IEEE CEC 2018 Program

Tutorial CEC1_01: Co-evolutionary games
Sunday, July 8, 8:00AM-10:00AM, Room: Oceania I, Instructor: Hendrik Richter

Tutorial CEC2_01: Applying Stopping Criteria in Evolutionary Multi-Objective Optimization
Sunday, July 8, 8:00AM-10:00AM, Room: Oceania II, Instructor: Luis Marti and Nayat Sanchez-Pi

Tutorial CEC3_01: Evolutionary Large-Scale Global Optimization: An Introduction
Sunday, July 8, 8:00AM-10:00AM, Room: Oceania III, Instructor: Mohammad Nabi Omidvar and Xiaodong Li

Tutorial CEC4_01: Gentle Introduction to the Time Complexity Analysis of Evolutionary Algorithms
Sunday, July 8, 8:00AM-10:00AM, Room: Oceania IV, Instructor: Pietro S. Oliveto

Tutorial CEC1_02: Differential Evolution with Ensembles, Adaptations and Topologies
Sunday, July 8, 10:15AM-12:15PM, Room: Oceania I, Instructor: Ponnuthurai N. Suaganthan

Tutorial CEC2_02: Dynamic Multi-objective Optimization: Challenges, Applications and Future Directions
Sunday, July 8, 10:15AM-12:15PM, Room: Oceania II, Instructor: Marde Helbig and Kalyanmoy Deb

Tutorial CEC3_02: Representation in Evolutionary Computation
Sunday, July 8, 10:15AM-12:15PM, Room: Oceania III, Instructor: Daniel Ashlock

Tutorial CEC4_02: Constraint-Handling in Nature-Inspired Optimization
Sunday, July 8, 10:15AM-12:15PM, Room: Oceania IV, Instructor: Efr�n Mezura-Montes

Tutorial CEC1_03: Multi-concept Optimization
Sunday, July 8, 1:00PM-3:00PM, Room: Oceania I, Instructor: Amiram Moshaiov

Tutorial CEC2_04: Pareto Optimization for Subset Selection: Theory and Applications in Machine Learning
Sunday, July 8, 1:00PM-3:00PM, Room: Oceania II, Instructor: Yang Yu and Chao Qian

Tutorial CEC3_03: Parallel and distributed evolutionary algorithms
Sunday, July 8, 1:00PM-3:00PM, Room: Oceania III, Instructor: El-Ghazali Talbi

Tutorial CEC4_031: Machine Learning on Evolutionary Computation (Part I)
Sunday, July 8, 1:00PM-3:00PM, Room: Oceania IV, Instructor: Masaya Nakata, Shinichi Shirakawa, Frederic Chazal and Naoki Hamada

Tutorial CEC1_04: Evolutionary Bilevel Optimization
Sunday, July 8, 3:15PM-5:15PM, Room: Oceania I, Instructor: Ankur Sinha and Kalyanmoy Deb

Tutorial CEC2_031: Evolutionary Many-Objective Optimization (Part I)
Sunday, July 8, 3:15PM-5:15PM, Room: Oceania II, Instructor: Hisao Ishibuchi and Hiroyuki Sato

Tutorial CEC3_04: Evolutionary Algorithms and Hyperheuristics
Sunday, July 8, 3:15PM-5:15PM, Room: Oceania III, Instructor: Nelishia Pillay

Tutorial CEC4_032: Machine Learning on Evolutionary Computation (Part II)
Sunday, July 8, 3:15PM-5:15PM, Room: Oceania IV, Instructor: Masaya Nakata, Shinichi Shirakawa, Frederic Chazal and Naoki Hamada

Tutorial CEC1_05: Evolutionary Computation for Dynamic Optimization Problems
Sunday, July 8, 5:15PM-7:15PM, Room: Oceania I, Instructor: Shengxiang Yang

Tutorial CEC2_032: Evolutionary Many-Objective Optimization (Part II)
Sunday, July 8, 5:15PM-7:15PM, Room: Oceania II, Instructor: Hisao Ishibuchi and Hiroyuki Sato

Tutorial CEC3_05: Parallelization of Evolutionary Algorithms: MapReduce and Spark
Sunday, July 8, 5:15PM-7:15PM, Room: Oceania III, Instructor: Simone Ludwig

Tutorial CEC4_04: Evolutionary Algorithms, Swarm Dynamics, and Complex Networks: Recent Advances and Progress
Sunday, July 8, 5:15PM-7:15PM, Room: Oceania IV, Instructor: Ivan Zelinka

Session CDSS-8: Computational Intelligence for Games
Monday, July 9, 8:00AM-10:00AM, Room: CAPRI I, Chair: Daniel Ashlock, Jialin Liu, and Santiago Onta��n

8:00AM Evolving Dungeon Maps With Locked Door Missions [#18270]
Leonardo Tortoro Pereira, Claudio Fabiano Motta Toledo and Paulo Victor de Souza Prado
Universidade de Sao Paulo (USP), Brazil

8:20AM AI-assisted game debugging with Cicero [#18415]
Tiago Machado, Daniel Gopstein, Andy Nealen, Oded Nov and Julian Togelius
New York University, United States of America

8:40AM On the Evolution of Fairness in N-player Ultimatum Games [#18071]
Garrison Greenwood and Daniel Ashlock
Portland State University, United States of America; University of Guelph, Canada

9:00AM Two Population Studies of Evolving Game Playing Agents [#18249]
Daniel Ashlock and Eun-Youn Kim
University of Guelph, Canada; Hanbat National University, Korea (South)

9:20AM Surprising strategies obtained by stochastic optimization in partially observable games [#18357]
Marie-Liesse Cauwet and Olivier Teytaud
Mines Saint-Etienne, France; INRIA Saclay, France

Session SS1: Evolutionary Many-Objective Optimization
Monday, July 9, 8:00AM-10:00AM, Room: CAPRI II, Chair: Ran Cheng, Miqing Li, Rui Wang, and Xin Yao

8:00AM A Many Objective Evolutionary Algorithm with Fast Clustering and Reference Point Redistribution

[#18023]
Mingde Zhao, Hongwei Ge, Hongyan Han and Liang Sun
Dalian University of Technology, China

8:20AM Industrial Portfolio Management for Many-Objective Optimization Algorithms [#18159]
Tobias Rodemann
Honda Research Institute Europe, Germany

8:40AM Information to the Eye of the Beholder: Data Visualization for Many-Objective Optimization [#18186]
Ivan R. Meneghini, Roozbeh H. Koochaksaraei, Frederico G. Guimaraes and Antonio Gaspar-Cunha
MINDS Lab, Universidade Federal de Minas Gerais, Brazil; Universidade do Minho, Portugal

9:00AM A Cost Value Based Evolutionary Many-Objective Optimization Algorithm With Neighbor Selection Strategy [#18261]
Jiawei Yuan, Hai-Lin Liu and Fangqing Gu
Guangdong University of Technology, China

9:20AM Using Modified Determinantal Point Process Sampling to Update Population [#18312]
Tengfei Li and Jinlong Li
University of Science and Technology of China, China

9:40AM A Many-Objective Particle Swarm Optimization Based on Virtual Pareto Front [#28018]
Bolin Wu, Wang Hu, Zhenan He, Min Jiang and Gary Yen
University of Electronic Science and Technology of China, China; Sichuan University, China; Xiamen University, China; Oklahoma State University, United States of America

Session SS28: Differential Evolution: Past, Present and Future

Monday, July 9, 8:00AM-10:00AM, Room: CAPRI III, Chair: Rammohan Mallipeddi, Efr *n Mezura Montes, Kai Qin, and Swagatam Das*

8:00AM A Computational Comparison of Evolutionary Algorithms for Water Resource Planning for Agricultural and Environmental Purposes [#18102]
James Montgomery, Andrew Fitzgerald, Marcus Randall and Andrew Lewis
University of Tasmania, Australia; Tasmanian Government, Australia; Bond University, Australia; Griffith University, Australia

8:20AM Maximum Power Point Tracking in PV Farms Using DE and PSO Algorithms: A Comparative Study [#18176]
Faizan Khan, Ali Sunbul, Mohammad. Y. Ali, Haytham AbdEl-Gawad, Shahryar Rahnamayan and Vijay. K. Sood
University of Ontario Institute of Technology, Canada

8:40AM Enhancing Adaptive Differential Evolution Algorithms with Rank-Based Mutation Adaptation [#18433]
Miguel Leon and Ning Xiong
Malardalen University, Sweden

9:00AM A Switched Parameter Differential Evolution with Multi-donor Mutation and Annealing based Local Search for Optimization of Lennard-Jones Atomic Clusters [#18548]
Arka Ghosh, Rammohan Mallipeddi, Swagatam Das and Asit Kr. Das
Indian Statistical Institute, Kolkata, India; Kyungpook National University, Korea (South); Indian Institute of Engineering Science and Technology, Shibpur, India

9:20AM Competition-Based Distributed Differential Evolution [#18329]
Yong-Feng Ge, Wei-Jie Yu, Zhi-Hui Zhan and Jun Zhang
South China University of Technology, China; Sun Yat-sen University, China

9:40AM An Efficient Differential Evolution Algorithm for Solving 0-1 Knapsack Problems [#18135]
Ismail Ali, Daryl Essam and Kathryn Kasmarik
School of Engineering and Information Technology University of New South Wales, Canberra, Australia

Session SS5: Evolutionary Computation for Feature Selection, Extraction and Dimensionality Reduction
Monday, July 9, 8:00AM-10:00AM, Room: CAPRI IV, Chair: Bing Xue, Yaochu Jin, and Mengjie Zhang

8:00AM A Tunable Particle Swarm Size Optimization Algorithm for Feature Selection [#18120]
Naresh Mallenahalli and Hitendra Sarma Thogarcheti
National Remote Sensing Center (ISRO), Hyderabad, India; Srinivasa Ramanujan Institute of Technology, Anantapur, India

8:20AM A Multi-Objective Hybrid Filter-Wrapper Evolutionary Approach For Feature Construction On High-Dimensional Data [#18288]
Marwa Hammami, Slim Bechikh, Chih-Cheng Hung and Lamjed Ben Said
SMART lab, University of Tunis, ISG-Campus, Tunisia, Tunisia; LMVSR, KSU, Marietta, GA, USA and Anyang Normal University, China, United States of America

