang, Zu-ren Feng and Liang-jun Ke

P704 *Multi-ant Colony System for Evacuation Routing Problem with Mixed Traffic Flow* [#7080]. Xinlu Zong, Shengwu Xiong, Zhixiang Fang and Qiuping Li

P705 *A Hybrid Memory-based ACO algorithm for the QAP* [#7851]. Guillermo Leguizamon, Franco Arito and Carlos Coello Coello

P706 *Fighting Noise with Noise: DE with Individuals Shaking to Tackle Noisy Problems* [#7545]. Ali Esmailzadeh and Shahryar Rahnamayan

P707 *MODE-LD+SS: A Novel Differential Evolution Algorithm Incorporating Local Dominance and Scalar Selection Mechanisms for Multi-Objective Optimization* [#7445]. Alfredo Arias Montano, Carlos A. Coello Coello and Efren Mezura-Montes

P708 *Differential Evolution Algorithm on the GPU with C-CUDA* [#7128]. Lucas Veronese and Renato Krohling

P709 *Design of Digital FIR Filters Using Differential Evolution Algorithm Based on Reserved Genes* [#15]. Gang Liu, YuanXiang Li and GuoLiang He

P710 *Controlling bots in a First Person Shooter Game using Genetic Algorithms* [#7813]. Anna Isabel Esparcia-Alcazar, Ana Isabel Martinez-Garcia, Antonio Mora, Juan Julian Merelo and Pablo Garcia-Sanchez

P711 *An Evolutionary Algorithm Based Approach for Selection of Topologies in Hierarchical Fuzzy Systems* [#7444]. Juliusz Zajackowski and Brijesh Verma

P712 *A hierarchical segmentation for image processing* [#8019]. Daniel Gomez, Javier Montero, Javier Yanez and Edwing de Jesus Zarrazola

P713 *Hybrid Predictive Control Design with Mixed Inputs based on PSO and its Application for Control of a Batch Reactor* [#7255]. Diego Munoz-Carpintero, Doris Saez and Igor Skrjanc

P714 *An Emotional Harmony Generation System* [#7153]. Bin Xu, Shangfei Wang and Xian Li

P715 *Mobile Interface for Adaptive Image Refinement using Interactive Evolutionary computing* [#7610]. Tae-min Jung, Young-Seol Lee and Sung-Bae Cho

P716 *Artificial Immune System inspired Behavior Coordination for Autonomous Mobile Robot Trajectory Generation* [#7271]. Gerardo Acosta, Jose Fernandez Leon and Miguel Mayosky

[NO-3] Numerical Optimization III

Tuesday, July 20, 3:30PM-4:30PM, Room: 118

Chair: Shinichi Shirakawa

3:30PM *Cosine Function applied to the Inertia Control in the Particle Swarm Optimization* [#7476]. Tiago Silveira, Humberto Oliveira, Ricardo Salgado, Luiz da Silva and Geraldo Mateus

3:50PM *Adaptive Learning Particle Swarm Optimizer-II for Global Optimization* [#7123]. Changhe Li and Shengxiang Yang

4:10PM *Lattice Reconfiguration vs. Local Selection Criteria for Diversity Tuning in Cellular GAs* [#7161]. Alicia Morales-Reyes, Ahmet T. Erdogan and Tughrul Arslan

[RO-3] Representations and Operators III

Tuesday, July 20, 3:30PM-4:30PM, Room: 119

Chair: Sung-Bae Cho

3:30PM *Globally Multimodal Function Optimization by Real-coded Genetic Algorithms using Traps* [#8012]. Naoya Karatsu, Yuichi Nagata, Isao Ono and Shigenobu Kobayashi

3:50PM *Fitness Approximation for Genetic Algorithm using Combination of Approximation Model and Fuzzy Clustering Technique* [#7649]. Jong-Won Yoon and Sung-Bae Cho

4:10PM *Investigation of Simplification Threshold and Noise Level of Input Data in Numerical Simplification of Genetic Programs* [#7838]. David Kinzett, Mengjie Zhang and Mark Johnston

[MO-3] Multiobjective Optimization III

Tuesday, July 20, 3:30PM-4:30PM, Room: 120

Chair: Qingfu Zhang

3:30PM *Adaptive Weighted Aggregation: A Multiobjective Function Optimization Framework Taking Account of Spread and Evenness of Approximate Solutions* [#8010]. Naoki Hamada, Yuichi Nagata, Shigenobu Kobayashi and Isao Ono

3:50PM *Biplots in Offline Multiobjective Reduction* [#7522]. Lino Costa and Pedro Oliveira

4:10PM *Hyperheuristic Codification for the Multi-Objective 2D Guillotine Strip Packing Problem* [#7717]. Gara Miranda, Jessica de Armas, Carlos Segura and Coromoto Leon

[ER] Evolutionary Robotics

Tuesday, July 20, 3:30PM-4:30PM, Room: 121

Chair: Ed Keedwell

3:30PM *Evolution of Robotic Behaviours Using Gene Expression Programming* [#7811]. Jonathan Mwaura and Ed Keedwell

3:50PM *On-line evolution of robot controllers by an encapsulated evolution strategy* [#7400]. Evert Haasdijk, A.E. Eiben and Giorgos Karafotias

4:10PM *Evolution and Analysis of Self-Synthesized Minimalist Neural Controllers for Collective Robotics using Pareto Multi-objective Optimization* [#7671]. Kim On Chin and Jason Teo

[S038-2] Special Session: Evolutionary Algorithms with Statistical & Machine Learning Techniques II

Tuesday, July 20, 3:30PM-4:30PM, Room: 122

Chair: José Antonio Lozano, Aimin Zhou, Yew-Soon Ong, Qingfu Zhang

3:30PM *An Enhanced MOEA/D-DE and Its Application to Multiobjective Analog Cell Sizing* [#7352]. Bo Liu, Fernandez Francisco, Zhang Qingfu, Pak Murat, Sipahi Suha and Georges Gielen

3:50PM *Estimation of Bayesian networks algorithms in a class of complex networks* [#7757]. Carlos Echegoyen, Alexander Mendiburu, Roberto Santana and Jose Antonio Lozano

4:10PM *A Surrogate-Assisted Evolutionary Algorithm for Minimax Optimization* [#7496]. Aimin Zhou and Qingfu Zhang

[NO-4] Numerical Optimization IV

Tuesday, July 20, 4:50PM-6:30PM, Room: 118

Chair: Gusz Eiben

4:50PM *Beating the 'world champion' Evolutionary Algorithm via REVAC Tuning* [#7336]. S.K. Smit and A.E. Eiben

5:10PM *Optimising Multi-Modal Polynomial Mutation Operators for Multi-Objective Problem Classes* [#7414]. Kent McClymont and Ed Keedwell

5:30PM *Artificial Foraging Weeds for Global Numerical Optimization over Continuous Spaces* [#7869]. Gourab Ghosh Roy, Prithwish Chakroborty, Shizheng Zhao, Swagatam Das and Ponnuthurai N. Suganthan

5:50PM *Chemical Reaction Optimization for Population Transition in Peer-to-Peer Live Streaming* [#7386]. Albert Y.S. Lam, Jialing Xu and Victor O.K. Li

6:10PM *Parameter Control by the Entire Search History: Case Study of History-driven Evolutionary Algorithm* [#7365]. Shing Wa Leung, Shiu Yin Yuen and Chi Kin Chow

[SBO-1] Swarm-based Optimization I

Tuesday, July 20, 4:50PM-6:30PM, Room: 119

Chair: Christian Blum

4:50PM *A New Differential Evolution with Self-terminating Ability using Fuzzy Control and K-Nearest Neighbors* [#7519]. Johnny C. Lai, Frank H. Leung and Sai-Ho Ling

5:10PM *A Multiobjective Ant Colony-based Optimization Algorithm for the Bin Packing Problem with Load Balancing* [#7193]. Oscar Lara and Miguel Labrador

5:30PM *Differential Evolution Enhanced by Neighborhood Search* [#35]. Hui Wang, Zhijian Wu and Shahryar Rahnamayan

5:50PM *Finding a High Coverage Set of delta-Biclusters with Swarm Intelligence* [#7432]. Fabricio de Franca and Fernando Von Zuben

6:10PM *Application of Ant Colony Optimization based algorithm in MIMO Detection* [#7465]. Kiran Khurshid, Safwat Irteza and Adnan Khan

[S026-1] Special Session: Evolutionary Multiobjective Optimization I

Tuesday, July 20, 4:50PM-6:30PM, Room: 120

Chair: Carlos A. Coello Coello

4:50PM *Pareto Partial Dominance MOEA and Hybrid Archiving Strategy Included CDAS in Many-Objective Optimization* [#7965]. Hiroyuki Sato, Hernan Aguirre and Kiyoshi Tanaka

5:10PM *Two Novel Approaches for Many-Objective Optimization* [#7874]. Mario Garza-Fabre, Gregorio Toscano-Pulido and Carlos A. Coello Coello

5:30PM *An Study on the Effects of Rankings Sensitive to Density on Many-objective MNK Landscapes* [#7958]. Hernan Aguirre and Kiyoshi Tanaka

5:50PM *The Automotive Deployment Problem: A Practical Application for Constrained Multiobjective Evolutionary Optimisation* [#7575]. Irene Moser and Sanaz Mostaghim

6:10PM *Surrogate Assisted Simulated Annealing (SASA) for Constrained Multi-objective Optimization* [#7437]. Hemant Singh, Tapabrata Ray and Warren Smith

[S089] Special Session: Evolutionary Robotics

Tuesday, July 20, 4:50PM-6:30PM, Room: 121

Chair: Steffen Wischmann, Dario Floreano, Phil Husbands, Patricia A. Vargas

4:50PM *Exploring the Kuramoto Model of Coupled Oscillators in Minimally Cognitive Evolutionary Robotics Tasks* [#7723]. Renan Moioli, Patricia Vargas and Phil Husbands

5:10PM *A Hormone-Based Controller for Evolutionary Multi-Modular Robotics: From Single Modules to Gait Learning* [#7784]. Heiko Hamann, Juergen Stradner, Thomas Schmickl and Karl Crailsheim

5:30PM *Structuring Sensory-Motor Coordination for the Acquisition of Dynamic Identification using PSO* [#7769]. Stephen Paul McKibbin

5:50PM *Behavioral diversity measures for Evolutionary Robotics* [#7425]. Stephane Doncieux and Jean-Baptiste Mouret

6:10PM *A Neural Network-based Kinematic and Light-Perception Simulator for Simple Robotic Evolution* [#7354]. Christiaan Pretorius, Mathys du Plessis and Charmain Cilliers

[DTP] Real-world Applications - Design, Test, Planning and Scheduling

Tuesday, July 20, 4:50PM-6:30PM, Room: 122

Chair: Koji Shimoyama

4:50PM *AGE-P: Moving from Concept to Technical Realization* [#7435]. Stefan Goldmann and Ralf Salomon

