

# 2014 IEEE Congress on Evolutionary Computation

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Jyh-Cheng Yu and Zhi-Fu Liang

*Quantum Bacterial Foraging Optimization Algorithm* [#E-14024]

Fei Li, Yuting Zhang and Haibo Li

*A Cultural Algorithm for Spatial Forest Harvest Scheduling* [#E-14447]

Wan-Yu Liu and Chun-Cheng Lin

## **Special Session: WeE1-4 Large Scale Global Optimization**

*A Hybrid Adaptive Coevolutionary Differential Evolution Algorithm for Large-Scale Optimization* [#E-14092]

Sishi Ye, Guangming Dai and Lei Peng

*Cooperative Co-Evolution with a New Decomposition Method for Large-Scale Optimization* [#E-14241]

Sedigheh Mahdavi, Mohammad Ebrahim Shiri and Shahryar Rahnamayan

*Variable Grouping Based Differential Evolution Using an Auxiliary Function for Large Scale Global Optimization* [#E-14278]

Fei Wei, Yuping Wang and Tingting Zong

*Solving Dynamic Double-Row Layout Problem via an Improved Simulated Annealing Algorithm*  
[#E-14282]

Shengli Wang, Xingquan Zuo and Xinchao Zhao

*Effective Decomposition of Large-Scale Separable Continuous Functions for Cooperative Co-Evolutionary Algorithms* [#E-14420]

Mohammad Nabi Omidvar, Yi Mei and Xiaodong Li

*Variable Neighborhood Decomposition for Large Scale Capacitated Arc Routing Problem* [#E-14191]

Yi Mei, Xiaodong Li and Xin Yao

### **Poster Session: PE3 Poster Session III**

*A New Dynamic Probabilistic Particle Swarm Optimization with Dynamic Random Population Topology*  
[#E-14349]

Qingjian Ni, Cen Cao and Xushan Yin

*An Adaptive PSO Based on Motivation Mechanism and Acceleration Restraint Operator* [#E-14360]

Jiangshao Gu and Xuanhua Shi

*The Enhanced Vector of Convergence for Particle Swarm Optimization Based on Constrict Factor*  
[#E-14366]

Wei Zhang, Yanan Gao and Chengxing Zhang

*Evolutionary Semi-Supervised Learning with Swarm Intelligence* [#E-14426]

Xiaohua Xu, Lin Lu, Ping He, Jie Ding and Yongsheng Ju

*A Fast Restarting Particle Swarm Optimizer* [#E-14430]

Junqi Zhang, Xiong Zhu, Wei Wang and Jing Yao

*Dimensions Cooperate by Euclidean Metric in Particle Swarm Optimization* [#E-14435]

Zezhou Li, Junqi Zhang, Wei Wang and Jing Yao

*Biclustering of Gene Expression Data Using Particle Swarm Optimization Integrated with Pattern-Driven Local Search* [#E-14235]

Yangyang Li, Xiaolong Tian, Licheng Jiao and Xiangrong Zhang

*Simulating the Coevolution of Language and Long-Term Memory* [#E-14344]

Lan Shuai, Zhen Wang and Tao Gong

*Evolutionary Clustering with Differential Evolution* [#E-14553]

Gang Chen, Wenjian Luo and Tao Zhu

*Smart Hybrid Genetic Algorithms in the Bandwidth Optimization of a PIFA Antenna* [#E-14369]

Mohammad Riyad Ameerudden and Harry Rughooputh

*Evolutionary Many-Objective Optimization by MO-NSGA-II with Enhanced Mating Selection* [#E-14381]

Shao-Wen Chen and Tsung-Che Chiang

*A Niching Two-Layered Differential Evolution with Self-Adaptive Control Parameters* [#E-14397]

Yongxin Luo, Sheng Huang and Jinglu Hu

*Application of the MOAA for the Optimization of CORAIL Assemblies for Nuclear Reactors* [#E-14412]

Valerio Lattarulo, Benjamin A. Lindley and Geoffrey T. Parks

*A Hybrid Approach Based on Genetic Algorithms for Solving the Clustered Vehicle Routing Problem*  
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Petrica Pop and Camelia Chira

*Identifying and Exploiting the Scale of a Search Space in Differential Evolution* [#E-14719]

James Montgomery, Stephen Chen and Yasser Gonzalez-Fernandez

*Enhancing Relevance Re-Ranking Using Nature-Inspired Meta-Heuristic Optimization Algorithms* [#E-14730]

Amel Ksibi, Anis Ben Ammar and Chokri Ben Amar

*Can Deterministic Chaos Improve Differential Evolution for the Linear Ordering Problem?* [#E-14739]