8:40AM Comparing Multiobjective Evolutionary Algorithms for Cancer Data Microarray Feature Selection [#18307]
Julieta Sol Dussaut, Pablo Javier Vidal, Ignacio Ponzoni and Ana Carolina Olivera
CONICET - Universidad Nacional del Sur, Argentina; CIT Golfo San Jorge CONICET - Universidad Nacional de la Patagonia Austral, Argentina

9:00AM A V-Shaped Binary Crow Search Algorithm for Feature Selection [#18366]
Rodrigo Clemente Thom de Souza, Camila Macedo, Leandro Coelho and Juliano Pierezan
Federal University of Parana, Brazil; Pontifical Catholic University of Parana / Federal University of Parana, Brazil

9:20AM Quantum-inspired Evolutionary Algorithm for Feature Selection in Motor Imagery EEG Classification [#28007]
Alimed Celecia and Marley Vellasco
Pontifical Catholic University of Rio de Janeiro (PUC-Rio), Brazil

9:40AM Particle Swarm Optimisation for Feature Selection and Weighting in High-Dimensional Clustering [#18388]
Damien O'Neill, Andrew Lensen, Bing Xue and Mengjie Zhang
Victoria University of Wellington, New Zealand

Session BPN: Best Paper Award Nominations
Monday, July 9, 8:00AM-10:00AM, Room: CAPRI V+VI, Chair: Fernando von Zuben

8:00AM Efficient Global Optimization for Solving Computationally Expensive Bilevel Optimization Problems [#18074]
Md Monjurul Islam, Hemant Singh and Tapabrata Ray
The University of New South Wales, Australia

8:20AM Comparing Approaches for Evolving High-level Robot Control based on Behaviour Repertoires [#18093]
Jorge Gomes and Anders Lyhne Christensen
BioISI, Faculdade de Ciencias da Universide de Lisboa / BioMachines Lab, Portugal; Instituto Universitario de Lisboa (ISCTE-IUL) / BioMachines Lab / Instituto de Telecomunicacoes, Portugal

8:40AM Learning classification rules with differential evolution for high-speed data stream mining on GPUs [#18139]
Alberto Cano and Bartosz Krawczyk

Virginia Commonwealth University, United States of America

9:00AM On the performance of multi-objective estimation of distribution algorithms for combinatorial problems [#18217]

Marcella Martins, Mohamed El Yafrani, Roberto Santana, Myriam Delgado, Ricardo L\"{u}ders and Bela\"{i}d Ahiod

Federal University of Technology - Paran\'{a}, Brazil; Mohammed V University of Rabat, Morocco; University of the Basque Country, Spain

9:20AM Bilevel Optimization based on Kriging Approximations of Lower Level Optimal Value Function [#18256]

Ankur Sinha, Samish Bedi and Kalyanmoy Deb

Indian Institute of Management Ahmedabad, India; Birla Institute of Technology and Science, India; Michigan State University, United States of America

9:40AM The N-Tuple Bandit Evolutionary Algorithm for Game Agent Optimisation [#18470]

Simon Lucas, Jialin Liu and Diego Perez-Liebana

Queen Mary University of London, United Kingdom

Plenary Talk PL1: Rise of Evolutionary Multi-Criterion Optimization: Destined or Directed?
Monday, July 9, 1:00PM-2:00PM, Room: Asia 2, Speaker: Kalyanmoy Deb

Session CDSS131: Computational Intelligence to Data Enginnering and its Applications to Real-World Problems I
Monday, July 9, 2:10PM-4:10PM, Room: CAPRI I, Chair: Abir Hussain, Dhiya Al-Jumeiy, Hissam Tawfik, and Jamila Mustafina

2:10PM A Data Science Methodology Based on Machine Learning Algorithms for Flood Severity Prediction [#18072]

Mohammed Khalaf, Abir Hussain, Al-Jumeily Dhiya, Robert Keight, Paul Fergus, Thar Baker, Paulo Lisboa and Ala Al Kafri

Liverpool john moors university, United Kingdom

2:30PM Real-time Detection of Wearable Camera Motion Using Optical Flow [#18079]

Ola Younis, Waleed Al-Nuaimy, Fiona Rowe and Mohammad H. Alomari

University of Liverpool, United Kingdom

2:50PM Just-in-time Customer Churn Prediction: With and Without Data Transformation [#18165]

Adnan Amin, Babar Shah, Asad Masood Khattak, Thar Baker, Hamood ur Rahman Durani and Sajid Anwar

Center for Excellence in Information technology, Institute of Management Sciences, Peshawar 25000, Pakistan; College of Technological Innovation, Zayed University, 144534 Abu Dhabi, United Arab Emirates; School of Computer Science, Liverpool John Moores University, United Kingdom; Center for Excellence in Information Technology Institute of Management Sciences Peshawar 25000, Pakistan

3:10PM Early Prediction of Chronic Kidney Disease Using Machine Learning Supported by Predictive Analytics [#18206]

Ahmed J. Aljaaf, Dhiya Al-Jumeily, Hussein M. Haglan, Mohamed Alloghani, Jamila Mustafina and Abir J. Hussain

Liverpool John Moores University, United Kingdom; University of Anbar, Iraq; Abu Dhabi Health Services Company, United Arab Emirates; Kazan Federal University, Russia

3:30PM Forecasting Natural Events using Axonal Delay [#18240]

David Reid, Abir Hussain, Hissam Tawfik, Rozaida Ghazali and Al-Jumeily Dhiya

Liverpool Hope University, United Kingdom; Liverpool John Moores University, United Kingdom;

Leeds Beckett University, United Kingdom; Universiti Tun Hussein Onn Malaysia, Malaysia

3:50PM Predicting Freezing of Gait in Parkinsons Disease Patients using Machine Learning [#18251]
Natasa K. Orphanidou, Abir Hussain, Robert Keight, Paulo Lisboa, Jade Hind and Haya Al-Askar
Liverpool John Moores University, United Kingdom; Prince Sattam Bin Abdulaziz University, Saudi Arabia

Session SS15: Nature-Inspired Constrained Optimization

Monday, July 9, 2:10PM-4:10PM, Room: CAPRI II, Chair: Efr[illegible]*n Mezura-Montes, Helio J.C. Barbosa, and Rituparna Datta*

2:10PM Differential Evolution with Adaptive Penalty and Tournament Selection for Optimization Including Linear Equality Constraints [#18407]
Heder Bernardino, Helio Barbosa and Jaqueline Angelo
Universidade Federal de Juiz de Fora, Brazil; Laboratorio Nacional de Computacao Cientifica and Universidade Federal de Juiz de Fora, Brazil; Laboratorio Nacional de Computacao Cientifica, Brazil

2:30PM Balancing Survival of Feasible and Infeasible Solutions in Constraint Evolutionary Optimization Algorithms [#18154]
Zhichao Lu, Deb Kalyanmoy and Singh Hemant
Graduate Student, United States of America; Koenig Endowed Chair Professor, Michigan State University, United States of America; Assistant Professor, Australia

2:50PM A Comparison of Constraint Handling Techniques for Dynamic Constrained Optimization Problems [#18521]
Maria Yaneli Ameca Alducin, Maryam Hasani Shoreh, Wilson Blaikie, Frank Neumann and Efren Mezura Montes
The University of Adelaide, Australia; University of Veracruz, Mexico

3:10PM A Simple Approach for Constrained Optimization - An Evolution Strategy that Evolves Rays [#18131]
Patrick Spettel and Hans-Georg Beyer
Vorarlberg University of Applied Sciences, Austria

3:30PM Gradient-based Mechanism For PSO Algorithm: A Comparative Study On Numerical Benchmarks [#18462]
Diego Luiz Cavalca and Ricardo Augusto Souza Fernandes
Federal University of Sao Carlos, Brazil

3:50PM Landscape-based Differential Evolution for Constrained Optimization Problems [#18105]
Karam Sallam, Saber Elsayed, Ruhul Sarker and Daryl Essam
UNSW at Canberra, Australia

Session SS3: Evolutionary Robotics

Monday, July 9, 2:10PM-4:10PM, Room: CAPRI III, Chair: Renan C. Moioli, Patricia A. Vargas, Micael Couceiro, Josh Bongard, and Phil Husbands

2:10PM Decentralized Multi-Robot Mission Planning using Evolutionary Computation [#18259]
Sugandha Dumka, Smiti Maheshwari and Rahul Kala
Indian Institute of Information Technology, Allahabad, India

2:30PM A Darwinian Swarm Robotics Strategy Applied to Underwater Exploration [#18155]
Nicolas David Griffiths Sanchez, Patricia A. Vargas and Micael S. Couceiro
Heriot-Watt University, United Kingdom; Ingeniarius, Lda, Portugal

2:50PM Evolutionary Design of an Open-Loop Turn Circle Intercept Controller [#18505]
Pavlos Androulakakis, Zachariah Fuchs and Jason Shroyer

Wright State University, United States of America; Air Force Research Lab, United States of America

3:10PM Using Optimization, Learning, and Drone Reflexes to Maximize Safety of Swarms of Drones [#18372]
Amin Majd, Adnan Ashraf, Elena Troubitsyna and Masoud Daneshtalab
Abo Akademi University, Finland; Malardalen University, Sweden

3:30PM Morphongenesis-Based Multidimensional Shape Formation of Swarms [#18425]
Andre Braga, Paulo Rosa and Ronaldo Goldschmidt
Instituto Militar de Engenharia, Brazil

Session SS14: Evolutionary Methods in Real-world Machine Learning: Non-standard Problems, Big Data and Applications

Monday, July 9, 2:10PM-4:10PM, Room: CAPRI IV, Chair: Isaac Triguero, Mikel Galar, and Jos&#65533; Mar&#65533;a Luna

2:10PM NGA-LP: A robust and improved genetic algorithm to detect communities in directed networks [#18400]
Rodrigo Francisquini, Maria Nascimento and Marcio Basgalupp
Universidade Federal de Sao Paulo, Brazil

2:30PM Scalable Batch Stream Clustering with k Estimation [#18451]
Paulo L. Candido, Jonathan A. Silva, Elaine R. Faria and Murilo C. Naldi
Universidade Federal de Vicosa, Brazil; Universidade Federal de Mato Grosso do Sul, Brazil; Universidade Federal de Uberlandia, Brazil

2:50PM An Evolutionary Learning Approach to Play Othello Using XCS [#18227]
Satvik Jain, Siddharth Verma, Swaraj Kumar and Swati Aggarwal
Netaji Subhas Institute of Technology, India