5:10PM *Accelerated Optimisation of Chemotherapy Dose Schedules Using Fitness Inheritance* [#7498]. Robert Barbour, David Corne and John McCall

5:30PM *Improving Evolutionary Testing by Means of Efficiency Enhancement Techniques* [#7988]. Matteo Miraz, Pier Luca Lanzi and Luciano Baresi

5:50PM *Material Design Optimization for a Sport Shoe Sole by Evolutionary Computation and FEM Analysis* [#7960]. Koji Shimoyama, Kazuya Seo, Tsuyoshi Nishiwaki, Shinkyu Jeong and Shigeru Obayashi

6:10PM *Linear Antenna Array Synthesis using Fitness-Adaptive Differential Evolution Algorithm* [#7647]. Aritra Chowdhury, Ritwik Giri, Arnob Ghosh, Swagatam Das, Ajith Abraham and Vaclav Snasel

Wednesday, July 21, 2010**[EDA] Estimation of Distribution Algorithms**

Wednesday, July 21, 8:00AM-10:00AM, Room: 118

Chair: Ying-Ping Chen

8:00AM *Bivariate empirical and n-variate Archimedean copulas in Estimation of Distribution Algorithms* [#7693]. Alfredo Cuesta-Infante, Roberto Santana, J. Ignacio Hidalgo, Concha Bielza and Pedro Larranaga

8:20AM *An Adaptive Niching EDA Based on Clustering Analysis* [#7055]. Benhui Chen and Jinglu Hu

8:40AM *Genetic Network Programming with Estimation of Distribution Algorithms for Class Association rule Mining in Traffic Prediction* [#9]. Xianneng Li, Shingo Mabu, Huiyu Zhou, Kaoru Shimada and Kotaro Hirasawa

9:00AM *Enhancing the Efficiency of Genetic Algorithm by Identifying Linkage Groups Using DSM Clustering* [#7878]. Amin Nikanjam, Hadi Sharifi, B.Hoda Helmi and Adel Rahmani

9:20AM *Interaction-Detection Metric with Differential Mutual Complement for Dependency Structure Matrix Genetic Algorithm* [#7502]. Kai-Chun Fan, Jui-Ting Lee, Tian-Li Yu and Tsung-Yu Ho

9:40AM *A Bayesian Optimization Algorithm For De Novo Ligand Design Based Docking Running Over GPU* [#7666]. Mohamed Wahib, Asim Munawar, Masaharu Munetomo and Kiyoshi Akama

[OGP] Real-world Applications - Oil, Gas and Power Systems

Wednesday, July 21, 8:00AM-10:00AM, Room: 119

Chair: Elizabeth Goldberg

8:00AM *Delta-V Genetic Optimisation of a Trajectory from Earth to Saturn with Fly-by in Mars* [#7806]. Fernando Alonso Zotes and Matilde Santos Penas

8:20AM *Optimization of the Energy Extraction of a Shallow Geothermal System* [#7399]. Markus Beck, Jozsef Hecht-Mendez, Michael de Paly, Peter Bayer, Philipp Blum and Andreas Zell

8:40AM *Comparing PSO and NSGA II for the Biobjective Oil Derivatives Distribution Problem* [#7732]. Thatiana Souza, Elizabeth Goldberg and Marco Goldberg

9:00AM *The epsilon Constrained Differential Evolution Approach for Optimal Operational Planning of Energy Plants* [#7251]. Ryohei Suzuki, Fukiko Kawai, Shinji Kitagawa, Tetsuro Matsui and Kouji Matsumoto

9:20AM *Economic Load Dispatch using Differential Evolution with Double Wavelet Mutation Operations* [#7511]. Johnny C. Lai, Frank H. Leung and Sai-Ho Ling

9:40AM *Comparing an Evolved Finite State Controller for Hybrid System to a Lookahead Design* [#7617]. Jean-Francois Dupuis and Zhun Fan

[S026-2] Special Session: Evolutionary Multiobjective Optimization II

Wednesday, July 21, 8:00AM-10:00AM, Room: 120

Chair: Carlos A. Coello Coello

8:00AM *Benchmarking evolutionary multiobjective optimization algorithms* [#7182]. Olaf Mersmann, Heike Trautmann, Boris Naujoks and Claus Weihs

8:20AM *Multicast Flow Routing: Evaluation of Heuristics and Multiobjective Evolutionary Algorithms* [#7880]. Marcos Luiz de Paula Bueno and Gina Maira Barbosa de Oliveira

8:40AM *Progressive Diversity Management in Evolutionary Multiobjective Optimisation* [#7078]. Salem Adra and Peter Fleming

9:00AM *Phase retrieval based on an evolutionary multicriterion optimisation method* [#7382]. Shinya Watanabe, Hiroyuki Shioya and Kazutoshi Gohara

9:20AM *An Evolutionary Multi-objective Approach for Dynamic Mission Planning* [#7268]. Lam Thu Bui and Zbigniew Michalewicz

9:40AM *Multi-objective Quantum-inspired Evolutionary Algorithm-based Optimal Control of Two-link Inverted Pendulum* [#7320]. In-Won Park, Bum-Joo Lee, Ye-Hoon Kim, Ji-Hyeong Han and Jong-Hwan Kim

[S017-1] Special Session: Interactive Evolutionary Computation I

Wednesday, July 21, 8:00AM-10:00AM, Room: 121

Chair: Sung-Bae Cho, Hideyuki Takagi

8:00AM *Interactive Interpolating Crossover in Grammatical Evolution* [#7383]. James McDermott, Michael O'Neill and Anthony Brabazon

8:20AM *Implementing an Intuitive Mutation Operator for Interactive Evolutionary 3D Design* [#7722]. Jonathan Byrne, James McDermott, Edgar Galvan and Michael O'Neill

8:40AM *Automatic Generation Method to derive for the design variable spaces for interactive Genetic Algorithms* [#7975]. Misato Tanaka, Tomoyuki Hiroyasu, Mitsunori Miki, Yasunari Sasaki, Masato Yoshimi and Hisatake Yokouchi

9:00AM *Evolutionary Process Indicators for Active IGAs Applied to Weight Tuning in Unit Selection TTS Synthesis* [#7807]. Lluís Formiga, Francesc Alias and Xavier Llorca

9:20AM *SBArt4 - Breeding Abstract Animations in Realtime* [#7227]. Tatsuo Unemi

9:40AM *Musical Perceptual Similarity Estimation using Interactive Genetic Algorithm* [#7659]. Shangfei Wang and Hua Zhu

[DM] Data Mining

Wednesday, July 21, 8:00AM-10:00AM, Room: 122

Chair: Yusuke Nojima

8:00AM *Distributed Genetic Process Mining* [#7188]. Carmen Bratosin, Natalia Sidorova and van der Aalst Wil

8:20AM *A Graph-Based Friend Recommendation System Using Genetic Algorithm* [#7847]. Nitai B. Silva, Ing Ren Tsang, George D. C. Cavalcanti and Ing Jyh Tsang

8:40AM *G3PARM: A Grammar Guided Genetic Programming Algorithm for Mining Association Rules* [#7627]. Jose Maria Luna, Jose Raul Romero and Sebastian Ventura

9:00AM *Using Semantic Similarity Matrix for Defining Operations involved in NTSO for Clustering 20NewsGroups* [#7258]. Taeho Jo

9:20AM *Identifying Abnormal Nodes in Complex Networks by Using Random Walk Measure* [#7341]. Lilian Berton, Jean Huertas, Bilza Araujo and Liang Zhao

9:40AM *Scalable Evolutionary Clustering Algorithm with Self Adaptive Genetic Operators* [#7917]. Elizabeth Leon, Olfa Nasraoui and Jonatan Gomez

[WMP] Poster Session: Poster Session V

Wednesday, July 21, 9:00AM-12:00PM, Room: Foyer 2

Chair: Masaharu Mizumoto

P901 *Incorporation of Imprecise Goal Vectors into Evolutionary Multi-Objective Optimization* [#7038]. Lily Rachmawati and Dipti Srinivasan

P902 *A Differential Evolution with Pareto Tournaments for solving the Routing and Wavelength Assignment Problem in WDM Networks* [#7100]. Alvaro Rubio-Largo, Miguel Angel Vega-Rodriguez, Juan Antonio Gomez-Pulido and Juan Manuel Sanchez-Perez

P903 *A Transgenetic Algorithm for the Bi-objective Traveling Purchaser Problem* [#7775]. Carolina Almeida, Richard Goncalves, Myriam Delgado, Elizabeth Goldberg and Marco Goldberg

P904 *Heuristics and a hybrid meta-heuristic for a generalized job-shop scheduling problem* [#7889]. Fatima Ghedjati

P905 *Alternative Hyper-heuristic Strategies for Multi-method Global Optimization* [#7598]. Jacomine Grobler, Andries P. Engelbrecht, Graham Kendall and V.S.S. Yadavalli

P906 *A Hybrid Scatter Search Algorithm to assign terminals to concentrators* [#7488]. Eugenia Moreira Bernardino, Anabela Moreira Bernardino, Juan Manuel Sanchez-Perez, Juan Antonio Gomez-Pulido and Miguel Angel Vega-Rodriguez

P907 *A Modified Invasive Weed Optimization Algorithm for Time-Modulated Linear Antenna Array Synthesis* [#7957]. Aniruddha Basak, Siddharth Pal, Swagatam Das, Ajith Abraham and Vaclav Snasel

P908 *A Parallel Framework for Multi-objective Evolutionary Optimization* [#7808]. Dipankar Dasgupta, David Becerra, Alex Banceanu, Fernando Nino and James Simien

P909 *Maintaining Genetic Diversity in Fine-grained Parallel Genetic Algorithms by Combining Cellular Automata, Cambrian Explosions and Massive Extinctions* [#7441]. Giovanni Cantor and Jonatan Gomez

P910 *Multiobjective optimization algorithm for solving constrained single objective problems* [#7768]. Gilberto Reynoso-Meza, Xavier Blasco, Javier Sanchis and Miguel Martinez

P911 *Hybrid Gradient Projection based Genetic Algorithms for Constrained Optimization* [#8001]. Amit Saha, Rituparna Datta and Kalyanmoy Deb

P912 *Elitist Artificial Bee Colony for Constrained Real-Parameter Optimization* [#7956]. Efren Mezura-Montes and Ramiro Ernesto Velez-Koeppel

P913 *Differential Evolution with Dynamic Constraint-Handling Mechanism* [#7672]. Zhihui Li, J. J. Liang, Xi He and Zhigang Shang

P914 *Quantum-Inspired Immune Clonal Clustering Algorithm Based on Watershed* [#7067]. Yangyang Li, Nana Wu, Jingjing Ma and Licheng Jiao

P915 *A Comparative Analysis of Genetic Algorithm and Ant Colony Optimization to Select Attributes for an Heterogeneous Ensemble of Classifiers* [#7416]. Laura E A Santana, Ligia Silva, Anne M P Canuto, Fernando Pinto and Karliane Vale