Pavel Kromer, Ivan Zelinka and Vaclav Snasel

*Two Parameter Update Schemes for Recurrent Reinforcement Learning* [#E-14245]

Jin Zhang and Dietmar Maringer

*Differential Evolution Strategy Based on the Constraint of Fitness Values Classification* [#E-14594]

Zhihui Li, Zhigang Shang, Jane Jing Liang and Boyang Qu

*A Lagrangian and Surrogate Information Enhanced Tabu Search for the MMKP* [#E-14854]

Skander Htiouech and Sadok Bouamama

*Estimation of Distribution Algorithms Based Unmanned Aerial Vehicle Path Planner Using a New Coordinate* [#E-14405]

Peng Yang, Ke Tang and Jose Antonio Lozano

*An Uncultivated Wolf Pack Algorithm for High-Dimensional Functions and Its Application in Parameters Optimization of PID Controller* [#E-14438]

Husheng Wu, Fengming Zhang and Lushan Wu

*On the Inference of Deterministic Chaos: Evolutionary Algorithm and Metabolic P System Approaches* [#E-14440]

Luca Marchetti, Vincenzo Manca and Ivan Zelinka

*A New Method and Application for Controlling the Steady-State Probability Distributions of Probabilistic Boolean Networks* [#E-14444]

Meng Yang, Rui Li and Tianguang Chu

*Evolutionary Community Detection in Social Networks* [#E-14706]

Tiantian He and Keith C.C. Chan

*Experiments in Program Synthesis with Grammatical Evolution: A Focus on Integer Sorting* [#E-14718]

Michael O'Neill, Miguel Nicolau and Alexandros Agapitos

*A Social-Evolutionary Approach to Compose a Similarity Function Used on Event Recommendation* [#E-14567]

Luiz Mario Lustosa Pascoal, Celso Goncalves Camilo-Junior, Edjalma Queiroz Silva and Thiersen Couto Rosa

*Applying Evolutionary Computation for Evolving Ontologies* [#E-14579]

Oliviu Matei, Diana Contrás and Petrica Pop

## **Special Session: WeE2-1 Evolutionary Computation in Dynamic and Uncertain Environments**

*Find Robust Solutions Over Time by Two-Layer Multi-Objective Optimization Method* [#E-14046]

Yinan Guo, Meirong Chen, Haobo Fu and Yun Liu

*Niching-Based Self-adaptive Ensemble DE with MMTS for Solving Dynamic Optimization Problems* [#E-14634]

Sheldon Hui and Ponnuthurai Nagarathnam Suganthan

*Interactive and Non-Interactive Hybrid Immigrants Schemes for Ant Algorithms in Dynamic Environments* [#E-14537]

Michalis Mavrovouniotis and Shengxiang Yang

*What Are Dynamic Optimization Problems?* [#E-14213]

Haobo Fu, Peter Lewis, Bernhard Sendhoff, Ke Tang and Xin Yao

*A Dynamic History-Driven Evolutionary Algorithm* [#E-14351]

Chi Kin Chow and Shiu Yin Yuen

*Adaptive Particle Swarm Optimization with Variable Relocation for Dynamic Optimization Problems* [#E-14487]

Zhi-Hui Zhan and Jun Zhang

### **Special Session: WeE2-2 Intelligent Design for Reliable Cloud Computing**

*Macroscopic Indeterminacy Swarm Optimization (MISO) Algorithm for Real-Parameter Search* [#E-14140]

Po-Chun Chang and Xiangjian He

*A Cooperative Honey Bee Mating Algorithm and Its Application in Multi-Threshold Image Segmentation* [#E-14389]

Yunzhi Jiang, Zhenlun Yang, Zhifeng Hao, Yinglong Wang and Huojiao He

*A RFID Network Design Methodology for Decision Problem in Health Care* [#E-14481]

Chun-Hua Chou, Huang Chia-Ling and Po-Chun Chang

*Pareto Simplified Swarm Optimization for Grid-Computing Reliability and Service Makspan in Grid-RMS* [#E-14841]

Wei Shang-Chia, Yeh Wei-Chang and Yen Tso-Jung

*A New Grouping Genetic Algorithm for the MapReduce Placement Problem in Cloud Computing* [#E-14305]

Xiaoyong Xu and Maolin Tang

*Composite SaaS Scaling in Cloud Computing Using a Hybrid Genetic Algorithm* [#E-14780]

Zeratul Mohd Yusoh and Maolin Tang

### **Special Session: WeE2-3 Single Objective Numerical Optimization II**

*A Differential Evolution with Replacement Strategy for Real-Parameter Numerical Optimization* [#E-14520]