Session BSPN: Best Student Paper Award Nominations

Monday, July 9, 2:10PM-4:10PM, Room: CAPRI V+VI, Chair: Hisao Ishibuchi

2:10PM The Baldwin effect reconsidered through the prism of social learning [#18187]
Nam Le, Michael O'Neill and Anthony Brabazon
University College Dublin, Ireland

2:30PM Genetic Programming for Automatic Global and Local Feature Extraction to Image Classification [#18218]
Ying Bi, Mengjie Zhang and Bing Xue
Victoria University of Wellington, New Zealand

2:50PM Differential Evolution with Stochastic Selection for Uncertain Environments: A Smart Grid Application [#18345]
Vikas Palakonda, Noor H. Awad, Rammohan Mallipeddi, Mostafa Z. Ali, K. C. Veluvolu and Suganthan Ponnuthurai Nagaratnam
Kyungpook National University, Korea (South); Nanyang Technological University, Singapore; Jordan University of Science and Technology, Jordan

3:10PM Evidence-Based Robust Optimisation of Space Systems with Evidence Network Models [#18403]
Gianluca Filippi, Massimiliano Vasile, Mariapia Marchi and Paolo Vercesi
University of Strathclyde, Scotland; ESTECO SpA, Italy

3:30PM Meiotic Inheritance and Gene Dominance in Synthetic Sympatric Speciation [#18485]
William Booker and Dean Hougen
University of Oklahoma, United States of America

Plenary Poster Session PS1: Poster Session I

Monday, July 9, 4:10PM-6:30PM, Room: Europa II, Chair: Millaray Curilem

P101 A Many-Objective Estimation Distributed Algorithm Applied to Search Based Software Refactoring [#18298]
Glauber Botelho, Leonardo Bezerra, Andre Britto and Leila Silva
Federal University of Sergipe, Brazil

P102 LSHADE44 with an Improved Epsilon Constraint-handling Method for Solving Constrained Single-objective Optimization Problems [#18309]
Zhun Fan, Yi Fang, Wenji Li, Yutong Yuan, Zhaojun Wang and Xinchao Bian
Shantou University, China

P103 Quest for Good Spanners of Hypercubes [#18338]
David Kubon and Petr Gregor
Charles University, Czech Republic

P104 Multistate Satellite System Reliability Optimization Based on Improved Compression Inference Algorithm and Bayesian Network [#18350]
Xiaohu Zheng, Xianqi Chen, Wen Yao, Xiaoqian Chen, Longqi Yang and Yazhong Luo
College of Aerospace Science National University of Defense Technology, China; National Innovation Institute of Defense Technology Chinese Academy of Military Science, China

P105 The Hybrid Algorithms Based on Differential Evolution for Satellite Layout Optimizatiom Design [#18351]
Xianqi Chen, Wen Yao, Yong Zhao, Xiaoqian Chen, Jun Zhang and Yazhong Luo
College of Aerospace Science and Engineering, National University of Defense Technology, China; National Innovation Institute of Defense Technology, Chinese Academy of Military Science, China

P106 Texture representation and classification with artificial hikers and fractals [#18370]
Lucas Soares, Klaus Coco, Evandro Salles and Patrick Ciarelli
Universidade Federal do Espirito Santo, Brazil

P107 Surrogate Model Management in Genetic Algorithms with Fuzzy Controllers [#18463]
Israel Cruz, Juan Manuel Ramirez and Jose de Jesus Rangel
CONACYT - INAOE, Mexico; INAOE, Mexico

P108 Can Simple GAs Solve Beehive Hidato Logic Puzzles? The Influence of Diversity Preservation and Genetic Operators [#18188]
Matheus Silva and Camila De Magalhaes
Federal University of Rio de Janeiro, Brazil

P109 Multi-Objective Genetic Algorithm Implemented on a STM32F407 Microcontroller [#18277]
Pedro Henrique Santos, Gustavo Luis Soares, Thiago Machado-Coelho, Bernardo Augusto Godinho de Oliveira, Petr Ekel, Flavia Freitas and Carlos Augusto Martins
Pontifical Catholic University of Minas Gerais, Brazil; Federal University of Minas Gerais, Brazil

P110 Evolving constructive heuristics for agile earth observing satellite scheduling problem with genetic programming [#18379]
Feiyu Zhang, Yuning Chen and Yingwu Chen
National University of Defense Technology, China

P111 Use of Computational Intelligence for Scheduling of Pumps in Water Distribution Systems: a comparison between optimization algorithms [#18426]
Tulio P. Vieira, Paulo E. M. Almeida, Magali R. G. Meireles and Marcone J. F. Souza
LSI / CEFET-MG, Brazil; IMSI / PUC Minas, Brazil; DECOM / ICEB / UFOP, Brazil

P112 P-ENS: Parallelism in Efficient Non-dominated Sorting [#28012]
Sumit Mishra and Carlos Coello Coello

CINVESTAV-IPN, Mexico

Session CDSS132: Computational Intelligence to Data Enginnering and its Applications to Real-World Problems II

Monday, July 9, 4:30PM-6:30PM, Room: CAPRI I, Chair: Abir Hussain, Dhiya Al-Jumeiy, Hissam Tawfik, and Jamila Mustafina

4:30PM Identification of Optimal Frequencies to Determine Alpha-Cypermethrin using Machine Learning Feature Selection Techniques [#18257]

Patryk Kot, Magomed Muradov, Samuel Ryecroft, Montsserat Ortoneda Pedrola, Andrew Shaw, Janet Hemingway, Rinki Deb and Michael Coleman

Liverpool John Moores University, United Kingdom; Liverpool School of Tropical Medicine, United Kingdom

4:50PM The Application of Gaussian Mixture Models for the Identification of At-Risk Learners in Massive Open Online Courses [#18264]

Raghad AL-Shabandar, Abir Jaafar Hussain, Robert Keight, Andy Laws and Thar Baker

Department of Computer Science ,Liverpool John Moores, United Kingdom

5:10PM Improving Type 2 Diabetes Phenotypic Classification by Combining Genetics and Conventional Risk Factors [#18276]

Basma Abdulaimma, Abir Hussain, Paul Fergus, Dhiya Al-Jumeily, Paulo Lisboa, De-Shuang Huang and Naeem Radi

Liverpool John Moores University, United Kingdom; Tongji University, China; Al Khawarizmi International College, United Arab Emirates

5:30PM Segmentation of Lumbar Spine MRI Images for Stenosis Detection using Patch-based Pixel Classification Neural Network [#18378]

Ala Al Kafri, Sud Sudirman, Abir Hussain, Dhiya Al-Jumeily, Paul Fergus, Friska Natalia, Hira Meidia, Nunik Afriliana, Ali Sophian, Mohammed Al-Jumaily, Mohammed Bashtawi and Wasfi Al-Rashdan

Liverpool John Moores University, United Kingdom; Universitas Multimedia Nusantara, Indonesia; International Islamic University Malaysia, Malaysia; Dr Sulaiman Al Habib Hospital, United Arab Emirates; Irbid Speciality Hospital, Jordan

5:50PM Evolutionary Computation for Path Planning of Autonomous Surface Vehicles using Eulerian Graphs [#18383]

Mario Arzamendia, Gutierrez Daniel, Toral Sergio, Gregor Derlis and Tawfik Hissam

National University of Asuncion, Paraguay; Loyola Andalucia Univrsity, Spain; University of Sevilla, Spain; Leeds Becket University, United Kingdom

6:10PM Predicting Diabetes Onset: an Ensemble Supervised Learning Approach [#18247]

Nonso Nnamoko, Abir Hussain and David England

Computer Science Department, Edge Hill University University, United Kingdom, United Kingdom; Computer Science Department, Liverpool John Moores University, United Kingdom, United Kingdom

Session SS37: Diversity Preservation Mechanisms for Population-based Meta-heuristics

Monday, July 9, 4:30PM-6:30PM, Room: CAPRI II, Chair: Carlos Segura, Eduardo Segredo, and Gara Miranda

4:30PM Balancing the Diversification-Intensification Trade-off Using Mixtures of Probability Models [#18149]

Joan Alza, Josu Ceberio and Borja Calvo

University of the Basque Country UPV/EHU, Spain

4:50PM Parent Selection Strategies in Niching Genetic Algorithms [#18193]

Raquel Farias and Camila De Magalhaes
Federal University of Rio de Janeiro, Brazil

5:10PM Analysis and Enhancement of the Simulated Binary Crossover [#18532]
Joel Chacon Castillo and Carlos Segura
Centro de Investigacion de Matematicas, Mexico

5:30PM A Diversity Promotion Study in Constrained Optimization [#18531]
Luis-Enrique Contreras-Varela and Efren Mezura-Montes
University of Veracruz, Mexico

5:50PM Augmented Gene Expression Programming: A population diversifying paradigm [#18207]
Shreya Kataria, Somya Sangal, Twishi Tyagi and Swati Aggarwal
Netaji Subhas Institute of Technology, Delhi, India, India

6:10PM Explicit Control of Diversity in Differential Evolution [#18535]
Nayeli Angel, Carlos Segura and Oscar Dalmau
Center for Research in Mathematics, Mexico

Session SS4: New Directions in Evolutionary Machine Learning
Monday, July 9, 4:30PM-6:30PM, Room: CAPRI III, Chair: Yusuke Nojima, Will Browne, and Masaya Nakata

4:30PM Multi-objective Support Vector Machines Ensemble Generation for Water Quality Monitoring [#18103]
Victor Henrique Alves Ribeiro and Gilberto Reynoso-Meza
Pontifical Catholic University of Parana, Brazil

4:50PM Hybridization of Cartesian Genetic Programming and Differential Evolution for Generating Classifiers based on Neural Networks [#18109]
Johnathan Melo Neto, Heder Bernardino and Helio Barbosa
Universidade Federal de Juiz de Fora, Brazil; Laboratorio Nacional de Computacao Cientifica and Universidade Federal de Juiz de Fora, Brazil

5:10PM Decomposition based Multi-Objective Evolutionary Algorithm in XCS for Multi-Objective Reinforcement Learning [#18231]
Xiu Cheng, Will Browne and Mengjie Zhang
School of Engineering and Computer Science, Victoria University of Wellington, New Zealand

5:30PM Increasing Boosting Effectiveness with Estimation of Distribution Algorithms [#18285]
Henry Cagnini, Marcio Basgalupp and Rodrigo Barros
PUCRS, Brazil; UNIFESP, Brazil

5:50PM An Experimental Study on Hyper-parameter Optimization for Stacked Auto-Encoders [#28016]
Yanan Sun, Bing Xue, Mengjie Zhang and Gary Yen
Victoria University of Wellington, New Zealand; Oklahoma State University, United States of America