P916 *Population-Based Guided Local Search: Some Preliminary Experimental Results* [#7518]. Nasser Tairan and Qingfu Zhang

[PL-3] Plenary Talk 3: Pedro Larrañaga**“Probabilistic Graphical Models and Evolutionary Computation”**

Wednesday, July 21, 10:30AM-11:30PM, Room: 117

Chair: Francisco Herrera

[S023] Special Session: Theoretical Foundations of Evolutionary Computation

Wednesday, July 21, 11:30AM-12:50PM, Room: 118

Chair: Mark Burgin, Eugene Eberbach

11:30AM *A Note on the First Hitting Time of $(1+\lambda)$ Evolutionary Algorithms for Linear Functions with Boolean Inputs* [#7527]. Jun He

11:50AM *Local Optima Networks of the Quadratic Assignment Problem* [#7712]. Fabio Daolio, Sebastien Verel, Gabriela Ochoa and Marco Tomassini

12:10PM *Bounded and Periodic Evolutionary Machines* [#7212]. Mark Burgin and Eugene Eberbach

12:30PM *On Convergence and Optimality of Genetic Algorithms* [#7825]. Witold Kosinski, Stefan Kotowski and Zbyszek Michalewicz

[RO-4] Representations and Operators IV

Wednesday, July 21, 11:30AM-12:50PM, Room: 119

Chair: Mengjie Zhang

11:30AM *Fault Tolerance through Automatic Cell Isolation Using Three-Dimensional Cellular Genetic Algorithms* [#7148]. Asmaa Al-Naqi, Ahmet Erdogan and Tughrul Arslan

11:50AM *Adapting Particle Swarm Optimization in Dynamic and Noisy Environments* [#7835]. Jose Luis Fernandez-Marquez and Josep Lluís Arcos

12:10PM *Contribution Based Bloat Control in Genetic Programming* [#7282]. Andy Song, Dunhai Chen and Mengjie Zhang

12:30PM *ME-CGP: Multi Expression Cartesian Genetic Programming* [#7714]. Phil Cattani and Colin Johnson

[HMH-1] Heuristics, Metaheuristics, and Hyper-heuristics I

Wednesday, July 21, 11:30AM-12:50PM, Room: 120

Chair: Ender Ozcan

11:30AM *Mapping the Performance of Heuristics for Constraint Satisfaction* [#7770]. Jose Carlos Ortiz-Bayliss, Ender Ozcan, Andrew J. Parkes and Hugo Terashima-Marin

11:50AM *A Mean-Variance Optimization Algorithm* [#7899]. Istvan Erlich, Ganesh Kumar Venayagamorthy and Nakawiro Worawat

12:10PM *An Adaptation of the Parliamentary Metaheuristic for Permutation Constraint Satisfaction* [#7407]. Luis de-Marcos, Antonio Garcia, Eva Garcia, Jose-Javier Martinez, Jose-Antonio Guierrez, Roberto Barchino, Jose M. Gutierrez, Jose R. Hilera and Salvador Oton

12:30PM *Simplifying the Bacteria Foraging Optimization Algorithm* [#7565]. Mario A. Munoz, Saman K. Halgamuge, Wilfredo Alfonso and Eduardo F. Caicedo

[ENN-1] Evolved Neural Networks I

Wednesday, July 21, 11:30AM-12:50PM, Room: 121

Chair: Alice Smith

11:30AM *Multi-Objective Memetic Evolution of ART-based Classifiers* [#7922]. Rong Li, Timothy Mersch, Oriana Wen, Assem Kaylani and Georgios Anagnostopoulos

11:50AM *Adaptive Elevator Dispatching with Co-Neuroevolution* [#7174]. Takahiro Takahashi and Satoshi Matsuda

12:10PM *Evolving ARTMAP Neural Networks Using Multi-Objective Particle Swarm Optimization* [#7886]. Eric Granger, Donovan Prieur and Jean-Francois Connolly

12:30PM *Comprehensive Evolutionary Approach for Neural Network Ensemble Automatic Design* [#7646]. Vladimir Bukhtoyarov and Olga Semenkina

[CDA-3] Classification, Clustering, Data Analysis, and Data Mining III

Wednesday, July 21, 11:30AM-12:50PM, Room: 122

Chair: Kiyoshi Tanaka

11:30AM *Evolving Spatial and Frequency Selection Filters for Brain-Computer Interfaces* [#7289]. Ricardo Aler, Ines M. Galvan and Jose M. Valls

11:50AM *Evolutionary Principal Direction Divisive Partitioning* [#7704]. Sotiris Tasoulis, Dimitris Tasoulis and Vassilis Plagianakos

12:10PM *Evolutionary Automated Recognition and Characterization of an Individual's Artistic Style* [#7601]. Taras Kowaliw, Jon McCormack and Alan Dorin

12:30PM *Optimal nu-SVM Parameter Estimation using Multi Objective Evolutionary Algorithms* [#7900]. James Ethridge, Gregory Ditzler and Robi Polikar

[CEC / IT-2] Invited Talk 2: Dipti Srinivasan**"Modeling and Optimization for Large Engineering Systems: Hybrid Computational Intelligence and Multi-agent System Approach"**

Wednesday, July 21, 2:30PM-3:30PM, Room:117

Chair: Hisao Ishibuchi

[WAP] Poster Session: Poster Session VI

Wednesday, July 21, 3:00PM-6:00PM, Room: Foyer 2

Chair: Vilem Nowak

P1101 *Scheduling Parallel Jobs For Multiphysics Simulators* [#7841]. Renata Carvalho, Ricardo Lima, Adriano Oliveira and Felix Santos

P1102 *An Evolutionary Algorithm to the Density Control, Coverage and Routing Multi-Period Problem* [#7875]. Iuri Andrade, Tiago Januario, Gisele Pappa and Geraldo Mateus

P1103 *Adversarial Evolution: Phase Transition in Non-uniform Hard Satisfiability Problems* [#7635]. Md. Murad Hossain, Hussein A. Abbass, Chris Lokan and Sameer Alam

P1104 *Memetic Algorithm with Heuristic Candidate List Strategy for Capacitated Arc Routing Problem* [#7562]. Haobo Fu, Yi Mei, Ke Tang and Yanbo Zhu

P1105 *Imitation vs Evolution: Analysing the Effects of Strategy Update Mechanisms in N-player Social Dilemmas* [#7253]. Raymond Chiong and Michael Kirley

P1106 *Objective Function Design in a Grammatical Evolutionary Trading System* [#7895]. Robert Bradley, Anthony Brabazon and Michael O'Neill

P1107 *Evolutionary Dynamics of Business Networks* [#7692]. Terry Bossomaier, Mike Harre and Denise Jarratt

P1108 *Integer Programming Approach to PCB Assembly Optimization of Modular Mounters* [#7331]. Tae-Hyoung Park and Kyung-Min Kim

P1109 *On a Measure of Collective Dynamics in Particle Swarm Optimization* [#7225]. Jiann-Horng Lin and Jenn-Long Liu

P1110 *Comparison between NARX Parameter Estimation Methods with Binary Particle Swarm Optimization-based Structure Selection* [#7311]. Ihsan Yassin, Mohd Taib, Azlee Zabidi, Hasliza Abu Hassan and Husna Zainol Abidin

P1111 *Bidirectional Matrix-based Algorithm for 4-qubit Reversible Logic Circuits Synthesis* [#7037]. Dong Wang, Hanwu Chen and Zhu Wanning

P1112 *Quantum-Inspired Evolutionary Algorithms Applied to Numerical Optimization Problems* [#7836]. Andre Abs da Cruz, Marley Vellasco and Marco Aurelio Pacheco

P1113 *Fuzzy Quantum Circuits to Model Emotional Behaviors of Humanoid Robots* [#7902]. Arushi Raghuvanshi and Marek Perkowski

[S008] Special Session: Parameter Setting in Evolutionary Algorithms

Wednesday, July 21, 3:30PM-4:30PM, Room: 118

Chair: Evert Haasdijk

3:30PM *Tuning Genetic Programming Parameters with Factorial Designs* [#7864]. Elisa Lima, Gisele Pappa, Jussara Almeida, Marcos Goncalves and Wagner Meira Jr

3:50PM *Parameter Tuning in an Evolutionary Algorithm for Commodity Transportation Optimization* [#7919]. Erik Dovgan, Tea Tusar and Bogdan Filipic

4:10PM *Statistical Analysis of the Parameters of the Simulated Annealing Algorithm* [#7456]. Maribel G. Arenas, Pedro A. Castillo, Antonio M. Mora, Juan J. Merelo, Juan L.J. Laredo, Pablo G. Sanchez and Alberto Prieto

[S000-1] Constrained Real-Parameter Optimization I (Competition Special Session)

Wednesday, July 21, 3:30PM-4:30PM, Room: 119

Chair: P. N. Suganthan

3:30PM *Constrained Optimization by the Epsilon Constrained Differential Evolution with an Archive and Gradient-Based Mutation* [#7705]. Tetsuyuki Takahama and Setsuko Sakai

3:50PM *Multiple Trajectory Search for Single Objective Constrained Real-Parameter Optimization Problems* [#7286]. Lin-Yu Tseng and Chun Chen

4:10PM *Differential Evolution with Ensemble of Constraint Handling Techniques for Solving CEC 2010 Benchmark Problems* [#7936]. Rammohan Mallipeddi and Ponnuthurai N. Suganthan

[S015-1] Special Session: From Hybrid Evolutionary Computation and Hyper-Heuristics to Memetic Computation I

Wednesday, July 21, 3:30PM-4:30PM, Room: 120

Chair: Gabriela Ochoa, Shaheen Fatima, Yew-Soon Ong, Ferrante Neri

3:30PM *Providing a Memory Mechanism to Enhance the Evolutionary Design of Heuristics* [#7294]. Edmund Burke, Matthew Hyde and Graham Kendall

3:50PM *Towards Probabilistic Memetic Algorithm: An Initial Study on Capacitated Arc Routing Problem* [#7574]. Liang Feng, Yew-Soon Ong, Quang Huy Nguyen and Ah-Hwee Tan

4:10PM *Affinity Propagation Based Memetic Band Selection on Hyperspectral Imagery Datasets* [#7667]. Zexuan Zhu, Sen Jia and Zhen Ji

[LT] Real-world Applications - LT Code and FPGA

Wednesday, July 21, 3:30PM-4:30PM, Room: 121

Chair: Pier Luca Lanzi

3:30PM *On the Optimization of Degree Distributions in LT Codes with Covariance Matrix Adaptation Evolution Strategy* [#7140]. Chih-Ming Chen, Ying-ping Chen, Tzu-Ching Shen and John Zao

3:50PM *Optimizing Degree Distributions in LT Codes by Using The Multiobjective Evolutionary Algorithm Based on Decomposition* [#7264]. Chih-Ming Chen, Ying-ping Chen, Tzu-Ching Shen and John Zao