Changjian Xu, Han Huang and ShuJin Ye

*Evaluating the Mean-Variance Mapping Optimization on the IEEE-CEC 2014 Test Suite* [#E-14612]

Istvan Erlich, Jose L. Rueda and Sebastian Wildenhues

*Influence of Regions on the Memetic Algorithm for the Special Session on Real-Parameter Single Objective Optimisation* [#E-14649]

Daniel Molina, Benjamin Lacroix and Francisco Herrera

*Analysis and Classification of Optimisation Benchmark Functions and Benchmark Suites* [#E-14044]

Robert Garden and Andries Engelbrecht

*Testing United Multi-Operator Evolutionary Algorithms on the CEC2014 Real-Parameter Numerical Optimization* [#E-14196]

Saber Elsayed, Ruhul Sarker, Daryl Essam and Noha Hamza

*Improving the Search Performance of SHADE Using Linear Population Size Reduction* [#E-14348]

Ryoji Tanabe and Alex Fukunaga

#### **WeE2-4 Learning Classifier Systems**

*Towards Better Generalization in Pittsburgh Learning Classifier Systems [#E-14361]*

Shubhra Kanti Karmaker Santu, Md. Mustafizur Rahman, Md. Monirul Islam and Kazuyuki Murase

*GP-Based Kernel Evolution for L2-Regularization Networks [#E-14362]*

Simone Scardapane, Danilo Comminiello, Michele Scarpiniti and Aurelio Uncini

*Generalized Classifier System: Evolving Classifiers with Cyclic Conditions [#E-14494]*

Xianneng Li, Wen He and Kotaro Hirasawa

*Applying LCS to Affective Images Classification in Spatial-Frequency Domain [#E-14794]*

Po-Ming Lee and Tzu-Chien Hsiao

*A Novel Genetic Algorithm Approach for Simultaneous Feature and Classifier Selection in Multi Classifier System [#E-14343]*

Tien Thanh Nguyen, Alan Wee-Chung Liew, Minh Toan Tran, Xuan Cuong Pham and Mai Phuong Nguyen

*Lookup Table Partial Reconfiguration for an Evolvable Hardware Classifier System [#E-14586]*

Kyrre Glette and Paul Kaufmann

#### **ThE1-1 Ant Colony Optimization**

*Ant Colony Optimization and Hypergraph Covering Problems [#E-14158]*

Ankit Pat

*Confidence-Based Ant Random Walks [#E-14775]*

Ping He, Ling Lu, Xiaohua Xu, Kanwen Li, Heng Qian and Wei Zhang

*The Coupled EigenAnt Algorithm for Shortest Path Problems [#E-14850]*

Eugenius Kaszkurewicz, Amit Bhaya, Jayadeva Jayadeva and Joao Marcos Meirelles da Silva

*Accelerating Ant Colony Optimization-Based Edge Detection on the GPU Using CUDA [#E-14838]*

Laurence Dawson and Iain Stewart

*Absorption in Model-Based Search Algorithms for Combinatorial Optimization [#E-14193]*

Zijun Wu and Michael Kolonko

*Elitism-Based Immigrants for Ant Colony Optimization in Dynamic Environments: Adapting the Replacement Rate [#E-14538]*

Michalis Mavrovouniotis and Shengxiang Yang

#### **ThE1-2 Opposition-Based Learning and Differential Evolution**

*Gaussian Adaptation Based Parameter Adaptation for Differential Evolution [#E-14760]*

Rammohan Mallipeddi, Guohua Wu, Minh Lee and Ponnuthurai Nagarathnam Suganthan

*Toward Using Type-II Opposition in Optimization [#E-14231]*

Hojjat Salehinejad, Shahryar Rahnamayan and Hamid R. Tizhoosh

*Improved Differential Evolution with Adaptive Opposition Strategy [#E-14174]*

Huichao Liu, Zhijian Wu, Hui Wang, Shahryar Rahnamayan and Changshou Deng

*Differential Evolution Assisted by a Surrogate Model for Bilevel Programming Problems [#E-14638]*

Jaqueline Angelo, Eduardo Krempser and Helio Barbosa

*Adaptive Inflationary Differential Evolution [#E-14736]*



Edmondo Minisci and Massimiliano Vasile

*Computing Opposition by Involving Entire Population* [#E-14244]

Shahryar Rahnamayan, Jude Jesuthasan, Farid Bourennani, Hojjat Salehinejad and Greg F. Naterer

### **ThE1-3 Genetic Programming**

*Adaptive Genetic Network Programming* [#E-14152]