6:10PM Confidence Measures for Carbon-Nanotube / Liquid Crystals Classifiers [#18442]
Eleonore Vissol-Gaudin, Apostolos Kotsialos, Christopher Groves, Christpoher Pearson, Dagou, A. Zeze, Michael, C. Petty and Noura Al-moubayed
Department of Engineering, Durham University, United Kingdom; Department ofComputer Sciences Durham University, United Kingdom

Session PSO1: Particle swarm optimization I
Monday, July 9, 4:30PM-6:30PM, Room: CAPRI IV, Chair: Carmelo Bastos-Filho and Joao Fonseca Neto

4:30PM Cable Connection Scheme Optimization for Offshore Wind Farm Considering Wake Effect [#18114]
Hou Peng, Yang Guangya, Hu Weihao, Chen Cong, Soltani Mohsen and Chen Zhe

Technical university of Denmark, Denmark; Aalborg University, Denmark

4:50PM Pareto Improving Selection of the Global Best in Particle Swarm Optimization [#18034]
Stephyn Butcher, John Sheppard and Shane Strasser
Johns Hopkins University, United States of America; Montana State University, United States of America

5:10PM A Modified QPSO for Robotic Vehicle Path Planning [#18052]
Pedro Fernandes, Roberto Oliveira and Joao Fonseca Neto
Universidade Federal do Sul e Sudeste do Para - UNIFESSPA, Brazil; Universidade Federal do Para - UFPA, Brazil; Universidade Federal do Maranhao - UFMA, Brazil

5:30PM Understanding Particle Swarm Optimization: A Component-Decomposition Perspective [#18511]
Daqing Yi, Kevin Seppi and Michael Goodrich
Brigham Young University, United States of America

5:50PM Double-Swarm Binary Particle Swarm Optimization [#18411]
Hugo Siqueira, Elliackin Figueiredo, Mariana Macedo, Clodomir Santana Jr., Pedro Santos, Anu Gokhale and Carmelo Bastos-Filho
Federal University of Technology - Parana, Brazil; University of Pernambuco, Brazil; Illinois State University, United States of America

6:10PM Structure Selection of Polynomial NARX Models using Two Dimensional (2D) Particle Swarms [#18177]
Faizal Hafiz, Akshya Swain, Eduardo MAM Mendes and Nitish Patel
University of Auckland, New Zealand; Federal University of Minas Gerais, Brazil

Session EMO1: Multi-Objective Evolutionary Algorithms I
Tuesday, July 10, 8:00AM-10:00AM, Room: CAPRI I, Chair: Manuel Villalobos Cid and Zhenan He

8:00AM Dynamic Specification of a Reference Point for Hypervolume Calculation in SMS-EMOA [#28037]
Hisao Ishibuchi, Ryo Imada, Naoki Masuyama and Yusuke Nojima
Southern University of Science and Technology, China; Osaka Prefecture University, Japan

8:20AM Collaborative and Adaptive Strategies of Different Scalarizing Functions in MOEA/D [#28029]
Miriam Pescador-Rojas and Carlos Coello Coello
CINVESTAV-IPN, Mexico

8:40AM Multi-Objective Evolutionary Algorithm with Gaussian Process Regression [#18297]
Elaine Guerrero Pena and Aluizio Fausto Ribeiro Araujo
Universidade Federal de Pernambuco-UFPE, Brazil

9:00AM MBOS: Modified Best Order Sort Algorithm for Performing Non-dominated Sorting [#18115]
Sumit Mishra, Sriparna Saha and Samrat Mondal
Department of Computer Science, CINVESTAV-IPN, Mexico City, Mexico; Department of Computer Science and Engineering,Indian Institute of Technology Patna, Patna, India; Department of Computer Science, University of Denver, Denver, Colorado, United States of America

9:20AM Understanding the relationship between decision and objective space in the multi-objective phylogenetic inference problem [#18170]
Manuel Villalobos-Cid, Marcio Dorn and Mario Inostroza-Ponta
Universidad de Santiago de Chile, Chile; Federal University of Rio Grande do Sul, Brazil

9:40AM Multi-objective Evolutionary Rank Aggregation for Recommender Systems [#18469]
Samuel Oliveira, Victor Diniz, Anisio Lacerda and Gisele Pappa
Universidade Federal de Minas Gerais, Brazil; Centro Federal de Educacao Tecnologica de Minas Gerais, Brazil

Session SS34: Competition on (Bound-) Constrained Single Objective Numerical Optimization
Tuesday, July 10, 8:00AM-10:00AM, Room: CAPRI II, Chair: P. N. Suganthan, Rammohan Mallipeddi, Mostafa Z. Ali, and Guohua Wu

8:00AM A Matrix Adaptation Evolution Strategy for Constrained Real-Parameter Optimization [#18129]
Michael Hellwig and Hans-Georg Beyer
Vorarlberg University of Applied Science, Austria

8:20AM LSHADE Algorithm with Rank-Based Selective Pressure Strategy for Solving CEC 2017 Benchmark Problems [#18151]
Vladimir Stanovov, Shakhnaz Akhmedova and Eugene Semenkin
Reshetnev Siberian State University of Science and Technology, Russia

8:40AM Hybrid Sampling Evolution Strategy for Solving Single Objective Bound Constrained Problems [#18226]
Geng Zhang and Yuhui Shi
Southern University of Science and Technology, China

9:00AM Hybrid Single Parent-Offspring MVMO for Solving CEC 2018 Computationally Expensive Problems [#18376]
Jose Luis Rueda Torres and Istvan Erlich
Delft University of Technology, Netherlands; University Duisburg-Essen, Germany

9:20AM Hybrid Population Based MVMO for Solving CEC 2018 Test Bed of Single-Objective Problems [#18377]
Jose Luis Rueda Torres and Istvan Erlich
Delft University of Technology, Netherlands; University Duisburg-Essen, Germany

9:40AM Improved United Multi-Operator algorithm for Solving Optimization Problems [#18530]
Karam Sallam, Saber Elsayed, Ruhul Sarker and Daryl Essam
UNSW at Canberra, Australia

Session SS2: Memetic Computing
Tuesday, July 10, 8:00AM-10:00AM, Room: CAPRI III, Chair: Chuan-Kang Ting, Jinghui Zhong, Liang Feng, Maoguo Gong, and Meng-Hiot Lim

8:00AM A Preliminary Study of Adaptive Indicator based Evolutionary Algorithm for Dynamic Multiobjective Optimization via Autoencoding [#18327]
Zhou Wei, Feng Liang, Jiang Siwei, Zhang Shu, Hou Yaqing, Ong Yew-Soon, Zhu Zexuan and Liu Kai
Chongqing University, China; Product Technology Platform, Hema, Alibaba Group, China; Nanyang Technological University, Singapore; Shenzhen University, China

8:20AM A Guided Differential Evolutionary Multi-tasking with Powell search method for solving Multi-objective Continuous Optimization [#18237]
Tuan Nguyen Quoc, Hoang Ta Duy and Binh Huynh Thi Thanh
Hanoi University of Science and Technology, Viet Nam

8:40AM Effective Multifactorial Evolutionary Algorithm for Solving the Cluster Shortest Path Tree Problem [#18332]
Thi Thanh Binh Huynh, Dinh Thanh Pham, Ba Trung Tran and Phuong Thao Le
School of Information and Communication Technology, Hanoi University of Science and Technology, Viet Nam; Faculty of Mathematics - Physics - Informatics, Taybac University, Viet Nam

9:00AM An effective representation scheme in Multifactorial Evolutionary Algorithm for solving Cluster Shortest-Path Tree Problem [#18510]
Dinh Thanh Pham, Anh Dung Dinh, Ngoc Tien Tran and Thi Thanh Binh Huynh

Mathematics - Physics - Informatic, Taybac University, Viet Nam; School of Information and Communication Technology, Hanoi University of Science and Technology, Viet Nam

9:20AM A Memetic Algorithm Approach to Deploy RSUs Based on the Gamma Deployment Metric [#18308]
Marcelo F. Faraj, Joao F. M. Sarubbi, Cristiano M. Silva and Flavio V. C. Martins
UFMG, Brazil; CEFET-MG, Brazil; UFSJ, Brazil

9:40AM Surrogate-assisted Multi-tasking Memetic Algorithm [#18248]
Dingnan Liu, Shijia Huang and Jinghui Zhong
South China University of Technology, China

Session SS11: Advanced Evolutionary Computation Approaches for Smart Grid and Sustainable Energy Systems
Tuesday, July 10, 8:00AM-10:00AM, Room: CAPRI IV, Chair: Zhi-le Yang, Jing J. Liang, and Kang Li

8:00AM Demand Based Bidding Strategies under Interval Demand for Integrated Demand and Supply Management [#18014]
Zixu Liu, Xiaojun Zeng and Zhi-Le Yang
University of Manchester, United Kingdom; Chinese Academy of Sciences, China

8:20AM Compact Neural Modeling of Single Flow Zinc-Nickel Batteries Based on Jaya Optimization [#18334]
Zhang Li, Li Kang, Yang Zhile, Li Xiang, Guo Yuanjun, Du Dajun and Wong Chikong
Shanghai University, China; Queen's University Belfast, United Kingdom; Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, China; University of Macau, Macau

8:40AM A Novel Binary Jaya Optimization for Economic/Emission Unit Commitment [#18337]
Zhile Yang, Yuanjun Guo, Qun Niu, Haiping Ma, Yimin Zhou and Li Zhang
Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, China; Shanghai University, China; Shaoxing University, China

9:00AM A Modified Genetic Learning PSO For Task Matching in Grid Environment [#18290]
Eid Albalawi, Parimala Thulasiraman and Ruppa Thulasiram
Department of Computer Science - University Of Manitoba, Canada

9:20AM Improving Energy Efficiency of Field-Coupled Nanocomputing Circuits by Evolutionary Synthesis [#18412]
Marco Ribeiro, Iago Carvalho, Jeferson Chaves, Gisele Pappa and Omar Vilela Neto
Universidade Federal de Minas Gerais, Brazil; Centro Federal de Educacao Tecnologica de Minas Gerais, Brazil

Plenary Talk PL2: Evolutionary Deep Learning for Image Analysis
Tuesday, July 10, 1:00PM-2:00PM, Room: Asia 2, Speaker: Mengjie Zhang