4:10PM *A Multi-Objective Genetic Algorithm Framework for Design Space Exploration of Reliable FPGA-based Systems* [#7284]. Cristiana Bolchini, Pier Luca Lanzi and Antonio Miele

[BIO-3] Biometrics, Bioinformatics and Biomedical Applications III

Wednesday, July 21, 3:30PM-4:30PM, Room: 122

Chair: Gerry Dozier

3:30PM *Automatic Landmark Detection for 3D Face Image Processing* [#7752]. Shervin Mehryar, Karl Martin, Konstantinos N. Plataniotis and Stergios Stergiopoulos

3:50PM *Genetic and Evolutionary Type II Feature Extraction for Periocular-Based Biometric Recognition* [#7883]. Lamar Simpson, Gerry Dozier, Joshua Adams, Damon Woodward, Philip Miller, Kelvin Bryant and George Glenn

4:10PM *Multi-Objective Evolutionary Methods for Channel Selection in Brain-Computer Interfaces: Some Preliminary Experimental Results* [#7611]. Bashar Awwad Sheikh Hasan, John Q. Gan and Qingfu Zhang

[S151] Special Session: Evolutionary Computation for Learning Morphology and Control

Wednesday, July 21, 4:50PM-6:30PM, Room: 118

Chair: Gary Parker, Naoyuki Kubota

4:50PM *Concurrently Evolving Sensor Morphology and Control for a Hexapod Robot* [#7971]. Gary Parker and Pramod Nathan

5:10PM *Dimension Reduction by Manifold Learning for Evolutionary Learning with Redundant Sensory Inputs* [#7972]. Hisashi Handa and Hiroshi Kawakami

5:30PM *Coordinating the Adaptive Behavior for Swarm Robotic Systems by using Topology and Weight Evolving Artificial Neural Networks* [#7690]. Kazuhiro Ohkura, Toshiyuki Yasuda and Yoshiyuki Matsumura

5:50PM *Gesture Recognition Using Combination of Acceleration Sensor and Images for Casual Communication between Robots and Humans* [#7206]. Yoichi Yamazaki, An Hai Vu, Quang Phuc Le, Zhentao Liu, Chastine Fatichah, Mian Dai, Hitoho Oikawa, Daisuke Masano, Oohan Thet, Yongkang Tang, Nobuaki Nagashima, Martin Leonard Tangel, Fang yan Dong and Kaoru Hirota

6:10PM *Robot Design Support System based on Interactive Evolutionary Computation using Boltzmann Selection* [#7982]. Naoyuki Kubota and Wataru Sato

[S000-2] Constrained Real-Parameter Optimization II (Competition Special Session)

Wednesday, July 21, 4:50PM-6:30PM, Room: 119

Chair: P. N. Suganthan

4:50PM *Performance of Infeasibility Empowered Memetic Algorithm for CEC 2010 Constrained Optimization Problems* [#7367]. Hemant Singh, Tapabrata Ray and Warren Smith

5:10PM *An Improved Self-adaptive Differential Evolution Algorithm in Single Objective Constrained Real-Parameter Optimization* [#7391]. Janez Brest, Borko Boskovic and Viljem Zumer

5:30PM *Competitive Differential Evolution for Constrained Problems* [#7231]. Josef Tvrdik and Radka Polakova

5:50PM *An Ensemble of Differential Evolution Algorithms for Constrained Function Optimization* [#7920]. M Fatih Tasgetiren, P. N Suganthan, Quan-ke Pan, Rammohan Mallipeddi and Sedat Sarman

6:10PM *Coevolutionary Comprehensive Learning Particle Swarm Optimizer* [#7603]. J. J. Liang, Zhigang Shang and Zhihui Li

[S015-2] Special Session: From Hybrid Evolutionary Computation and Hyper-Heuristics to Memetic Computation II

Wednesday, July 21, 4:50PM-6:30PM, Room: 120

Chair: Gabriela Ochoa, Shaheen Fatima, Yew-Soon Ong, Ferrante Neri

4:50PM *Evolutionary Scheduling with Rescheduling Option for Sudden Machine Breakdowns* [#7066]. Kamrul Hasan, Ruhul Sarker and Daryl Essam

5:10PM *Iterated Local Search vs. Hyper-heuristics: Towards General-Purpose Search Algorithms* [#7316]. Edmund Burke, Tim Curtois, Mathew Hyde, Graham Kendall, Gabriela Ochoa, Sanja Petrovic, Jose A. Vazquez-Rodriguez and Michel Gendreau

5:30PM *A Painless Gradient-Assisted Multi-Objective Memetic Mechanism for Solving Continuous Bi-objective Optimization Problems* [#7434]. Adriana Lara Lopez, Carlos A. Coello Coello and Oliver Schuetze

5:50PM *Co-evolutionary Hyper-Heuristic Method for Auction Based Scheduling* [#7940]. Shaheen Fatima and Mohamed Bader-El-Den

6:10PM *Evolutionary Intelligent System for Input Parameter Optimisation in Environmental Modelling: A Case Study in Forest Fire Forecasting* [#7240]. Kerstin Wendt, Ana Cortes and Tomas Margalef

[S017-2] Special Session: Interactive Evolutionary Computation II

Wednesday, July 21, 4:50PM-6:30PM, Room: 121

Chair: Sung-Bae Cho, Hideyuki Takagi

4:50PM *Fusion of Interactive and Non-Interactive Evolutionary Computation for Two-Dimensional Barcode Decoration* [#7948]. Satoshi Ono and Shigeru Nakayama

5:10PM *User's Favorite Scent Design Using Paired Comparison-based Interactive Differential Evolution* [#7613]. Makoto Fukumoto, Makoto Inoue and Jun-ichi Imai

5:30PM *Terrain Generation Using an Interactive Genetic Algorithm* [#7410]. Paul Walsh and Prasad Gade

5:50PM *A Hybrid Multiobjective Immune Algorithm with Region Preference for Decision Makers* [#7074]. Licheng Jiao, Wei Zhang, Ruochen Liu and Fang Liu

6:10PM *Color Recommendation System Combining Design Concepts with Interactive Customers Preference Modeling from Context Changes* [#7347]. Ladys Rodriguez, Luis Diago and Ichiro Hagiwara

[BIO-4] Biometrics, Bioinformatics and Biomedical Applications IV

Wednesday, July 21, 4:50PM-6:30PM, Room: 122

Chair: Byoung-Tak Zhang

4:50PM *Evolutionary Layered Hypernetworks for Identifying microRNA-mRNA Regulatory Modules* [#7720]. Soo-Jin Kim, Jung-Woo Ha, Bado Lee and Byoung-Tak Zhang

5:10PM *Full-Atom Ab Initio Protein Structure Prediction with a Genetic Algorithm using a Similarity-based Surrogate Model* [#7353]. Fabio Custodio, Helio Barbosa and Laurent Dardenne

5:30PM *Protein Structure Selection Based on Consensus* [#7364]. Qingguo Wang, Yi Shang and Dong Xu

5:50PM *Estimation of 3D Protein Structure by Means of Parallel Particle Swarm Optimization* [#7688]. Luis German Perez Hernandez, Katya Rodriguez Vazquez and Ramon Garduno Juarez

6:10PM *Emerging Traits in the Application of a Rank Genetic Algorithm to a Scalable Bioinformatics Problem* [#7521]. Jorge Cervantes, Maximo Sanchez and Pedro Pablo Gonzalez

Thursday, July 22, 2010

[S057] Special Session: Evolutionary Computation in Dynamic and Uncertain Environments (ECiDUE)

Thursday, July 22, 8:00AM-10:00AM, Room: 118

Chair: Shengxiang Yang, Yaochu Jin, David Pelta

8:00AM *On the Role of Modularity in Evolutionary Dynamic Optimisation* [#7691]. Philipp Rohlfshagen and Xin Yao

8:20AM *Robust Optimization over Time - A New Perspective on Dynamic Optimization Problems* [#7566]. Xin Yu, Yaochu Jin, Ke Tang and Xin Yao

8:40AM *Using Heuristic Rules to Enhance a Multiswarm PSO for Dynamic Environments* [#7524]. Ignacio G. del Amo, David A. Pelta and Juan R. Gonzalez

9:00AM *ABC, a New Performance Tool for Algorithms Solving Dynamic Optimization Problems* [#7615]. Enrique Alba and Briseida Sarasola

9:20AM *Cooperation Rules in a Trajectory-Based Centralised Cooperative Strategy for Dynamic Optimisation Problems* [#7528]. Juan R. Gonzalez, Antonio D. Masegosa, Ignacio G. del Amo and David A. Pelta

[PDA] Parallel and Distributed Algorithms

Thursday, July 22, 8:00AM-10:00AM, Room: 119

Chair: Tomoyuki Hiroyasu

8:00AM *An Analysis of Massively Distributed Evolutionary Algorithms* [#7866]. Travis Desell, David Anderson, Malik Magdon-Ismael, Heidi Newberg, Boleslaw Szymanski and Carlos A. Varela

8:20AM *Population-based quasi-Bayesian algorithm for high-dimensional sequential problems and hierarchization of it for distributed computing environments* [#7744]. Shinya Nakano

8:40AM *Probability Collectives: A Distributed Optimization Approach for Constrained Problems* [#7363]. Anand Kulkarni and Kang Tai

9:00AM *Interval-based Initialization Method for Permutation-based Problems* [#7750]. Malika Mehdi, Nouredine Melab, El-Ghazali Talbi and Pascal Bouvry

9:20AM *EASEA Parallelization of Tree-Based Genetic Programming* [#7962]. Maitre Ogier, Query Stephane, Lachiche Nicolas and Collet Pierre

9:40AM *Fluid Evolutionary Algorithms* [#7715]. Juan-Julian Merelo

[MEA-3] Multi-objective Evolutionary Algorithms III

Thursday, July 22, 8:00AM-10:00AM, Room: 120

Chair: Andreas Zell

8:00AM *Determining Crop-Production Functions using Multi-Objective Evolutionary Algorithms* [#7546]. Michael de Paly, Niels Schuetze and Andreas Zell

8:20AM *A Hybrid Multi-objective Extremal Optimisation Approach for Multi-objective Combinatorial Optimisation Problems* [#7475]. Pedro Gomez-Meneses, Marcus Randall and Andrew Lewis

8:40AM *Estimating Nadir Point in Multi-objective Optimization using Mobile Reference Points* [#7145]. Slim Bechikh, Lamjed Ben Said and Khaled Ghedira

9:00AM *Evolutionary Multi-objective Optimization Algorithms with Probabilistic Representation Based on Pheromone Trails* [#7570]. Hui Li, Dario Landa-silva and Xavier Gandibleux

9:20AM *A Fast Many-objective Hypervolume Algorithm using Iterated Incremental Calculations* [#7072]. Lucas Bradstreet, Lyndon While and Luigi Barone