Xianneng Li, Wen He and Kotaro Hirasawa

*Evolving Exact Integer Algorithms with Genetic Programming* [#E-14155]

Thomas Weise, Mingxu Wan, Ke Tang and Xin Yao

*A Sequential Genetic Programming Method to Learn Forward Construction Heuristics for Order Acceptance and Scheduling* [#E-14267]

Su Nguyen, Mengjie Zhang and Mark Johnston

*Anomaly Detection in Crowded Scenes Using Genetic Programming* [#E-14372]

Cheng Xie and Lin Shang

*A Genetic Programming Approach to Distributed QoS-Aware Web Service Composition* [#E-14411]

Yang Yu, Hui Ma and Mengjie Zhang

*Generating Lambda Term Individuals in Typed Genetic Programming Using Forgetful A\** [#E-14668]

Tomas Kren and Roman Neruda

### **ThE1-4 Heuristics, Metaheuristics and Hyper-heuristics I**

*AIRP: A Heuristic Algorithm for Solving the Unrelated Parallel Machine Scheduling Problem* [#E-14059]

Luciano Perdigao Cota, Matheus Nohra Haddad, Marcone Jamilson Freitas Souza and Vitor Nazario Coelho

*Heuristic Space Diversity Management in a Meta-Hyper-Heuristic Framework* [#E-14099]

Jacominie Grobler, Andries Engelbrecht, Graham Kendall and V.S.S. Yadavalli

*An Improved Bilevel Evolutionary Algorithm Based on Quadratic Approximations* [#E-14365]

Ankur Sinha, Pekka Malo and Kalyanmoy Deb

*A Cooperative Approach between Metaheuristic and Branch-and-Price for the Team Orienteering Problem with Time Windows* [#E-14467]

Liangjun Ke

*Hyper-Heuristics with Penalty Parameter Adaptation for Constrained Optimization* [#E-14524]

Yu-Jun Zheng, Bei Zhang and Zhen Cheng

*Control of Numeric and Symbolic Parameters with a Hybrid Scheme Based on Fuzzy Logic and Hyper-heuristics* [#E-14652]

Eduardo Segredo, Carlos Segura and Coromoto Leon

### **Industrial Session: ThE1-5 Computational Intelligence on Predictive Maintenance and Optimization**

*A Decomposition-Based Algorithm for Dynamic Economic Dispatch Problems* [#E-14496]

Eman Sayed, Daryl Essam, Ruhul Sarker and Saber Elsayed

*Minimizing Makespan for a No-Wait Flowshop Using Tabu Mechanism Improved Iterated Greedy Algorithm* [#E-14497]

Jianya Ding, Shiji Song, Rui Zhang and Cheng Wu

*Black-Hole PSO and SNO for Electromagnetic Optimization* [#E-14659]

Matteo Ruello, Francesco Grimaccia, Marco Mussetta and Riccardo E. Zich

*An Improved Ant Colony Algorithm for Winner Determination in Multi-Attribute Combinatorial Reverse Auction* [#E-14564]

Xiaohu Qian, Min Huang, Taiguang Gao and Xingwei Wang

*Soft Computing Techniques Based Optimal Tuning of Virtual Feedback PID Controller for Chemical Tank Reactor* [#E-14814]

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#### **Poster Session: PE4 Poster Session IV**

*Dynamic Multi-Objective Optimization Using Charged Vector Evaluated Particle Swarm Optimization* [#E-14378]

Kyle Harrison, Beatrice Ombuki-Berman and Andries Engelbrecht

*A New Self-Adaptive PSO Based on the Identification of Planar Regions* [#E-14753]

Eddy Mesa, Juan David Velasquez and Patricia Jaramillo

*PSO-Based Evacuation Simulation Framework* [#E-14758]

Pei-Chuan Tsai, Chih-Ming Chen and Ying-ping Chen

*PSO-Based Update Memory for Improved Harmony Search Algorithm to the Evolution of FBBFNT' Parameters* [#E-14189]

Souhir Bouaziz, Adel M. Alimi and Ajith Abraham

*Fuzzy Multiobjective Differential Evolution Using Performance Metrics Feedback* [#E-14643]

Chatkaew Jariyatantiwait and Gary Yen

*Multiobjective Evolutionary Algorithm Portfolio: Choosing Suitable Algorithm for Multiobjective Optimization Problem* [#E-14522]

Shiu Yin Yuen and Xin Zhang

*A Novel Algorithm for Many-Objective Dimension Reductions: Pareto-PCA-NSGA-II* [#E-14266]

Ronghua Shang, Kun Zhang and Licheng Jiao

*An Experimental Analysis of Evolutionary Algorithms for the Three-Objective Oil Derivatives Distribution Problem* [#E-14755]