Session SS20: Real-World and Industry Applications of Evolutionary Computation
Tuesday, July 10, 2:10PM-4:10PM, Room: CAPRI I, Chair: Amir H. Gandomi, Mohammad Nabi Omidvar, and Kalyanmoy Deb

2:10PM Hybrid Genetic Algorithms Applied to the Glass Container Industry Problem [#18133]
Flaviana Moreira de Souza Amorim, Marcio da Silva Arantes, Claudio Fabiano Motta Toledo, Pierre Eric Frisch and Bernardo Almada-Lobo
University of Sao Paulo, Brazil; Frisch Verrier Industry, Brazil; University of Porto, Portugal

2:30PM Hybridized Artificial Bee Colony Algorithm for Constrained Portfolio Optimization Problem [#18480]
Ivana Strumberger, Eva Tuba, Nebojsa Bacanin, Marko Beko and Milan Tuba

Singidunum University, Serbia and Montenegro; Universidade Lusofona de Humanidades e Tecnologias, Portugal

2:50PM An Evolutionary Online Framework for MOOC Performance using EEG Data [#18110]
Amirhessam Tahmassebi, Amir H. Gandomi and Anke Meyer-Baese
Florida State University, United States of America; Stevens Institute of Technology, United States of America

3:10PM Multi-objective PID Controller Tuning for an Industrial Gasifier [#18163]
Victor Henrique Alves Ribeiro and Gilberto Reynoso-Meza
Ponthifical Catholic University of Parana, Brazil

3:30PM A Pareto Front Based Evolutionary Model for Airfoil Self-Noise Prediction [#18111]
Amirhessam Tahmassebi, Amir H. Gandomi and Anke Meyer-Baese
Florida State University, United States of America; Stevens Institute of Technology, United States of America

3:50PM Optimization of Control Parameter for Filter Algorithms for Attitude and Heading Reference Systems [#18055]
Simone Ludwig
North Dakota State University, United States of America

Session BIO1: Biometrics, Bioinformatics and Biomedical Applications I
Tuesday, July 10, 2:10PM-4:10PM, Room: CAPRI II, Chair: Helio J. Barbosa and Yao Zhou

2:10PM Computational Intelligence for Parameter Estimation of Biochemical Systems [#18124]
Marco Salvatore Nobile, Andrea Tangherloni, Leonardo Rundo, Simone Spolaor, Daniela Besozzi, Giancarlo Mauri and Paolo Cazzaniga
University of Milano-Bicocca, Italy - Department of Informatics, Systems and Communication, Italy; University of Bergamo, Italy - Department of Human and Social Sciences, Italy

2:30PM Accelerating Protein Structure Prediction Using Active Learning and Surrogate-based Optimization [#18082]
Hojjat Rakhshani, Julien Lepagnot, Lhassane Idoumghar, Mathieu Brevilliers and Rahati Amin
Universite de Haute-Alsace, France; University of Sistan and Baluchestan, Iran

2:50PM Self-adaptive Evolutionary Algorithm for DNA Codeword Design [#18518]
Jeisson Prieto, Elizabeth Leon and Max H. Garzon
Universidad Nacional de Colombia, Colombia; University of Memphis, United States of America

3:10PM A knowledge-based artificial bee colony algorithm for the 3-D protein structure prediction problem [#18302]
Leonardo Correa and Marcio Dorn
Federal University of Rio Grande do Sul, Brazil

3:30PM Inserting Co-evolution Information from Contact Maps into a Multiobjective Genetic Algorithm for Protein Structure Prediction. [#18267]
Gregorio Kappaun Rocha, Karina Baptista dos Santos, Jaqueline da Silva Angelo, Fabio Lima Custodio, Helio Jose Correa Barbosa and Laurent Emmanuel Dardenne
Laboratorio Nacional de Computacao Cientifica, Brazil

Session CL1: Classification, Clustering and Data Analysis
Tuesday, July 10, 2:10PM-4:10PM, Room: CAPRI III, Chair: Thiago Covoes and Bing Xue

2:10PM Classification with Multi-modal Classes Using Evolutionary Algorithms and Constrained Clustering [#18116]
Thiago Covoes and Eduardo Hruschka

Federal University of ABC, Brazil; University of Sao Paulo, Brazil

2:30PM Novel Parallel Anytime A* for Graph and Network Clustering [#18040]
Rudson Mendes, Rafael Santiago and Luis Lamb
Universidade do Vale do Itajai, Brazil; Federal University of Rio Grande do Sul, Brazil

2:50PM A Survey of Genetic Algorithms for Multi-Label Classification [#18062]
Eduardo Goncalves, Alex Freitas and Alexandre Plastino
IBGE-ENCE, Brazil; University of Kent, United Kingdom; Universidade Federal Fluminense, Brazil

3:10PM Particle Swarm Optimization based Two-Stage Feature Selection in Text Mining [#18289]
Xiaohan Bai, Xiaoying Gao and Bing Xue
Victoria University of Wellington, New Zealand

Session SS43: Advances in Decomposition-based Evolutionary Multi-objective Optimization
Tuesday, July 10, 2:10PM-4:10PM, Room: CAPRI IV, Chair: Sa﷿l Zapotecas, Bilel Derbel, and Qingfu Zhang

2:10PM A New Hyper-Heuristic based on a Contextual Multi-Armed Bandit for Many-Objective Optimization [#18306]
Richard Goncalves, Carolina Almeida, Ricardo Luders and Myriam Delgado
DECOMP - UNICENTRO, Brazil; CPGEI/DAINF - UTPFR, Brazil

2:30PM An Analysis of Parameters of Decomposition-based MOEAs on Many-Objective Optimization [#18427]
Elizabeth Montero and Saul Zapotecas-Martinez
Universidad Tecnica Federico Santa Maria, Chile; Universidad Autonoma Metropolitana, Mexico

2:50PM Fitness Inheritance Assisted MOEA/D-CMAES for Complex Multi-Objective Optimization Problems [#18537]
Ting-Chen Wang and Chuan-Kang Ting
National Chung Cheng University, Taiwan; National Tsing Hua University, Taiwan

3:10PM Boosting the Performance of MOEA/D-DRA with a Multi-objective Hyper-Heuristic based on Irace and UCB Method for Heuristic Selection [#18352]
Lucas Prestes, Myriam Delgado, Richard Goncalves, Carolina Almeida and Ricardo Luders
Federal University of Technology - Parana, Brazil; UNICENTRO, Brazil

3:30PM Decomposition-based Multi-Objective Evolutionary Optimization for Cluster-Head Selection in WSNs [#18439]
Saul Zapotecas-Martinez, Antonio Lopez-Jaimes, Karen Miranda and Abel Garcia-Najera
UAM Cuajimalpa, Mexico; UAM Lerma, Mexico

3:50PM MACO/NDS: Many-objective Ant Colony Optimization based on Non-Dominated Sets [#18460]
Tiago Franca, Luiz Martins and Gina Oliveira
Universidade Federal de Uberlandia, Brazil

Plenary Poster Session PS2: Poster Session II
Tuesday, July 10, 4:10PM-6:30PM, Room: Europa II, Chair: Millaray Curilem

P301 TextDream: Conditional Text Generation by Searching in the Semantic Space [#18018]
Weidi Xu, Haoze Sun, Chao Deng and Ying Tan
Peking University, China; Sogou, Inc., China

P302 An Enhanced Firefly Algorithm with Orthogonal Centroid Opposition-Based Learning [#18027]
Lingyun Zhou, Lixin Ding and Yunwen Lei
Wuhan University, China; Southern University of Science and Technology, China

P303 Robust Evolutionary Optimization Algorithm for Multi-objective Environmental/Economic Dispatch

Problem with Uncertainties [#18042]
Jose Nunes Rodrigues de Assis, Thiago Melo Machado-Coelho, Gustavo Luis Soares and Marcus Henrique Soares Mendes
Federal University of Vicosa, Brazil; Pontifical Catholic University of Minas Gerais, Brazil

P304 Q-learning Algorithm for Energy Management in Solar Powered Embedded Monitoring Systems [#18047]
Michal Prauzek, Nicolas Mourcet, Jakub Hlavica and Petr Musilek
VSB - Technical University of Ostrava, Czech Republic; Polytech Grenoble, France; University of Alberta, Canada

P305 Improvement and Application of Five-elements Cycle Optimization Algorithm [#18080]
Yunfa Ning, Yijie Zhang and Mandan Liu
East China University of Science and Technology, China

P306 The Bi-objective Active-Scan Agile Earth Observation Satellite Scheduling Problem: Modeling and Solution Approach [#18083]
Wenyuan Yang, Yuning Chen, Renjie He, Zhongxiang Chang and Yingwu Chen
National University of Defense Technology, China; Hunan University, China

P307 A Self-adaptive Artificial Bee Colony Algorithm with Guard Stage for Global Optimization [#18127]
Mao Bingyan, Xie Zhijiang, Wang Yongbo, Wu Huapeng and Handroos Heikki
Chongqing University, China; Zhejiang Shuanghuan Driveline Co., LTD, China; Lappeenranta University of Technology, China; Lappeenranta University of Technology, Finland

P308 A Two-level Optimization Framework for Cyclic Scheduling of Ethylene Cracking Furnace System [#18194]
Yuefeng Lin and Wenli Du
East China University of Science and Technology, China

P309 Ant Colony Optimization Algorithm for the Multiyear Transmission Network Expansion Planning [#28043]
Ricardo Alvarez, Claudia Rahmann, Rodrigo Palma, Pablo Estevez and Felipe Valencia
University of Chile, Chile

P310 Two-Stage Optimization Combining PSO and TOPSIS for Allocation of Energy Storage in Electric Power Systems [#18339]
Samuel Rocha, Rafael Bambirra, Thiago Machado-Coelho, Petr Ekel and Gustavo Soares
Puc Minas, Brazil; UFMG, Brazil; PUC Minas, Brazil

Session CDSS-20: Nature-inspired design, evolution, and optimization of intelligent systems
Tuesday, July 10, 4:30PM-6:30PM, Room: CAPRI I, Chair: Roman Senkerik, Sebastian Basterrech, and Pavel Kromer

4:30PM Cluster Occurrence in the DbL_SHADE Population [#18228]
Adam Viktorin, Roman Senkerik, Michal Pluhacek and Tomas Kadavy
Tomas Bata University in Zlin, Czech Republic

4:50PM An empirical insight into concept drift detectors ensemble strategies [#18386]
Andrzej Lapinski, Bartosz Krawczyk, Pawel Ksieniewicz and Michal Wozniak
Wroclaw University of Science and Technology, Poland; Virginia Commonwealth University, United States of America