9:40AM *Solving the Motif Discovery Problem by Using Differential Evolution with Pareto Tournaments* [#7411]. David L. Gonzalez-Alvarez, Miguel A. Vega-Rodriguez, Juan A. Gomez-Pulido and Juan M. Sanchez-Perez

[S035-1] Special Session: Evolutionary Computation in Aerospace Sciences I

Thursday, July 22, 8:00AM-10:00AM, Room: 121

Chair: Pini Gurfil, Oliver Schuetze, Domenico Quagliarella, Euan McGookin, Massimiliano Vasile

8:00AM *Constrained Global Optimization of Low-Thrust Interplanetary Trajectories* [#7790]. Chit Hong Yam, David di Lorenzo and Dario Izzo

8:20AM *An Ant System Algorithm for Automated Trajectory Planning* [#7987]. Matteo Ceriotti and Massimiliano Vasile

8:40AM *Computing Approximate Solutions of Scalar Optimization Problems and Applications in Space Mission Design* [#7995]. Oliver Schuetze, Adriana Lara, Carlos A. Coello Coello and Massimiliano Vasile

9:00AM *A Hybrid Multiobjective Optimization Algorithm Applied to Space Trajectory Optimization* [#7970]. Massimiliano Vasile and Federico Zuiani

9:20AM *Optimization of the Earth-Moon Low Energy Transfer with Differential Evolution Based on Uniform Design* [#7291]. Lei Peng, Yuanzhen Wang, Guangming Dai, Yamin Chang and Fangjie Chen

[S150] Special Session: Computational Intelligence in Games

Thursday, July 22, 8:00AM-10:00AM, Room: 122

Chair: Pippa Avery, Sung-Bae Cho, Jacek Mandziuk

8:00AM *The 2009 Mario AI Competition* [#7850]. Julian Togelius, Sergey Karakovskiy and Robin Baumgarten

8:20AM *Learning to Overtake in TORCS Using Simple Reinforcement Learning* [#7799]. Daniele Loiacono, Alessandro Prete, Pier Luca Lanzi and Luigi Cardamone

8:40AM *Global Search for Occlusion Minimization in Virtual Camera Control* [#7760]. Paolo Burelli and Georgios Yannakakis

9:00AM *RedTNet: A Network Model for Strategy Games* [#7634]. Philip Hingston, Mike Preuss and Daniel Spierling

9:20AM *Coevolutionary Temporal Difference Learning for Small-Board Go* [#7817]. Krzysztof Krawiec and Marcin Szubert

9:40AM *Evolution for Automatic Assessment of the Difficulty of Sokoban Boards* [#7183]. Daniel Ashlock and Justin Schonfeld

[ThMP] Poster Session: Poster Session VII

Thursday, July 22, 9:00AM-12:00PM, Room: Foyer 2

Chair: Oliver Strauss

P1301 *Particle Swarm Trade-off Curve Analysis for Bi-Objective Optimization* [#7344]. Zach Richards and Kimon Valavanis

P1302 *Combining Multiobjective and Single-objective Genetic Algorithms in Heterogeneous Island Model* [#7531]. Martin Pilat and Roman Neruda

P1303 *Chaotic Differential Harmony Search Algorithm Applied to Power Economic Dispatch of Generators with Multiple Fuel Options* [#7349]. Leandro Coelho, Diego Bermert and Viviana Mariani

P1304 *An Adaptive Genetic Algorithm to Solve the Single Machine Scheduling Problem with Earliness and Tardiness Penalties* [#7927]. Fabio F. Ribeiro, Sergio R. de Souza, Marccone J. F. Souza and Rogerio M. Gomes

P1305 *Differential Evolution with Dynamic Adaptation of Mutation Factor Applied to Inverse Heat Transfer Problem* [#7351]. Viviana Mariani, Wagner Neckel, Leonardo Afonso and Leandro Coelho

P1306 *Hybrid Model for Water Distribution Design* [#7740]. Milan Cisty

P1307 *Hybrid and Evolutionary Agent-Based Social Simulations Using Levy Flight as Randomization Method* [#7482]. Fernando Lima Neto, Ronaldo Menezes and Marcos Alvares

P1308 *A Ripple-Spreading Genetic Algorithm for the Network Coding Problem* [#7337]. Xiaobing Hu, Mark S. Leeson and Evor L. Hines

P1309 *Self-Optimizing through CBR Learning* [#7418]. Ivo Pereira and Ana Madureira

P1310 *The Effects of Genetic Encoding on the Realization of Smooth Trajectory for a Helicopter Pilot in Flying a Simple Maneuver* [#7185]. Sunny Orike

P1311 *Immunodomain Based Clonal Selection Clustering Algorithm* [#7082]. Ruo Chen Liu, Zhengchun Shen, Licheng Jiao and Wei Zhang

P1312 *A multiple population XCS: Evolving condition-action rules based on feature space partitions* [#7650]. Mani Abedini and Michael Kirley

P1313 *Virtual retroviruses in grid walkers: effects on genome organization* [#7756]. Wendy Ashlock and Daniel Ashlock

[ECT] Evolutionary Computation Theory

Thursday, July 22, 11:30AM-12:50PM, Room: 118

Chair: Hisao Ishibuchi

11:30AM *Drift Analysis and Linear Functions Revisited* [#7857]. Benjamin Doerr, Daniel Johannsen and Carola Winzen

11:50AM *Beyond No Free Lunch: Realistic Algorithms for Arbitrary Problem Classes* [#7921]. James A. R. Marshall and Thomas G. Hinton

12:10PM *Genetic Network Programming with Generalized Rule Accumulation* [#7099]. Lutao Wang, Mabu Shingo, Qingbiao Meng and Hirasawa Kotaro

12:30PM *On Population Diversity Measures in Euclidean Space* [#7619]. Bakir Lacevic and Edoardo Amaldi

[SBO-2] Swarm-based Optimization II

Thursday, July 22, 11:30AM-12:50PM, Room: 119

Chair: Oscar Cordon

11:30AM *A fast ant colony optimization for traveling salesman problem* [#7453]. Shih-Pang Tseng, Chun-Wei Tsai, Ming-Chao Chiang and Chu-Sing Yang

11:50AM *Using Particle Swarm Optimization for Scaling and Rotation invariant Face Detection* [#7548]. Ermioni Marami and Anastasios Tefas

12:10PM *Improving the Performance of Particle Swarms through Dimension Reductions - A Case Study with Locust Swarms* [#27]. Stephen Chen and Yenny Noa Vargas

12:30PM *On Convergence of Multi-objective Particle Swarm Optimizers* [#7246]. Prithwish Chakraborty, Swagatam Das, Ajith Abraham, Gourab Roy and Vaclav Snasel

[S059] Special Session: Natural Computation Applied to Power Systems

Thursday, July 22, 11:30AM-12:50PM, Room: 120

Chair: N. Kumarappan

11:30AM *CHC and SA Applied to Wind Energy Optimization Using Real Data* [#7299]. Ciriaco Martin Bilbao and Enrique Alba

11:50AM *Performance Evaluation of a PBIL-Based Power System Damping Controller* [#7905]. Komla Folly and Ganesh Venayagamoorthy

12:10PM *Multi-objective Optimal Reservoir Operation* [#7275]. Luis Scola, Oriane Neto, Ricardo Takahashi and Sergio Cerqueira

12:30PM *Evaluation of Composite Reliability Indices Based on Non-Sequential Monte Carlo Simulation and Particle Swarm Optimization* [#7207]. Ashok Bakkiyaraj R. and Kumarappan N.

[S035-2] Special Session: Evolutionary Computation in Aerospace Sciences II

Thursday, July 22, 11:30AM-12:50PM, Room: 121

Chair: Pini Gurfil, Oliver Schuetze, Domenico Quagliarella, Euan McGookin, Massimiliano Vasile

11:30AM *A Multi-Objective Risk-Based Approach for Airlift Task Scheduling Using Stochastic Bin Packing* [#7569]. Wenjing Zhao, Jing Liu, Hussein A. Abbass and Axel Bender

11:50AM *Evolutionary Design of a Full-Envelope Flight Control System for an Unstable Fighter Aircraft* [#7941]. Giulio Avanzini and Edmondo Minisci

12:10PM *Efficient Aerodynamic Optimization of a Very Light Jet Aircraft using Evolutionary Algorithms and RANS flow models* [#7551]. Emiliano Iuliano and Domenico Quagliarella

12:30PM *Double Shock Control Bump Design Optimization Using Hybridised Evolutionary Algorithms* [#7287]. DongSeop Lee, Jacques Periaux, Eugenio Onate, Jordi Pons-Prats and Gabriel Bugeđa

[GAM] Games

Thursday, July 22, 11:30AM-12:50PM, Room: 122

Chair: Simon Lucas

11:30AM *A Comparative Study of NEAT and XCS in Robocode* [#7534]. David Nidorf, Luigi Barone and Tim French

11:50AM *Comparing the Performance of the Evolvable PiGrammatical Evolution Genotype-Phenotype Map to Grammatical Evolution in the Dynamic Ms. Pac-Man Environment* [#7758]. Edgar Galvan-Lopez, David Fagan, Eoin Murphy, John Swafford, Alexandros Agapitos, Michael O'Neill and Anthony Brabazon

12:10PM *Swarm Tetris: Applying Particle Swarm Optimization to Tetris* [#7329]. Leo H. Langenhoven, Willem S. van Heerden and Andries P. Engelbrecht

12:30PM *Nash Equilibria Detection for Multi-Player Games* [#7834]. Rodica Ioana Lung, Tudor Dan Mihoc and D. Dumitrescu

[DCO-2] Discrete and Combinatorial Optimization II

Thursday, July 22, 2:30PM-3:30PM, Room: 118

Chair: Munetomo Masaharu

2:30PM *A time-efficient particle swarm optimization-based codebook generation algorithm* [#7586]. Chun-Wei Tsai, Chung-Fu Lin, Ming-Chao Chiang and Chu-Sing Yang

2:50PM *An Efficient Genetic Algorithm for the Uncapacitated Single Allocation Hub Location Problem* [#7923]. Mohammad Naeem and Beatrice Ombuki-Berman

3:10PM *A Proposal for Zoning Crossover of Hybrid Genetic Algorithms for Large-scale Traveling Salesman Problems* [#7913]. Masafumi Kuroda, Kunihito Yamamori, Masaharu Munetomo, Moritoshi Yasunaga and Ikuo Yoshihara

[ISA-1] Intelligent Systems Applications I

Thursday, July 22, 2:30PM-3:30PM, Room: 119

Chair: Arthur Kordon

2:30PM *Multiple ODs Routing Algorithm for Traffic Systems using GA* [#20]. Yu Wang, Shingo Mabu, Qingbiao Meng, Manoj Kanta Mainali and Kotaro Hirasawa

2:50PM *Application of Intelligent Computing to Autonomous Vehicle Control* [#7312]. Jih-Gau Juang

3:10PM *A Bio-Inspired Image Encryption Algorithm Based on Chaotic Maps* [#7300]. Khaled Al-Utaibi and El-Sayed El-Alfy

[MO-4] Multiobjective Optimization IV

Thursday, July 22, 2:30PM-3:30PM, Room: 120

Chair: Sanaz Mostaghim

2:30PM *Efficient Multi-Objective Optimization with Fitness Landscape - A Special Application to the Optimal Design of Alloy-Steels* [#7343]. Shen Wang and Mahdi Mahfouf

2:50PM *Designing Airfoils using a Reference Point based Evolutionary Many-objective Particle Swarm Optimization Algorithm* [#7166]. Upali Wickramasinghe, Robert Carrese and Xiaodong Li

3:10PM *Elitist Multiobjective Nonlinear Systems Identification with Insular Evolution and Diversity Preservation* [#7130]. Alina Patelli and Lavinia Ferariu

[EAM] Evolved Art and Music

Thursday, July 22, 2:30PM-3:30PM, Room: 121

Chair: Tatsuo Unemi

2:30PM *Evolution of Artificial Terrains for Video Games Based on Obstacles Edge Length* [#7332].