Thatiana Souza, Elizabeth Goldbarg and Marco Goldbarg

*A New Strategy for Finding Good Local Guides in MOPSO* [#E-14472]

Man Fai Leung, Sin Chun Ng, Chi Chung Cheung and Andrew K Lui

*An Inter-Molecular Adaptive Collision Scheme for Chemical Reaction Optimization* [#E-14035]

James J.Q. Yu, Victor O.K. Li and Albert Y.S. Lam

*Analysis of Constraint Handling Methods for the Gravitational Search Algorithm* [#E-14116]

Daniel Poole, Christian Allen and Thomas Rendall

*Distributed Wireless Sensor Scheduling for Multi-Target Tracking Based on Matrix-Coded Parallel Genetic Algorithm* [#E-14479]

Zixing Cai, Sha Wen and Lijue Liu

*Effect of Pseudo Gradient on Differential Evolutionary for Global Numerical Optimization* [#E-14511]

Jinliang Ding, Lipeng Chen, Qingguang Xie, Tianyou Chai and Xiuping Zheng

*Protein Folding Estimation Using Paired-Bacteria Optimizer* [#E-14518]

Mengshi Li, Tianyao Ji, Peter Wu, Shan He and Qinghua Wu

*A Self-Adaptive Group Search Optimizer with Elitist Strategy* [#E-14530]

Xiang-wei Zheng, Dian-jie Lu and Zhen-hua Chen

*Optimization Based on Adaptive Hinging Hyperplanes and Genetic Algorithm* [#E-14535]

Jun Xu, Xiangming Xi and Shuning Wang

*Combining Multipopulation Evolutionary Algorithms with Memory for Dynamic Optimization Problems* [#E-14557]

Tao Zhu, Wenjian Luo and Lihua Yue

*Micro-Differential Evolution with Vectorized Random Mutation Factor* [#E-14768]

Hojjat Salehinejad, Shahryar Rahnamayan and Hamid R. Tizhoosh

*Application of BPSO with GA in Model-Based Fault Diagnosis of Traction Substation* [#E-14345]

Song Gao, Zhigang Liu, Chenxi Dai and Xiao Geng

*Performance of AI Algorithms for Mining Meaningful Roles* [#E-14227]

Xuanni Du and Xiaolin Chang

*Using Estimation of Distribution Algorithm to Coordinate Decentralized Learning Automata for Meta-Task Scheduling* [#E-14429]

Jie Li and Junqi Zhang

*A Modular Approach for Query Spotting in Document Images and Its Optimization Using Genetic Algorithms* [#E-14528]

Housseem Chatbri, Paul Kwan and Keisuke Kameyama

*An Improved Genetic Algorithm for Dynamic Shortest Path Problems* [#E-14568]

Xuezhi Zhu, Wenjian Luo and Tao Zhu

*A Novel Genetic Algorithm Considering Measures and Phrases for Generating Melody* [#E-14591]

Chia-Lin Wu, Chien-Hung Liu and Chuan-Kang Ting

*Optimal Sizing of DGs and Storage for Microgrid with Interruptible Load Using Improved NSGA-II* [#E-14408]

Zhe Shi, Yonggang Peng and Wei Wei

*Lion Algorithm for Standard and Large Scale Bilinear System Identification: A Global Optimization Based on Lion's Social Behavior* [#E-14694]

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*Intelligent Search Optimized Edge Potential Function (EPF) Approach to Synthetic Aperture Radar (SAR) Scene Matching* [#E-14373]

Yifei Wang and Jihao Yin

## **ThE2-1 Multi-Objective Evolutionary Algorithms II**

*A Replacement Strategy for Balancing Convergence and Diversity in MOEA/D* [#E-14220]

Zhenkun Wang, Qingfu Zhang, Maoguo Gong and Aimin Zhou

*A Test Problem for Visual Investigation of High-Dimensional Multi-Objective Search* [#E-14192]

Miqing Li, Shengxiang Yang and Xiaohui Liu

*MD-MOEA : A New MOEA Based on the Maximin Fitness Function and Euclidean Distances between Solutions* [#E-14180]

Adriana Menchaca-Mendez and Carlos A. Coello Coello

*Multiobjective Test Problems with Complicated Pareto Fronts: Difficulties in Degeneracy* [#E-14476]

Hui Li, Qingfu Zhang and Jingda Deng

*A Comparison Study of Binary Multi-Objective Particle Swarm Optimization Approaches for Test Case Selection* [#E-14623]

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*The Effect of Different Local Search Algorithms on the Performance of Multi-Objective Optimizers* [#E-14665]