5:10PM MPADE: An Improved Adaptive Multi-Population Differential Evolution Algorithm based on JADE [#18402]
Javier Ramos, Miguel Leon and Ning Xiong
Malardalen University, Sweden

5:30PM Chaos Driven PSO with Attractive Search Space Border Points [#18440]

Michal Pluhacek, Roman Senkerik, Adam Viktorin, Tomas Kadavy and Ivan Zelinka
Tomas Bata University in Zlin, Czech Republic; VSB-Technical University of Ostrava, Czech Republic

5:50PM On the Population Diversity for the Chaotic Differential Evolution [#18478]
Roman Senkerik, Adam Viktorin, Michal Pluhacek and Tomas Kadavy
Tomas Bata University in Zlin, Czech Republic

6:10PM A Nature-inspired System for Mental State Recognition [#18472]
Hikmat Dashdamirov, Sebastian Basterrech and Pavel Kromer
VSB-Technical University of Ostrava, Czech Republic; Czech Technical University, Czech Republic

Session DO: Discrete and Combinatorial Optimization
Tuesday, July 10, 4:30PM-6:30PM, Room: CAPRI II, Chair: Stjepan Picek and Yanan Sun

4:30PM A Search for Differentially-6 Uniform (n, n-2) Functions [#18418]
Stjepan Picek, Karlo Knezevic, Domagoj Jakobovic and Claude Carlet
TU Delft, Netherlands; University of Zagreb, Croatia; University of Paris 8, France

4:50PM A Guided Local Search Approach for the Travelling Thief Problem [#18529]
Ricardo Nieto-Fuentes, Carlos Segura and Ivvan Valdez
Center for Research in Mathematics, Mexico; University of Guanajuato, Mexico

5:10PM First results solving arbitrarily structured Maximum Independent Set problems using quantum annealing [#18038]
Sheir Yarkoni, Aske Plaat and Thomas Baeck
Leiden University, Netherlands

5:30PM The Thief Orienteering Problem: Formulation and Heuristic Approaches [#18299]
Andre Santos and Jonatas Chagas
Universidade Federal de Vicosa, Brazil; Universidade Federal de Ouro Preto, Brazil

5:50PM Convergence analysis of evolutionary algorithms solving the Flexible Job Shop Problem [#18445]
Luiz Carvalho and Marcia Fernandes
Federal University of Uberlandia, Brazil

6:10PM Discrete Firefly Algorithm for Solving Constraint Satisfaction Problems [#18157]
Mahdi Bidar, Malek Mouhoub and Samira Sadaoui
University of Regina, Canada

Session SS41: Evolutionary Large-Scale Global Optimization: An Introduction
Tuesday, July 10, 4:30PM-6:30PM, Room: CAPRI III, Chair: Daniel Molina and Antonio LaTorre

4:30PM Cooperative Co-evolution for Large Scale Optimization with Dynamic Variable Grouping via Marginal Product Modeling [#18498]
Yapei Wu, Xingguang Peng and Demin Xu
Northwestern Polytechnical University, China

4:50PM Optimal Ensemble Classifiers based classification for Automatic Vehicle Type Recognition [#18274]
Amir Nakib
LABORATOIRE LISSI, France

5:10PM Toolkit for the Automatic Comparison of Optimizers: comparing large-scale global optimizers made easy [#18279]
Daniel Molina and Antonio LaTorre
University of Granada, Spain; Universidad Politecnica de Madrid, Spain

5:30PM Differential Grouping in Cooperative Co-Evolution for Large-Scale Global Optimization: the

Experimental Study [#18044]
Heng Lei, Ming Yang and Guan Jing
China University of Geosciences, China; China Ship Development and Design Center, China

5:50PM Tactical Plan Optimisation for Large Multi-Skilled Workforces using a Bi-Level Model [#18522]
Russell Ainslie, John McCall, Sid Shakya and Gilbert Owusu
Robert Gordons University, United Kingdom; EBTIC, United Arab Emirates; BT, United Kingdom

6:10PM SHADE with Iterative Local Search for Large-Scale Global Optimization [#18295]
Daniel Molina, Antonio LaTorre and Francisco Herrera
University of Granada, Spain; Universidad Politecnica de Madrid, Spain

Session SS21: Evolutionary Computation for Complex Optimization in the Energy Domain
Tuesday, July 10, 4:30PM-6:30PM, Room: CAPRI IV, Chair: Joao Soares, Fernando Lezama, and Zita Vale

4:30PM A Many-Objective Configuration Optimization for Building Energy Management [#18326]
Tobias Rodemann
Honda Research Institute Europe, Germany

4:50PM Energy Efficient Scheduling in Real-Time Multiprocessor Systems using Archived Multi-objective Simulated Annealing [#18551]
Sajib K. Biswas, Rishi Jagdev and Pranab K. Muhuri
Department of Computer Science,South Asian University, India

5:10PM A New Hybrid-Adaptive Differential Evolution for a Smart Grid Application Under Uncertainty [#18192]
Fernando Lezama, Joao Soares, Zita Vale, Ricardo Faia and Tiago Pinto
GECAD/Polytechnic of Porto, Portugal; BISITE/USAL, Spain

Session SS22: Recent Advances in Evolutionary Computation for Permutation Problems
Wednesday, July 11, 8:00AM-10:00AM, Room: CAPRI I, Chair: Josu Ceberio, Olivier Regnier-Coudert, and Valentino Santucci

8:00AM A Meta-Learning Algorithm Selection Approach for the Quadratic Assignment Problem [#18420]
Augusto Dantas and Aurora Pozo
Federal University of Parana, Brazil

8:20AM Hill-climbing algorithm: let's go for a walk before finding the optimum [#18555]
Leticia Hernando, Alexander Mendiburu and Jose A. Lozano
University of the Basque Country (UPV/EHU), Spain

8:40AM An Analysis of Indirect Optimisation Strategies for Scheduling [#18344]
Charles Neau, Olivier Regnier-Coudert and John McCall
Robert Gordon University, Scotland

9:00AM Algebraic Crossover Operators for Permutations [#18432]
Marco Baioletti, Alfredo Milani and Valentino Santucci
University of Perugia, Italy

9:20AM A Decomposition-based Local Search Algorithm for Multi-objective Sequence Dependent Setup Times Permutation Flowshop Scheduling [#18008]
Murilo Zangari, Ademir Aparecido Constantino and Josu Ceberio
State University of Maringa, Brazil; University of Basque Country, Spain

9:40AM Are the artificially generated instances uniform in terms of difficulty? [#18367]
Aritz Perez, Josu Ceberio and Jose A. Lozano
Basque Center for Applied Mathematics, Spain; University of the Basque Country, Spain

Session SS19: Evolutionary Computation in Dynamic and Uncertain Environments
Wednesday, July 11, 8:00AM-10:00AM, Room: CAPRI II, Chair: Shengxiang Yang, Michalis Mavrovouniotis, and Changhe Li

8:00AM Scenario-based Solution Approach for Uncertain Resource Constrained Scheduling Problems [#18061]
Forhad Zaman, Saber Elsayed, Ruhul Sarker and Daryl Essam
Research Associate, University of New South Wales Canberra, Australia; Lecturer, University of New South Wales Canberra, Australia; Professor, University of New South Wales Canberra, Australia; Senior Lecturer, University of New South Wales Canberra, Australia

8:20AM Approximation Models in Robust Optimization Over Time -- An Experimental Study [#18183]
Pavel Novoa-Hernandez, David A. Pelta and Carlos Cruz Corona
Universidad Tecnica Estatal de Quevedo, Ecuador; Universidad de Granada, Spain

8:40AM Incorporating Fitness Inheritance and k-Nearest Neighbors for Evolutionary Dynamic Optimization [#18536]
Rung-Tzuo Liaw and Chuan-Kang Ting
National Tsing Hua University, Taiwan

9:00AM DynTLBO - A Teaching Learning-based Dynamic Optimization Algorithm [#18488]
ATM Golam Bari and Alessio Gaspar
University of South Florida, Tampa,FL, United States of America; University of South Florida, Tampa, FL, United States of America

9:20AM Evolving Robust Solutions for Stochastically Varying Problems [#18371]
Jonata Tyska Carvalho, Nicola Milano and Stefano Nolfi
Center for Computational Sciences (C3) / Federal University of Rio Grande (FURG), Brazil; Institute of Cognitive Sciences and Technologies / National Research Council (CNR), Italy

9:40AM An Empirical Study of Dynamic Triobjective Optimisation Problems [#18167]
Shouyong Jiang, Marcus Kaiser, Shuzhen Wan, Jinglei Guo, Shengxiang Yang and Natalio Krasnogor
Newcastle University, United Kingdom; China Three Gorges University, China; Central China Normal University, China; De Montfort University, United Kingdom

Session CDSS-07: Computational Intelligence for Music, Art, and Creativity & Games
Wednesday, July 11, 8:00AM-10:00AM, Room: CAPRI III, Chair: Chuan-Kang Ting and Francisco Fern&#xfffd;ndez de Vega

8:00AM Interleaved Cellular Automata, Evolved Artwork and Packing Problems [#18112]
Gary Greenfield
University of Richmond, United States of America

8:20AM Adversarial Image Generation using Evolution and Deep Learning [#18533]
Jacob Soderlund and Alan Blair
University of New South Wales, Australia

8:40AM Exploiting Fertility to Enable Automatic Content Generation to Ameliorate User Fatigue in Interactive Evolutionary Computation. [#18356]
Daniel Ashlock, Joseph Brown and Lolita Sultanaeva
University of Guelph, Canada; Innopolis University, Russian Federation

9:00AM On the Use of Colour-based Segmentation in Evolutionary Image Composition [#18549]
Aneta Neumann and Frank Neumann
The University of Adelaide, Australia

9:20AM Evolving Controllers for Mario AI Using Grammar-based Genetic Programming [#18494]
Joao Marcos de Freitas, Felipe Rafael de Souza and Heder Bernardino

Universidade Federal de Juiz de Fora, Brazil

9:40AM Multi-objective evolution for 3D RTS Micro [#18508]
Sushil Louis and Siming Liu
University of Nevada, Reno, United States of America

Session GA: Genetic Algorithms
Wednesday, July 11, 8:00AM-10:00AM, Room: CAPRI IV, Chair: Renato Tinos and Min Jiang