Miguel Frade, Francisco Fernandez de Vega and Carlos Cotta

2:50PM *Using Aesthetic Measures to evolve Art* [#7184]. Eelco den Heijer and A.E. Eiben

3:10PM *Evolution of Aesthetically Pleasing Art Without Human-In-The-Loop* [#7955]. Daniel Atkins, Roman Klapaukh, Will Browne and Mengjie Zhang

[S095] Special Session: Co-evolution in Strategic Games

Thursday, July 22, 2:30PM-3:30PM, Room: 122

Chair: Philip Hingston, Phillipa Avery

2:30PM *Coevolving team tactics for a real-time strategy game* [#7976]. Phillipa Avery and Sushil Louis

2:50PM *Evolving Group Strategies for IPD* [#7981]. Philip Hingston

3:10PM *Applying Cooperative Coevolution to Compete in the 2009 TORCS Endurance World Championship* [#7325]. Luigi Cardamone, Daniele Loiacono and Pier Luca Lanzi

Games Competition-1

Thursday, July 22, 2:30PM-3:30PM, Room: 133

Chair: Simon Lucas

[ThAP] Poster Session: Poster Session II

Thursday, July 22, 3:00PM-6:00PM, Room: Foyer 2

Chair: Thomas Runkler

P1501 *Hostile Area or Facility Monitoring with an Optimal Wireless Sensor Network Deployment* [#7040]. Jenn-Long Liu and Jiann-Horng Lin

P1502 *Controller design with a evolutionary multi-objective optimization approach* [#7842]. Cidiney Silva, Oriane Neto and Jesus Santos

P1503 *Augmented Feedforward and Feedback Control of a Twin Rotor System Using Real-coded MOGA* [#7493]. S. F. Toha and M. O. Tokhi

P1504 *Tradinnova-LCS: Dynamic stock portfolio decision-making assistance model with genetic based machine learning* [#7530]. Isidoro Jesus Casanova Lopez

P1505 *Artificial Immune Network Model Based Controller for Vibration Suppression of flexible structure* [#7925]. Salihatun Md Salleh, Osman Tokhi and Siti Fauziah Toha

P1506 *Growing Particle Swarm Optimizers with Variable Topology and Dynamic Parameter* [#7945]. Chihiro Kurosu and Toshimichi Saito

P1507 *A Hybrid Particle Swarm Optimization Algorithm for Combinatorial Optimization Problems* [#7479]. Matheus Rosendo and Aurora Pozo

P1508 *A Novel Quantum Behaved Particle Swarm Optimization Algorithm With Chaotic Search for Image Alignment* [#7885]. Souham Meshoul and Mohamed Batouche

P1509 *Solving Constrained Optimization Using Multiple Swarm Cultural PSO with Inter-Swarm Communication* [#7538]. Moayed Daneshyari and Gary Yen

P1510 *A Distributed Architecture with Two layers for Odor Source Localization in Multi-robot Systems* [#7626]. Qiang Lu, Shirong Liu and Xuena Qiu

P1511 *A Genetic Hyperheuristic Algorithm for the Resource Constrained Project Scheduling Problem* [#7702]. Konstantinos Anagnostopoulos and Georgios Koulinas

P1512 *Evoptool: an Extensible Tool for Evolutionary Optimization Algorithms Comparison* [#7829] Gabriele Valentini, Luigi Malago' and Matteo Matteucci

P1513 *The Way to an Open-Source Software for Automated Optimization and Learning - OpenOpal* [#7541]. Rolf Dornberger, Thomas Hanne and Lukas Frey

[CEC / IT-3] Invited Talk 3: Hussein Abbass "Evolutionary Computation for Risk Assessment"

Thursday, July 22, 3:30PM-4:30PM, Room: 117

Chair: Gary Yen

Games Competition-2

Thursday, July 22, 3:30PM-4:30PM, Room: 133

Chair: Simon Lucas

[RO-5] Representations and Operators V

Thursday, July 22, 4:50PM-6:30PM, Room: 118

Chair: Pauline Haddow

4:50PM *Evolving cognitive and social experience in Particle Swarm Optimization through Differential Evolution* [#7608]. Michael G. Epitropakis, Vassilis P. Plagianakos and Michael N. Vrahatis

5:10PM *Evolving Programs with Parameters and Loops* [#7567]. Gayan Wijesinghe and Vic Ciesielski

5:30PM *A Linear map-based mutation scheme for real coded genetic algorithms* [#7205]. Yue-jiao Gong, Xiao-min Hu, Jun Zhang, Liu Ou Liu and Liu Hai-lin

5:50PM *An Explorative and Exploitative Mutation Scheme* [#7491]. Fatemeh Vafae and Peter Nelson

6:10PM *A Hybrid Genetic Algorithm and Inver Over Approach for the Travelling Salesman Problem* [#7158]. Shakeel Arshad and Shengxiang Yang

[ISA-2] Intelligent Systems Applications II

Thursday, July 22, 4:50PM-6:30PM, Room: 119

Chair: Jong-Hwan Kim

4:50PM *Breeder Genetic Algorithm for Power System Stabilizer Design* [#7298]. Severus Sheetekela and Komla Agbenyo Folly

5:10PM *Health analysis from the trend variability of patients' vital signs with an artificial neuromolecular system* [#7176]. Wei-Chang Lee, Jong-Chen Chen and Chung-Chian Hsu

5:30PM *A synergy of econometrics and computational methods (GARCH-RNFS) for volatility forecasting* [#7247]. Ronald Tor Das, Kai Keng Ang and Chai Quek

5:50PM *Swarm Intelligence-based Sensor Network Deployment Strategy* [#7477]. Hyungmin Park, Ji-Hyeong Han and Jong-Hwan Kim

[S117] Special Session: Evolutionary Computation in Scheduling

Thursday, July 22, 4:50PM-6:30PM, Room: 120

Chair: Yaochu Jin, Pei-Chann Chang, Chuan-Kang Ting

4:50PM *A Discrete Artificial Bee Colony Algorithm for the Permutation Flow Shop Scheduling Problem with Total Flowtime Criterion* [#7232]. M. Fatih Tasgetiren, Quan-ke Pan, P. N Suganthan and Angela H-L Chen

5:10PM *A Multi-objective Post Enrolment Course Timetabling Problems: A New Case Study* [#7168]. Salwani Abdullah, Turabieh Hamza, Barry McCollum and Paul McMullan

5:30PM *Hyper-heuristics with a Dynamic Heuristic Set for the Home Care Scheduling Problem* [#7932]. Mustafa Misir, Katja Verbeeck, Patrick De Causmaecker and Greet Vanden Berghe

5:50PM *An Evolutionary Approach for the Selective Pickup and Delivery Problem* [#7929]. Xin-Lan Liao and Chuan-Kang Ting

6:10PM *Particle Swarm Optimization based Maintenance Scheduling using Levelized Risk Method and Evaluation of System Well being Index* [#7233]. Kumarappan N. and Suresh K.

[MMH] Memetic, Multi-meme, and Hybrid Algorithms

Thursday, July 22, 4:50PM-6:30PM, Room: 121

Chair: Pedro Larranaga

4:50PM *Web Document Clustering based on a New Niching Memetic Algorithm, Term-Document Matrix and Bayesian Information Criterion* [#7342]. Carlos Cobos, Claudia Montealegre, Mariia-Fernanda Mejia, Martha Mendoza and Elizabeth Leon

5:10PM *Meme Fitness and Memepool Sizes in Coevolutionary Memetic Algorithm* [#7766]. Jim Smith

5:30PM *A Novel Hybrid Evolutionary Strategy and its Periodization with Multi-objective Genetic Optimizers* [#7741]. Paul Kaufmann, Tobias Knieper and Marco Platzner

5:50PM *A Novel Memetic Algorithm for Constrained Optimization* [#7387]. Jianyong Sun and Jonathan M. Garibaldi

6:10PM *An Archiving Strategy Based on the Convex Hull of Individual Minima for MOEAs* [#7918]. Saul Zapotecas Martinez and Carlos A. Coello Coello

[EGS] Evolutionary Games and Multi-agent Systems

Thursday, July 22, 4:50PM-6:30PM, Room: 122

Chair: Gary Parker

4:50PM *Evolutionary Dynamics of Interdependent Exogenous Risks* [#7816]. Kamran Shafi, Axel Bender and Hussein Abass

5:10PM *Born to Trade: a Genetically Evolved Keyword Bidder for Sponsored Search* [#7888]. Michael Munsey, Jonathan Veilleux, Sindhura Bikkani, Ankur Teredesai and Martine De Cock

5:30PM *Using Evolution Strategies for the Real-Time Learning of Controllers for Autonomous Agents in Xpilot-AI* [#7974]. Gary Parker and Michael Probst

5:50PM *A Multi-Agent Model for the Co-Evolution of Ideas and Communities* [#8014]. Amer Ghanem, Ali Minai and James Uber

6:10PM *Multi-objective Cultural Algorithms* [#7930]. Christopher Best, Xiangdong Che, Robert Reynolds and Dapeng Liu

Friday, July 23, 2010**[S069-1] Quantum Computing I**

Friday, July 23, 8:00AM-10:00AM, Room: 118

Chair: Xiaoyu Song, Marek Perkowski, Guowu Yang, Hanwu Chen, Martin Lukac, William N. N. Hung

8:00AM *Evolutionary Quantum Logic Synthesis of Boolean Reversible Logic Circuits Embedded in Ternary Quantum Space using Structural Restrictions* [#7607]. Martin Lukac, Marek Perkowski and Michitaka Kameyama

8:20AM *Evolutionary Design of Reversible Digital Circuits using IMEP. The case of the Even Parity Problem* [#7186]. Fatima Hadjam and Claudio Moraga

8:40AM *Synthesizing Hybrid Quantum Circuits without Ancilla Qudits* [#7281]. Guowu Yang, William N. N. Hung, Xiaoyu Song and Marek Perkowski