Martin Pilat and Roman Neruda

## **ThE2-2 Cultural Algorithms and Knowledge Extraction in Evolutionary Algorithms**

*Cultural Algorithms Applied to the Evolution of Robotic Soccer Team Tactics: A Novel Perspective* [#E-14785]

Mostafa Ali, Abdulmalik Morghem, Jafar AlBadarneh, Rami Al-Gharaibeh, Ponnuthurai Nagarathnam Suganthan and Robert G. Reynolds

*Cultural Learning for Multi-Agent System and Its Application to Fault Management* [#E-14448]

Teran Juan, Aguilar Jose and Cerrada Mariela

*Analyzing Prehistoric Hunter Behavior with Cultural Algorithms* [#E-14717]

Samuel Stanley, Thomas Palazzolo and David Warnke

*GSCA: Reconstructing Biological Pathway Topologies Using a Cultural Algorithms Approach* [#E-14851]

Thair Judeh, Thaer Jayyousi, Lipi Acharya, Robert G. Reynolds and Dongxiao Zhu

*A Social Metrics Based Process Model on Complex Social System* [#E-14856]

Xiangdong Che and Robert G. Reynolds

*Online Knowledge-Based Evolutionary Multi-Objective Optimization* [#E-14774]

Bin Zhang, Kamran Shafi and Hussein Abbass

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*Controlled Restart in Differential Evolution Applied to CEC2014 Benchmark Functions* [#E-14823]

Radka Polakova, Josef Tvrdik and Petr Bujok

*Non-Uniform Mapping in Real-Coded Genetic Algorithms* [#E-14796]

Yashesh Dhebar, Kalyanmoy Deb and Sunith Bandaru

*Bandits Attack Function Optimization* [#E-14687]

Preux Philippe, Munos Remi and Valko Michal

*Differential Evolution with Rotation-Invariant Mutation and Competing-Strategies Adaptation* [#E-14808]

Petr Bujok, Josef Tvrdik and Radka Polakova

*Partial Opposition-Based Adaptive Differential Evolution Algorithms: Evaluation on the CEC 2014 Benchmark Set for Real-Parameter Optimization* [#E-14554]

Zhongyi Hu, Yukun Bao and Tao Xiong

*Memetic Differential Evolution Based on Fitness Euclidean-Distance Ratio* [#E-14529]

Jane Jing Liang, Boyang Qu, H. Song and Z. G. Shang

## **ThE2-4 Music, Art, Creativity, Games and Multi-Agent Systems**

*A Self Organising Map Based Method for Understanding Features Associated with High Aesthetic Value Evolved Abstract Images* [#E-14090]

Allan Campbell, Vic Ciesielski and Karen Trist

*When Artists Met Evospace-i* [#E-14396]

Francisco Fernandez de Vega, Mario Garcia-Valdez, Lilian Navarro, Cayetano Cruz, Patricia Hernandez, Tania Gallego and J. Vicente Albarran

*Parallelization of Information Set Monte Carlo Tree Search* [#E-14726]

Nicholas Sephton, Peter Cowling, Edward Powley, Daniel Whitehouse and Nicholas Slaven

*Comparing Crossover Operators in Neuro-Evolution with Crowd Simulations* [#E-14540]

Sunrise Wang, James Gain and Geoff Nitschke

*Genotype Coding, Diversity, and Dynamic Environments: A Study on an Evolutionary Neural Network Multi-Agent System* [#E-14747]

Jaime Davila

*The 2013 Multi-Objective Physical Travelling Salesman Problem Competition* [#E-14052]

Diego Perez, Edward Powley, Daniel Whitehouse, Spyridon Samothrakis, Simon Lucas and Peter Cowling

## **ThE2-5 Real-World Applications I**

*Vessel Track Correlation and Association Using Fuzzy Logic and Echo State Networks* [#E-14025]

Hang Shao, Rami Abielmona, Rafael Falcon and Nathalie Japkowicz

*Automatic Target Recognition Using Multiple-Aspect Sonar Images* [#E-14095]

Xiaoguang Wang, Xuan Liu, Nathalie Japkowicz and Stan Matwin

*Base Station Switching Problem for Green Cellular Networks with Social Spider Algorithm* [#E-14036]

James J.Q. Yu and Victor O.K. Li

*Deployment Optimization of Near Space Airships Based on MOEA/D with Local Search* [#E-14249]

Zhao Wang, Maoguo Gong, Qing Cai, Lijia Ma and Licheng Jiao

*Novel Traffic Signal Timing Adjustment Strategy Based on Genetic Algorithm* [#E-14150]