8:00AM A Genetic Algorithm With Composite Chromosome for Shift Assignment of Part-time Employees [#18408]
Ning Xue, Dario Landa-Silva, Isaac Triguero and Grazziela P. Figueredo
University of Nottingham, United Kingdom

8:20AM A Fusion Mechanism for the Generalized Asymmetric Partition Crossover [#18087]
Renato Tinos and Darrell Whitley
University of Sao Paulo, Brazil; Colorado State University, United States of America

8:40AM A biased random-key genetic algorithm for the rescue unit allocation and scheduling problem [#28023]
Victor Cunha, Luciana Pessoa, Marley Vellasco, Ricardo Tanscheit and Marco Aurelio Pacheco
Puc-Rio, Brazil; PUC-Rio, Brazil

9:00AM Parametric Analysis of Iterated Game Environments as Social Interaction Model for Genetic Algorithm to Solve Constrained Engineering Problems [#18459]
Rodrigo Lisboa Pereira, Daniel Leal Souza, Marco A. Florenzano Mollinetti, Edson Koiti Yasojima, Mario Tasso Ribeiro Serra Neto, Otavio Noura Teixeira, Adilson Almeida Neto and Roberto Celio Limao de Oliveira
Federal Rural University of Amazonia (UFRA), Brazil; Federal University of Para (UFPA), Brazil; Tsukuba University, Japan; University Centre of the State of Para (CESUPA), Brazil

9:20AM An Improved Meta-Genetic Algorithm for Hybridizing Metaheuristics [#18550]
Ahmed Hassan and Nelishia Pillay
University of KwaZulu-Natal, South Africa; University of Pretoria, South Africa

Plenary Talk PL3: Trusted Computational Intelligence
Wednesday, July 11, 1:00PM-2:00PM, Room: Asia 2, Speaker: Alice Smith

Session SS26: Intelligent Transportation and Logistics Networks
Wednesday, July 11, 2:10PM-4:10PM, Room: CAPRI I, Chair: Chuan-Kang Ting, Rung-Tzuo Liaw, Hui Cheng, and Shengxiang Yang

2:10PM Co-adaptive Reinforcement Learning in Microscopic Traffic Systems [#18210]
Liza Lemos, Ana Bazzan and Marcia Pasin
Universidade Federal do Rio Grande do Sul, Brazil; Universidade Federal de Santa Maria, Brazil

2:30PM A condition-based maintenance methodology for rails in regional railway networks using evolutionary multiobjective optimization [#18396]
Alfredo Nunez, Ali Jamshidi, Hongrui Wang, Jurjen Hendriks, Ivan Ramirez, Jan Moraal, Rolf Dollevoet and Zili Li
Delft University of Technology, Netherlands

2:50PM Biased Random-key Genetic Algorithm Applied to the Vehicle Routing Problem with Private Fleet and Common Carrier [#18283]
William Higino, Antonio Chaves and Vinicius Melo
ITA / Unifesp, Brazil; Unifesp, Brazil

3:10PM Implementation of a RVND, VNS, ILS heuristic for the Traveling Car Renter Problem [#18528]
Rogerio Ferreira de Moraes, Andre Renato Villela da Silva, Luiz Satoru Ochi and Luis Marti
Universidade Federal do Rio de Janeiro, Brazil; Universidade Federal Fluminense, Brazil

3:30PM Clustering-based Search in a Memetic Algorithm for the Vehicle Routing Problem with Time Windows [#18313]
Daniel Bustos, Maristela Santos, Claudio Toledo and Fernando Nino
University of Sao Paulo, Brazil; National University of Colombia, Colombia

Session SS9: Evolutionary Computer Vison & Image Classification
Wednesday, July 11, 2:10PM-4:10PM, Room: CAPRI II, Chair: Mengjie Zhang, Vic Ciesielski, and Mario K

2:10PM Particle Swarm Optimization Based Approach for Finding Optimal Values of Convolutional Neural Network Parameters [#18333]
Toshi Sinha, Ali Haidar and Brijesh Verma
Central Queensland University, Australia

2:30PM Evolutionary Approach to Straight Line Approximation for Image Matching in Dance-Posture Recognition [#18026]
Pratyusha Rakshit, Sriparna Saha, Amit Konar and Atulya K. Nagar
Jadavpur University, India; Maulana Abul Kalam Azad University of Technology, West Bengal, India; Liverpool Hope University, United Kingdom

2:50PM Evolving Deep Convolutional Neural Networks by Variable-length Particle Swarm Optimization for Image Classification [#18190]
Bin Wang, Yanan Sun, Bing Xue and Mengjie Zhang
Victoria University of Wellington, New Zealand

3:10PM Comparison of VCA and GAEE algorithms for Endmember Extraction [#18438]
Douglas Winston Ribeiro Soares, Gustavo Teodoro Laureano and Celso Goncalves Camilo Junior
Federal University of Goias, Brazil

3:30PM EEG-based Person Authentication Using Multi-objective Flower Pollination Algorithm [#18184]
Zaid Alyasseri, Ahamad Khader, Mohammed Al-Betar, Joao Papa and Osama Al-Omari
University of Kufa, Iraq; School of Computer Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia; Department of Information Technology, Al-Huson University College, Al-Balqa Applied University, Al-Huson, Irbid, Jordan; Sao Paulo State University, Department of Computing, Bauru, Brazil

3:50PM Evolutionary Deep Learning: A Genetic Programming Approach to Image Classification [#18041]
Benjamin Evans, Harith Al-Sahaf, Bing Xue and Mengjie Zhang
Victoria University of Wellington, New Zealand

Session SS36: Parallel and Distributed Evolutionary Computation in the Inter-Cloud Era
Wednesday, July 11, 2:10PM-4:10PM, Room: CAPRI III, Chair: Noriyuki Fujimoto,, Hiroyuki Sato, and Yuji Sato

2:10PM Parallel Multi-objective Particle Swarm Optimization for Large Swarm and High Dimensional Problems [#18064]
Md. Maruf Hussain and Noriyuki Fujimoto
Osaka Prefecture University, Japan

2:30PM Multi-objective optimization for workflow scheduling under task selection policies in clouds [#18125]
Henrique Yoshikazu Shishido, Julio Cezar Estrella and Claudio Fabiano Motta Toledo
University of Sao Paulo, Brazil

2:50PM An Evolutive Hybrid Approach to Cloud Computing Provider Selection [#18296]
Lucas Borges de Moraes, Adriano Fiorese and Rafael Stubs Parpinelli
Santa Catarina State University, Brazil

3:10PM Popt4jlib: A Parallel/Distributed Optimization Library for Java [#18104]
Ioannis Christou
Athens Information Technology, Greece

3:30PM Parallel Multi-Island Genetic Algorithms for Sorting Unsigned Genomes by Reversals [#18233]
Lucas A da Silveira, Jose Luis Soncco-Alvarez, Thaynara A de Lima and Mauricio Ayala-Rincon
Universidade de Brasilia, Brazil; Universidad Nacional del Cusco, Peru; Universidade de Goiais, Brazil

3:50PM A new strategy to evaluate the attractiveness in a dynamic Island Model [#18269]
Grasiele Duarte, Afonso Lemonge and Leonardo Goliatt
Federal University of Juiz de Fora, Brazil

Session BEMO: Bilevel and Multi-Objective Optimization
Wednesday, July 11, 2:10PM-4:10PM, Room: CAPRI IV, Chair: Flavio Vinicius and Cruzeiro Martins

2:10PM Probabilistic Dominance in Robust Multi-Objective Optimization [#18037]
Faramarz Khosravi, Michael Borst and Juergen Teich
Friedrich-Alexander University Erlangen-Nuremberg (FAU), Germany

2:30PM A multiobjective approach applying in a Brazilian emergency medical service [#18544]
Mariana Mendes Guimaraes and Flavio Vinicius Cruzeiro Martins
Centro Federal de Educacao Tecnologica de Minas Gerais, Brazil

2:50PM Metaheuristics for the Multiobjective Surgery Admission Planning Problem [#18382]
Jacob Nyman and Kazi Shah Nawaz Ripon
Norwegian University of Science and Technology, Norway

3:10PM A Fast Memetic Multi-objective Differential Evolution for Multi-tasking Optimization [#18156]
Yongliang Chen, Jinghui Zhong and Mingkui Tan
South China University of Technology, China

3:30PM Feature Learning in Feature-Sample Networks using Multi-objective Optimization [#18069]
Filipe Verri, Renato Tinos and Liang Zhao
University of Sao Paulo, Brazil

Plenary Poster Session PS3: Poster Session III
Wednesday, July 11, 4:10PM-6:30PM, Room: Europa II, Chair: Millaray Curilem

P501 A Discrete Fireworks Algorithm for Solving Large-Scale Travel Salesman Problem [#18516]
Haoran Luo, Weidi Xu and Ying Tan
Peking University, China; Key Laboratory of Machine Perception, Peking University, China; 1. Key Laboratory of Machine Perception, Peking University 2. Kyushu University, China

P502 Modeling heating and cooling loads in buildings using Gaussian Processes [#18540]
Leonardo Goliatt, Priscila Capriles and Grasiele Duarte
UFJF, Brazil

P503 An Extreme Learning Machine with feature selection for estimating mechanical properties of lightweight aggregate concretes [#18541]
Leonardo Goliatt and Michele Farage
UFJF, Brazil

P504 A Comparison Study Between Deep Learning and Genetic Programming Application in Cart Pole

Balancing Problem [#18454]
Icaro Miranda, Marcelo Ladeira and Claus Aranha
University of Brasilia, Brazil; Tsukuba University, Japan

P505 Performance Analysis of GA and PBIL Variants for Real-World Location-Allocation Problems [#18456]
Reginald Ankrah, Olivier Regnier-Coudert, John McCall, Anthony Conway and Andrew Hardwick
Robert Gordon University, United Kingdom; British Telecommunication Plc, United Kingdom

P506 Auto Rock Detection via Sparse-based Background Modeling for Mars Rover [#18213]
Xueming Xiao, Hutao Cui, Meibao Yao, Yuegang Fu and Wanqiang Qi
Changchun University of Science and Technology, China; Harbin Institute of Technology, China; Changchun Guanghua University, China

P507 Energy-Aware Container Consolidation Based on PSO in Cloud Data Centers [#18238]
Tao Shi, Hui Ma and Gang Chen
Victoria University of Wellington, New Zealand

P508 Hybrid PSO Algorithm with Iterated Local Search Operator for Equality Constraints Problems [#18255]
Felipe Mota, Vinicius Almeida, Elizabeth Wanner and Gladston Moreira
Universidade Federal de Ouro Preto, Brazil; Aston University, United Kingdom