9:00AM *Synthesis of Ternary Non-Reversible Circuits* [#7689]. Xiaoyu Li, Guowu Yang and Desheng Zheng

9:20AM *Synthesis of Quantum Arrays with low quantum cost from Kronecker Functional Lattice Diagrams* [#7946]. Dipal Shah and Marek Perkowski

9:40AM *An Improved Quantum Query Algorithm for Computing AND Boolean Function* [#7224]. Alina Vasilieva and Taisia Mischenko-Slatenkova

[WCC] Real-world Applications - Networks

Friday, July 23, 8:00AM-10:00AM, Room: 119

Chair: Shinya Watanabe

8:00AM *A Penalty-based Genetic Algorithm for the Composite SaaS Placement Problem in the Cloud* [#7547]. Zeratul Yusoh and Maolin Tang

8:20AM *Separated and Overlapping Community Detection in Complex Networks using Multiobjective Evolutionary Algorithms* [#7652]. Jing Liu, Weicai Zhong, Hussein Abbass and David Green

8:40AM *A Hybrid Genetic Algorithm for the Optimal Constrained Web Service Selection Problem in Web Service Composition* [#7457]. Maolin Tang and Lifeng Ai

9:00AM *Classification Based on A Multi-Dimensional Probability Distribution and Its Application to Network Intrusion Detection* [#7092]. Shingo Mabu, Wenjing Li, Nannan Lu, Yu Wang and Kotaro Hirasawa

9:20AM *Achieving High Robustness and Performance in Performing QoS-aware Route Planning for IPTV Networks* [#7642]. Gajaruban Kandavanam, Dmitri Botvich, Sasitharan Balasubramaniam and Ponnuthurai Nagarathnam Suganthan

9:40AM *Real-Coded Differential Crisp Clustering for MRI Brain Image Segmentation* [#7220]. Indrajit Saha, Dariusz Plewczynski, Ujjwal Maulik and Sanghamitra Bandyopadhyay

[S133] Special Session: Designing Evolutionary Processes

Friday, July 23, 8:00AM-10:00AM, Room: 120

Chair: Heike Trautmann, Luis Marti

8:00AM *Online Convergence Detection for Evolutionary Multi-Objective Algorithms Revisited* [#7719]. Tobias Wagner and Heike Trautmann

8:20AM *Introducing a Robust and Efficient Stopping Criterion for MOEAs* [#7959]. Jose L. Guerrero, Luis Marti, Antonio Berlanga, Jesus Garcia and Jose M. Molina

8:40AM *A Progress Indicator for Detecting Success and Failure in Evolutionary Multi-Objective Optimization* [#7931]. Luis Marti, Jesus Garcia, Antonio Berlanga and Jose Manuel Molina

9:00AM *Comparing SPO-tuned GP and NARX Prediction Models for Stormwater Tank Fill Level Prediction* [#7460]. Oliver Flasch, Thomas Bartz-Beielstein, Artur Davtyan, Patrick Koch and Wolfgang Konen, Tosin Daniel Oyetoyan and Michael Tamutan

9:20AM *Sequential Parameter Optimization of an Evolution Strategy for the Design of Mold Temperature Control Systems* [#8002]. Dirk Biermann, Raffael Joliet, Thomas Michelitsch and Tobias Wagner

9:40AM *Sequential Parameter Optimization for Multi-Objective Problems* [#7747]. Simon Wessing and Boris Naujoks

[FE-1] Finance and Economics I

Friday, July 23, 8:00AM-10:00AM, Room: 121

Chair: Michael O'Neill

8:00AM *Evolving Efficient Limit Order Strategy using Grammatical Evolution* [#7903]. Wei Cui, Anthony Brabazon and Michael O'Neill

8:20AM *A Bidding Strategy of Multiple Round Auctions based on Genetic Network Programming* [#7107]. Chuan Yue, Shingo Mabu, Donggeng Yu, Yu Wang and Kotaro Hirasawa

8:40AM *Visualization of Hidden Structures in Corporate Failure Prediction Using Opposite Pheromone per Node Model* [#7051]. Soumya Banerjee and Hamid R. Tizhoosh

9:00AM *EDDIE for Investment Opportunities Forecasting: Extending the Search Space of the GP* [#7504]. Michael Kampouridis and Edward Tsang

9:20AM *Index Fund Rebalancing Using Probabilistic Model-building Genetic Algorithm with Narrower Width Histograms* [#7934]. Yukiko Orito, Sugizaki Shota, Yamamoto Hisashi, Tsujimura Yasuhiro and Kambayashi Yasushi

9:40AM *Maximisation of Investment Profits: An Approach to MACD based on Genetic Algorithms and Fuzzy Logic* [#7514]. Frederico Marques, Rogerio Gomes, Paulo Almeida, Henrique Borges and Sergio Souza

[EA-3] Engineering Applications III

Friday, July 23, 8:00AM-10:00AM, Room: 122

Chair: Yaochu Jin

8:00AM *Stopping criteria in evolutionary algorithms for multi-objective performance optimization of integrated inductors* [#7473]. Francisco V. Fernandez, Juan Esteban-Muller, Elisenda Roca and Rafael Castro-Lopez

8:20AM *Maximin Spreading Algorithm* [#7114]. Eduardo Solteiro Pires, Luis Mendes, Antonio Lopes, Paulo de Moura Oliveira, Jose Tenreiro Machado, Joao Vaz and Maria Rosario

8:40AM *Approximate Orthogonal Simplification of 3D Model* [#7833]. Andi Asmara, Ubald Nienhuis and Robert G. Hekkenberg

9:00AM *Evolutionary Algorithms and Fuzzy Clustering for Control of a Dynamic Vehicle Routing Problem Oriented to User Policy* [#7668]. Diego Munoz-Carpintero, Alfredo Nunez, Doris Saez and Cristian Cortes

9:20AM *Evolved Bayesian Network Models of Rig Operations in the Gulf of Mexico* [#7339]. Francois Fournier, John McCall, Andrei Petrovski and Peter Barclay

9:40AM *Research of Constraint Handling Techniques for Economic Load Dispatch of Power System* [#7307]. Yu Wang, Bin Li, GuangMei Jing, Peng Wang and JianYu Wang

[S069-2] Quantum Computing II

Friday, July 23, 11:30AM-12:50PM, Room: 118

Chair: Xiaoyu Song, Marek Perkowski, Guowu Yang, Hanwu Chen, Martin Lukac, William N. N. Hung

11:30AM *An Efficient Quantum Secret Sharing Scheme Based On Orthogonal Product States* [#7044]. Xu Juan, Chen Han-wu, Liu Wen-jie and Liu Zhi-hao

11:50AM *Comparison of State Assignment methods for "Quantum Circuit" Model of permutative Quantum State Machines* [#7891]. Manjith Kumar, Samy Boshra-riad, Yasodha Nachimuthu and Marek Perkowski

12:10PM *A Novel Quantum-Inspired Evolutionary Algorithm Based on Variable Angle-Distance Rotation* [#7218]. Liu Wenjie, Chen Hanwu, Yan Qiaoqiao, Liu Zhihao, Xu Juan and Yu Zheng

12:30PM *Estimating the Quality of Complexity Measures in Heuristics for Reversible Logic Synthesis* [#7413]. Marek Szyprowski and Pawel Kerntopf

[S012-1] Special Session: Nature-Inspired Constrained Optimization I

Friday, July 23, 11:30AM-12:50PM, Room: 119

Chair: Efren Mezura-Montes

11:30AM *Using Performance Profiles to Analyze the Results of the 2006 CEC Constrained Optimization Competition* [#7429]. Helio Barbosa, Heder Bernardino and André Barreto

11:50AM *Hybrid Differential Evolution and Adaptive Trade-off Model to Solve Constrained Optimization Problems* [#7471]. Yong Wang and Zixing Cai

12:10PM *A New Algorithm for Constrained Optimization Inspired by the Sport League Championships* [#7928]. Ali Husseinzadeh Kashan and Behrooz Karimi

12:30PM *Learning-Assisted Evolutionary Search for Scalable Function Optimization: LEM(ID3)* [#7973]. Guleng Sheri and David Corne

[EO] Evolutionary simulation-based optimization

Friday, July 23, 11:30AM-12:50PM, Room: 120

Chair: Oliver Flasch

11:30AM *Optimization of Biogas Production with Computational Intelligence - A Comparative Study* [#7638]. Joerg Ziegenhirt, Thomas Bartz-Beielstein, Oliver Flasch, Wolfgang Konen and Martin Zaefferer

11:50AM *Optimising supply chain networks by means of a hybridised simulation-based approach* [#7859]. Sven Schellenberg, Arvind Mohais, Neal Wagner, Maksud Ibrahimov and Zbigniew Michalewicz

12:10PM *Evolving Interface Designs to Minimize User Task Times as Simulated in a Cognitive Architecture* [#7292]. Jean-Claude Golovine, Patrik Holt and John McCall

12:30PM *Evolutionary Synthesis of Lossless Compression Algorithms with GP-zip3* [#7361]. Ahmed Kattan and Riccardo Poli

[AEAL] Artificial Ecology and Artificial Life

Friday, July 23, 11:30AM-12:50PM, Room: 121

Chair: Sung-Bae Cho

11:30AM *Three simulators for growing artificial creatures* [#7430]. Sylvain Cussat-Blanc, Jonathan Pascalie, Herve Luga and Yves Duthen

11:50AM *Evolution of a Risk Coefficient in Artificial Societies* [#7801]. Vincent Goes and A.E. Eiben

12:10PM *An Efficient Community Detection Method using Parallel Clique-Finding Ants* [#7696]. Sercan Sadi, Sule Oguducu and A. Sima Uyar

[S003] Special Session: Evolutionary Computation in Expensive Optimization Problems

Friday, July 23, 11:30AM-12:50PM, Room: 122

Chair: Yoel Tenne

11:30AM *Dimensionality-reduction Frameworks for Computationally Expensive Problems* [#7964]. Yoel Tenne, Kazuhiro Izui and Shinji Nishiwaki

11:50AM *Variable interactions and exploring parameter space in an expensive optimisation problem: optimising short term conflict alert* [#7338]. William Reckhouse, Jonathan Fieldsend and Richard Everson

12:10PM *A New Differential Evolution with Improved Mutation Strategy* [#7755]. Pavel Bhowmik, Sauvik Das, Amit Konar, Swagatam Das and Atulya Nagar

12:30PM *Optimizing van der Waals calculi using Cell-lists and MPI* [#7480]. Daniel Bonetti, Alexandre Delbem, Travieso Gonzalo and Paulo de Souza

[RL] Reinforcement Learning

Friday, July 23, 2:30PM-3:30PM, Room: 118

Chair: Hisashi Handa

2:30PM *Guiding the Evolution of Genetic Network Programming with Reinforcement Learning* [#7046]. QingBiao Meng, Shingo Mabu, Yu Wang and Kotaro Hirasawa