Hsiao-Yu Tung, Wei-Chiu Ma and Tian-Li Yu

*Encodings for Evolutionary Algorithms in Smart Buildings with Energy Management Systems* [#E-14827]

Ingo Mauser, Marita Dorscheid, Florian Allerding and Hartmut Schmeck

## **FrE1-1 Differential Evolution**

*Evolving Artificial Datasets to Improve Interpretable Classifiers* [#E-14041]

Michael Mayo and Quan Sun

*Differential Evolution in Constrained Sampling Problems* [#E-14207]

Gervasio Varela, Pilar Caamano, Felix Orjales, Alvaro Deibe, Fernando Lopez-Pena and Richard Duro

*Unsupervised Clustering and Multi-Optima Evolutionary Search* [#E-14436]

Vassilis Plagianakos

*A Novel Differential Evolution (DE) Algorithm for Multi-Objective Optimization* [#E-14533]

Xin Qiu, Jianxin Xu and Kay Chen Tan

*Differential Evolution Algorithm Applied to Non-Stationary Bandit Problem* [#E-14588]

David L. St-Pierre and Jialin Liu

*Effects of Population Initialization on Differential Evolution for Large Scale Optimization* [#E-14804]

Borhan Kazimipour, Xiaodong Li and A. K. Qin

## **FrE1-2 Process Mining and Data Mining**

*Declarative Process Discovery with Evolutionary Computing* [#E-14157]

Seppe vanden Broucke, Jan Vanthienen and Bart Baesens

*Control-Flow Discovery from Event Streams [#E-14258]*

Andrea Burattin, Alessandro Sperduti and Wil M. P. van der Aalst

*Perturbing Event Logs to Identify Cost Reduction Opportunities: A Genetic Algorithm-Based Approach [#E-14513]*

W.Z. Low, J. De Weerd, M.T. Wynn, A.H.M. ter Hofstede, Wil M. P. van der Aalst and Seppe vanden Broucke

*A Clustering-Based Approach for Exploring Sequences of Compiler Optimizations [#E-14831]*

Luiz Martins, Ricardo Nobre, Alexandre Delbem, Eduardo Marques and Joao Cardoso

*A Study on Non-Correspondence in Spread between Objective Space and Design Variable Space for Trajectory Designing Optimization Problem [#E-14386]*

Toru Yoshida and Tomohiro Yoshikawa

*Ensemble Bayesian Model Averaging in Genetic Programming [#E-14702]*

Alexandros Agapitos, Michael O'Neill and Anthony Brabazon

### **FrE1-3 Estimation of Distribution Algorithms and Machine Learning**

*Extending Distance-Based Ranking Models in Estimation of Distribution Algorithms [#E-14442]*

Josu Ceberio, Ekhine Irurozki, Alexander Mendiburu and Jose Antonio Lozano

*Quantum-Inspired Evolutionary Algorithm with Linkage Learning [#E-14403]*

Bo Wang, Hua Xu and Yuan Yuan

*Investigation on Efficiency of Optimal Mixing on Various Linkage Sets [#E-14124]*

Shih-Ming Wang, Yu-Fan Tung and Tian-Li Yu

*A Locally Weighted Metamodel for Pre-Selection in Evolutionary Optimization [#E-14399]*

Qiuxiao Liao, Aimin Zhou and Guixu Zhang

*Use Model Building on Discretization Algorithms for Discrete EDAs to Work on Real-Valued Problems [#E-14142]*

Yi-En Su and Tian-Li Yu

*Transformation of Input Space Using Statistical Moments: EA-Based Approach [#E-14364]*

Ahmed Kattan, Michael Kampouridis, Yew-Soon Ong and Khalid Mehamdi

### **FrE1-4 Evolutionary Computation Theory and Parameter Optimization**

*A Progressive Random Walk Algorithm for Sampling Continuous Fitness Landscapes [#E-14716]*

Katherine Malan and Andries Engelbrecht

*Runtime Analysis of Selection Hyper-Heuristics with Classical Learning Mechanisms [#E-14762]*

Fawaz Alanazi and Per Kristian Lehre

*Particle Swarm Convergence: An Empirical Investigation [#E-14451]*

Christopher Cleghorn and Andries Engelbrecht

*Phase Transition Particle Swarm Optimization [#E-14434]*

Ji Ma, Junqi Zhang, Wei Wang and Jing Yao

*Fitness Level Based Adaptive Operator Selection for Cutting Stock Problems with Contiguity [#E-14250]*

Kai Zhang, Thomas Weise and Jinlong Li

*Parameter Optimization by Means of Statistical Quality Guides in F-Race [#E-14465]*