2:50PM *Generating a Novel Sort Algorithm using Reinforcement Programming* [#12]. Spencer White, Tony Martinez and George Rudolph

3:10PM *High-dimensional Function Optimisation by Reinforcement Learning* [#7604]. Q.H. Wu and H.L. Liao

[S012-2] Special Session: Nature-Inspired Constrained Optimization II

Friday, July 23, 2:30PM-3:30PM, Room: 119

Chair: Efren Mezura-Montes

2:30PM *Incremental Approximation of Nonlinear Constraint Functions for Evolutionary Constrained*

Optimization [#7274]. Yaochu Jin, Sanghoun Oh and Moongu Joen

2:50PM *Efficient Constrained Optimization by the Epsilon Constrained Adaptive Differential Evolution* [#7681]. Tetsuyuki Takahama and Setsuko Sakai

3:10PM *Smart Flight and Dynamic Tolerances in the Artificial Bee Colony for Constrained Optimization* [#7536]. Efren Mezura-Montes, Mauricio Damian-Araoz and Omar Cetina-Dominguez

[MO-5] Multiobjective Optimization V

Friday, July 23, 2:30PM-3:30PM, Room: 120

Chair: Carlos Coello Coello

2:30PM *Restricted Boltzmann Machine Based Algorithm for Multi-objective Optimization* [#7303]. HuaJin Tang, Vui Ann Shim, Kay Chen Tan and Jun Yong Chia

2:50PM *A hybrid Pareto-based local search for multi-objective flexible job shop scheduling problem* [#7097]. Junqing Li and Quanke Pan

3:10PM *A Two-phase Evolutionary Algorithm for Multiobjective Mining of Classification Rules* [#7751]. Yung-Hsiang Chan, Tsung-Che Chiang and Li-Chen Fu

[FE-2] Finance and Economics II

Friday, July 23, 2:30PM-3:30PM, Room: 121

Chair: Yukiko Orito

2:30PM *A Portfolio Selection Strategy Using Genetic Relation Algorithm* [#7139]. Yan Chen, Shingo Mabu and Kotaro Hirasawa

2:50PM *Swarm Intelligence-based Stochastic Programming Model for Dynamic Asset Allocation* [#7544]. Jing Dang, David Edelman, Ronald Hochreiter and Anthony Brabazon

3:10PM *Constrained Portfolio Selection Using Multiple Swarms* [#7369]. Ben Niu, Lijing Tan, Bing Xue, Li Li and Yujuan Chai

[S088-1] Special Session: Computer Graphics I

Friday, July 23, 2:30PM-3:30PM, Room: 122

Chair: Juan Carlos Torres

2:30PM *A Stochastic Approach to Simulate Artists Behaviour for Automatic Felt-tipped Stippling* [#7535]. German Arroyo, Domingo Martin and M. Victoria Luzon

2:50PM *Data Model for Procedural Modeling from Textual Descriptions* [#7738]. Roberto Rodrigues, Antonio Coelho and Luis Paulo Reis

3:10PM *Polygonization of Non-homogeneous Non-manifold Implicit Surfaces with Tentative Topological Guarantees* [#7789]. Abel Gomes, Sergio Dias and Jose Morgado

[S014] Special Session: Parallel Biologically-inspired Optimisation

Friday, July 23, 3:30PM-4:30PM, Room: 118

Chair: Andrew Lewis

3:30PM *A Multi-GPU Implementation of a Cellular Genetic Algorithm* [#7665]. Pablo Vidal and Enrique Alba

3:50PM *Analysis of a new swarm search algorithm based on trophallaxis* [#7424]. James Hereford

4:10PM *Unbiased Geometry Optimisation of Morse Atomic Clusters* [#7985]. Wayne Pullan

[VR] Real-world Applications - Vehicle Routing and Path Planning

Friday, July 23, 3:30PM-4:30PM, Room: 119

Chair: Shingo Mabu

3:30PM *An Evolutionary Approach to Integrated Inventory and Routing Management in a Real World Case* [#7554]. Anna I Esparcia-Alcazar, Eva Alfaro-Cid, Pablo Garcia-Sanchez, Anais Martinez-Garcia, Juan Julian Merelo and Ken Sharman

3:50PM *Ant Colony Optimization for a Stochastic Vehicle Routing Problem with Driver Learning* [#7814]. Michael Schneider, Christian Doppstadt, Andreas Stenger and Michael Schwind

4:10PM *Path Planning for Mobile Sensor Platforms on a 3-D Terrain Using Hybrid Evolutionary Algorithms* [#7924]. Mesut Sifyan, Haluk Rahmi Topcuoglu and Murat Ermis

[S018] Special Session: Bio-Inspired Self-Organizing Multi-Agent Systems

Friday, July 23, 3:30PM-4:30PM, Room: 120

Chair: Yan Meng, Yaochu Jin, Roderich Gross

3:30PM *Analysis of Local Communication Load in Shape Formation of a Distributed Morphogenetic Swarm Robotic System* [#7238]. Hongliang Guo, Yan Meng and Yaochu Jin

3:50PM *Particle Swarm Optimization for Multimodal Combinatorial Problems and its application to Protein Design* [#7844]. Grecia C. Lapizco Encinas, Carl Kingsford and James Reggia

4:10PM *Artificial Emotional Intelligence under Ethical Constraints in Formulating Social Agent Behaviour* [#7852]. Ziad Kobti, Shamual F Rahaman and Anne W Snowden

[CS-2] Coevolutionary Systems II

Friday, July 23, 3:30PM-4:30PM, Room: 121

Chair: Yoshiaki Katada

3:30PM *Spatial Co-Evolution in Age Layered Planes (SCALP)* [#7263]. Robin Harper

3:50PM *A Mixed-Game and Co-evolutionary Genetic Programming Agent-Based Model of Financial Contagion* [#7111]. Fang Liu, Antoaneta Serguieva and Paresh Date

4:10PM *Competitive Cooperation for Strategy Adaptation in Coevolutionary Genetic Algorithm for Constrained Optimization* [#7125]. Roman Sergienko and Eugene Semekin

[S088-2] Special Session: Computer Graphics II

Friday, July 23, 3:30PM-4:30PM, Room: 122

Chair: Juan Carlos Torres

3:30PM *3D Reconstruction from Multiple Views Using Particle Swarm Optimization* [#8024]. Ya-Ping Wong and Boon-Yian Ng

3:50PM *Fuzzy Solid Models: Foundations, Representations and Framework.* [#611] Angel A. Zaldivar and Juan C. Torres

[RO-6] Representations and Operators VI

Friday, July 23, 4:50PM-6:30PM, Room: 118

Chair: Julian Togelius

4:50PM *Defining Locality in Genetic Programming to Predict Performance* [#7810]. Edgar Galvan-Lopez, James McDermott, Michael O'Neill and Anthony Brabazon

5:10PM *Geometric Nelder-Mead Algorithm for the Permutation Representation* [#8003]. Alberto Moraglio and Julian Togelius

5:30PM *Towards an Effective Evolutionary Approach for Binary Lennard-Jones Clusters* [#7160]. Francisco B. Pereira and Jorge M. C. Marques

5:50PM *Handling Incomplete Information in an Evolutionary Environment* [#7532]. Jorge Ribeiro, Jose Machado, Antonio Abelho, Manuel Fernandez-Delgado and Jose Neves

6:10PM *Revisiting Evolutionary Information Filtering* [#7515]. Nikolaos Nanas, Stefanos Kodovas and Manolis Vavalis

[DCO-3] Discrete and Combinatorial Optimization III

Friday, July 23, 4:50PM-6:30PM, Room: 119

Chair: Ricardo Takahashi

4:50PM *An Improved Algorithm for Optimal Subset Selection in Chain Graphical Models* [#7897]. Qi Qi, Yi Shang and Hongchi Shi

5:10PM *Meta-Heuristic Search and Square Erickson Matrices* [#7408]. Denis Robilliard, Amine Boumaza and Virginie Marion-Poty

5:30PM *Simulated Annealing for Constructing Binary Covering Arrays of Variable Strength* [#7447]. Jose Torres-Jimenez and Eduardo Rodriguez-Tello

5:50PM *Using an Enhanced Integer NSGA-II for Solving the Multiobjective Generalized Assignment Problem* [#7507]. Robert Subtil, Eduardo Carrano, Marcone Souza and Ricardo Takahashi

6:10PM *An Improved Multiobjective Memetic Algorithm for Permutation Flow Shop Scheduling* [#7446]. Tsung-Che Chiang and Li-Chen Fu

[HMH-2] Heuristics, Metaheuristics, and Hyper-heuristics II

Friday, July 23, 4:50PM-6:30PM, Room: 120

Chair: M. Fatih Tasgetiren

4:50PM *A Coevolutionary, Hyper Heuristic Approach to the Optimization of Three-dimensional Process Plant Layouts - a Comparative Study* [#7257]. Marcus Furuholmen, Kyrre Glette, Mats Hovin and Jim Torresen

5:10PM *Interpretable Multi-Criteria Fuzzy Rule Based Decision Models for Hedge Fund Management* [#7137]. Adam Ghandar, Zbigniew Michalewicz and Ralf Zurbruegg

5:30PM *A GA-Based Multiple Simulated Annealing* [#7313]. Francisco Javier Rodriguez-Diaz, Carlos Garcia-Martinez and Manuel Lozano

5:50PM *Solving Lot-streaming Flow Shop Scheduling Problems Using a Discrete Harmony Search Algorithm* [#7141]. Quan-ke Pan, M Fatih Tasgetiren, P. N. Suganthan and Yun-chia Liang

6:10PM *Web document clustering based on Global-Best Harmony Search, K-means, Frequent Term Sets and Bayesian Information Criterion* [#7855]. Carlos Cobos, Jennifer Andrade, William Constain, Martha Mendoza and Elizabeth Leon

[ENN-2] Evolved Neural Networks II

Friday, July 23, 4:50PM-6:30PM, Room: 121

Chair: Kazuhiro Ohkura

4:50PM *Overfitting by PSO Trained Feedforward Neural Networks* [#7075]. Andrich van Wyk and Andries Engelbrecht

5:10PM *The Opposite-Based Differential Evolution for Beta Basis Function Neural Network* [#7771]. Habib Dhahri and Adel.M Adel

5:30PM *A Novel Self-Constructing Evolution Algorithm for TSK-type Fuzzy Model Design* [#7143]. Sheng-Fuu Lin, Jyun-Wei Chang, Yi-Chang Cheng and Yung-Chi Hsu

5:50PM *Enhancing Digital Hardware Evolvability with a Neuromolecularware Design A Biologically-Motivated Approach* [#7172]. Yo-Hsien Lin, Jong-Chen Chen, Wei-Chang Lee and Chung-Chian Hsu

6:10PM *Evolution of Neural Networks using Cartesian Genetic Programming* [#7739]. Maryam Mahsal Khan, Gul Muhammad Khan and Julian Francis Miller