Ronald Klazar and Andries Engelbrecht

### **FrE1-5 Multimodal Optimization and Population Initialization**

*A Globally Diversified Island Model PGA for Multimodal Optimization* [#E-14641]

Lifeng Zhang and Rong He

*A Topological Niching Covariance Matrix Adaptation for Multimodal Optimization* [#E-14679]

Marcio Pereira, Mauro Roisenberg and Guenther Neto

*Balancing the Exploration and Exploitation in an Adaptive Diversity Guided Genetic Algorithm* [#E-14087]

Fatemeh Vafaei, Gyorgy Turan, Peter Nelson and Tanya Berger-Wolf

*Compensate Information from Multimodal Dynamic Landscapes: An Anti-Pathology Cooperative Coevolutionary Algorithm* [#E-14602]

Xingguang Peng, Xiaokang Lei and Kun Liu

*A Review of Population Initialization Techniques for Evolutionary Algorithms* [#E-14789]

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*Running Up Those Hills: Multi-Modal Search with the Niching Migratory Multi-Swarm Optimiser* [#E-14197]

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*Multi-Objective Evolutionary Recurrent Neural Network Ensemble for Prediction of Computational Fluid Dynamic Simulations* [#E-14677]

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*Multi-view Clustering of Web Documents Using Multi-Objective Genetic Algorithm* [#E-14735]

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*Model Representation and Cooperative Coevolution for Finite-State Machine Evolution* [#E-14802]

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*Coevolutionary Genetic Algorithm for Variable Ordering in CSPs* [#E-14098]

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*Is MO-CMA-ES Superior to NSGA-II for the Evolution of Multi-Objective Neuro-Controllers?* [#E-14439]

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*Maximising Axiomatization Coverage and Minimizing Regression Testing Time* [#E-14238]

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*A New Adaptive Kalman Filter by Combining Evolutionary Algorithm and Fuzzy Inference System* [#E-14223]

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*Web Bots Detection Using Particle Swarm Optimization Based Clustering* [#E-14847]

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*A Dynamic-Weighted Collaborative Filtering Approach to Address Sparsity and Adaptivity Issues* [#E-14391]

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*Linear Sparse Arrays Designed by Dynamic Constrained Multi-Objective Evolutionary Algorithm* [#E-14469]

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*Mapping Constrained Optimization Problems to Penalty Parameters: An Empirical Study* [#E-14323]

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*A Constrained Multi-Objective Surrogate-Based Optimization Algorithm* [#E-14722]

Prashant Singh, Ivo Couckuyt, Francesco Ferranti and Tom Dhaene

*A Feature-Based Analysis on the Impact of Linear Constraints for e-Constrained Differential Evolution* [#E-14709]

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*Filter Based Backward Elimination in Wrapper Based PSO for Feature Selection in Classification* [#E-14863]

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*An Archive Based Particle Swarm Optimisation for Feature Selection in Classification* [#E-14525]

Bing Xue, A. K. Qin and Mengjie Zhang

*A Graph-Based Particle Swarm Optimisation Approach to QoS-Aware Web Service Composition and Selection* [#E-14392]

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*Task Allocation Under Communication Constraints Using Motivated Particle Swarm Optimization* [#E-14693]

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Marde Helbig and Andries Engelbrecht

*An Adaptive Diversity Introduction Method for Dynamic Evolutionary Multiobjective Optimization* [#E-14309]

Min Liu, Jinhua Zheng, Junnian Wang, Yuzhen Liu and Lei Jiang

*A Multiple Reference Point-Based Evolutionary Algorithm for Dynamic Multi-Objective Optimization with Undetectable Changes* [#E-14705]

Radhia Azzouz, Slim Bechikh and Lamjed Ben Said

*Artificial Bee Colony Induced Multi-Objective Optimization in Presence of Noise* [#E-14620]

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*A Cascaded Evolutionary Multi-Objective Optimization for Solving the Unbiased Universal Electric Motor Family Problem* [#E-14766]

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*Evolutionary Multiobjective Optimization in Dynamic Environments: A Set of Novel Benchmark Functions* [#E-14548]

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Chao Yu, Lingchen Kelley, Shaoqiu Zheng and Ying Tan

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*A Memetic Algorithm for the Prize Collecting Traveling Car Renter Problem* [#E-14252]

Matheus Menezes, Marco Goldberg and Elizabeth Goldberg

*Network on Chip Optimization Based on Surrogate Model Assisted Evolutionary Algorithms* [#E-14689]

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*A Genetic Algorithm for the Minimum Latency Pickup and Delivery Problem* [#E-14809]

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Michal Weiszer, Jun Chen, Stefan Ravizza, Jason Atkin and Paul Stewart