P509 Using Social Information to Compose a Similarity Function Based on Friends Attendance at Events [#18280]
Luiz Mario Lustosa Pascoal, Hugo Alexandre Dantas do Nascimento, Celso Goncalves Camilo-Junior, Edjalma Queiroz da Silva, Everton Lima Aleixo and Thierson Couto Rosa
Federal University of Goias, Brazil

P510 A Preliminary Study of Autoencoding Evolutionary Search with Selection of Problem Domains [#18107]
Ma Ruoting, Zhou Lei, Liu Kai, Chen Chao and Xie Xuefeng
Chongqing Bashu Secondary School, China; College of Computer Science, Chongqing University, China; School of Media and Communication, University of Leeds, United Kingdom

P511 A Genetic Algorithm for Convolutional Network Structure Optimization for Concrete Crack Detection [#18174]
Spencer Gibb, Hung La and Sushil Louis
University of Nevada, Reno, United States of America

Session SS12: Evolutionary Scheduling and Combinatorial Optimization
Wednesday, July 11, 4:30PM-6:30PM, Room: CAPRI I, Chair: Yi Mei, Mengjie Zhang, Su Nguyen, and Gang Chen

4:30PM A Multi-installment Scheduling Optimization Mdel Considering Processor Order [#18250]
Xuehan Wang, Yuping Wang and Xiaoli Wang
School of Computer Science and Technology Xidian University, China

4:50PM Guided Genetic Algorithm for Information Diffusion Problems [#18423]
Pavel Kromer and Jana Nowakova
VSB - Technical University of Ostrava, Czech Republic

5:10PM Multi-Satellite Scheduling Framework and Algorithm for Very Large Area Observation [#18202]
Yingjie Xu, Xiaolu Liu, Renjie He, Yingguo Chen and Yuning Chen
National University of Defense Technology, China

5:30PM A Simple and Fast Heuristic Algorithm for Time-dependent AEOS Scheduling Problem [#18084]
Ji Lu, Yuning Chen, Renjie He and Yingwu Chen
National University of Defense Technology, China

5:50PM A Loosely Coupled Hybrid Meta-Heuristic Algorithm for the Static Independent Task Scheduling Problem in Grid Computing [#18501]

Muhanad Tahrir Younis, Shengxiang Yang and Benjamin N. Passow
Centre for Computational Intelligence, De Montfort University, United Kingdom

6:10PM Genetic Programming Hyper-heuristic for Stochastic Team Orienteering Problem with Time Windows [#18291]
Yi Mei and Mengjie Zhang
Victoria University of Wellington, New Zealand

Session ACO: Swarm Intelligence and Ant Colony Optimization
Wednesday, July 11, 4:30PM-6:30PM, Room: CAPRI II, Chair: Malek Mouhoub and Samira Sadaoui

4:30PM Mushroom Reproduction Optimization (MRO): A Novel Nature-Inspired Evolutionary Algorithm [#18025]
Mahdi Bidar, Hamidreza Rashidy Kanan, Malek Mouhoub and Samira Sadaoui
University of Regina, Canada; Shahid Rajaee Teacher Training University, Iran

4:50PM A Dynamic Reconstruction Bare Bones Particle Swarm Optimization Algorithm [#18271]
Jia Guo and Yuji Sato
Graduate School of Computer and Information Science, Hosei University, Japan; Faculity of Computer and Information Science, Hosei University, Japan

5:10PM Random Convergence Analysis of Particle Swarm Optimization with Time-varying Attractor [#18098]
Jun Liu, Ping Li, Tianyun Shi, Xiaoning Ma and Xin Li
Institute of Computing Technologies, Chinese Academy of Railway Sciences, China

5:30PM Feasibility and Availability based Heuristics for ACO algorithms solving Binary CSP [#18263]
Nicolas Rojas-Morales, Maria-Cristina Riff and Bertrand Neveu
Universidad Tecnica Federico Santa Maria, Chile; Ecole des Ponts, France

5:50PM Archive-Based Pheromone Model for Discovering Regression Rules with Ant Colony Optimization [#18452]
Ayah Helal, James Brookhouse and Fernando Otero
University of Kent, United Kingdom

6:10PM An Ant Colony Optimization for Automatic Data Clustering Problem [#18477]
Tatiane Pacheco, Luciana Goncalves, Victor Stroele and Stenio Soares
Federal University of Juiz de Fora, Brazil

Session CDSS-01: Computational Intelligence for the Automated Design of Machine Learning and Search
Wednesday, July 11, 4:30PM-6:30PM, Room: CAPRI III, Chair: Nelishia Pillay and Rong Qu

4:30PM Automatic Evolution of AutoEncoders for Compressed Representations [#18300]
Filipe Assuncao, David Sereno, Nuno Lourenco, Penousal Machado and Bernardete Ribeiro
CISUC, University of Coimbra, Portugal

4:50PM A Novel Approach for Optimizing Ensemble Components in Rainfall Prediction [#18320]
Ali Haidar, Brijesh Verma and Toshi Sinha
Central Queensland University, Australia

5:10PM Nurturing Promotes the Evolution of Generalized Supervised Learning [#18435]
Bryan Hoke and Dean Hougen
University of Oklahoma, United States of America

5:30PM Evolving Deep Neural Networks for Movie Box-office Revenues Prediction [#28030]
Yao Zhou and Gary Yen
Sichuan University, China; Oklahoma State University, United States of America

5:50PM Analysis of the complexity of the automatic pipeline generation problem [#18328]
Unai Garciarena, Roberto Santana and Alexander Mendiburu
University of the Basque Country (UPV/EHU), Spain

Session CDSS-12: Computational intelligence in power systems
Wednesday, July 11, 4:30PM-6:30PM, Room: CAPRI IV, Chair: N Kumarappan and Ramesh Rayudu

4:30PM Hybrid WIPSO-GSA Algorithm Based Optimal DG and Capacitor Planning Considering Different Load Types and Load Levels [#18241]
Arulraj R. and Kumarappan N.
Annamalai University, India

4:50PM Distribution Network Reconfiguration together with Distributed Generator and Shunt Capacitor allocation for Loss Minimization [#18050]
Partha Biswas, Ponnuthurai Suganthan and Gehan Amaratunga
Nanyang Technological University, Singapore; University of Cambridge, United Kingdom

5:10PM Applying C-DEEPSO to solve Large Scale Global Optimization Problems [#18036]
Carolina Marcelino, Carlos Pedreira, Elizabeth Wanner, Leonel Carvalho and Paulo Almeida
COPPE - PESC - UFRJ, Brazil; Aston University, United Kingdom; INESC TEC, Portugal; CEFET-MG, Brazil

Session CDS-16: Computational Intelligence for Performance optimisation of PID-like controllers, Robotics other Electrical Engineering Applications
Thursday, July 12, 8:00AM-10:00AM, Room: CAPRI I, Chair: Simone Ludwig and Alejandro Rodriguez-Molina

8:00AM Adaptive Control for the Four-Bar Linkage Mechanism Based on Differential Evolution [#18268]
Alejandro Rodriguez-Molina, Miguel Gabriel Villarreal-Cervantes and Mario Aldape-Perez
CIDETEC-IPN, Mexico

8:20AM Particle-Swarm Optimization Control of Active -Power Filter for Harmonic Mitigation of Hybrid Electric-Unbalanced Traction-System [#18252]
Essamudin Ebrahim, Gaber EL-Saady, Haussien Abdul-ghaffar, Yehia Mohamed and Abou-Hashima El-Sayed
Electronics Research Institute, Egypt; Faculty of Engineering Assiut University, Egypt; Faculty of Engineering, Minia University, Egypt

8:40AM Genetic Algorithm Based Dynamics Modeling and Control of a Parallel Rehabilitation Robot [#18070]
Chen Wang, Liang Peng, Lincong Luo, Zeng-Guang Hou and Weiqun Wang
Institute of Automation, Chinese Academy of Sciences, China

9:00AM Particle Swarm-Optimised PID Control of a Receiver Aircraft during Aerial Refuelling [#18547]
Aarti Panday and Jimoh Pedro
University of the Witwatersrand, South Africa

9:20AM Evolutionary Optimization in Robotic Radiotherapy Treatment Planning: A Comparison of Clinical Results with L-BFGS Optimization [#18211]
Matthew Witten and Owen Clancey
NYU Winthrop Hospital, United States of America

9:40AM Genetic Algorithm based Kalman Filter Adaptation Algorithm for Magnetic and Inertial Measurement Unit [#18056]
Simone Ludwig
North Dakota State University, United States of America

Session CDSS-18: Computational Intelligence Methods towards Big Data Analytics
Thursday, July 12, 8:00AM-10:00AM, Room: CAPRI II, Chair: Yuping Wang and Yiuming Cheung

8:00AM Generating EEG Graphs Based on PLA For Brain Wave Pattern Recognition [#18220]
Hao Lan Zhang, Huanyu Zhao, Yiu-ming Cheung and Jing He
Center for SCDM, NIT, Zhejiang University, China; Institute of Applied Mathematics, Hebei Academy of Sciences, China; Hong Kong Baptist University, Hong Kong; Nanjing University of Finance and Economics, China

8:20AM A New Clustering Algorithm By Using Boundary Information [#18230]
Junkun Zhong, Yuping Wang, Hui Du and Wuning Tong
Xidian University, China

8:40AM A Hierarchical Model with Pseudoinverse Learning Algorithm Optimazation for Pulsar Candidate Selection [#18234]
Li Shijia, Feng Sibo, Guo Ping and Yin Qian
Beijing Normal University, China

9:00AM Pseudoinverse Learning Algorithom for Fast Sparse Autoencoder Training [#18265]
Bingxin Xu and Guo Ping
Beijing Key Laboratory of Information Service Engineering,Beijing Union University, China; Beijing Normal University, China

9:20AM A Preliminary Study of the Feasibility of Global Evolutionary Feature Selection for Big Datasets under Apache Spark [#18448]
Mikel Galar, Isaac Triguero, Humberto Bustince and Francisco Herrera
Public University of Navarre, Spain; University of Nottingham, United Kingdom; University of Granada, Spain

9:40AM What's the Next Move? Learning Player Strategies in Zoom Poker Games [#18556]
Murillo Carneiro and Gabriel Lisboa
Federal University of Uberlandia, Brazil

Session SS23: Evolutionary Computation for Communication Networks
Thursday, July 12, 8:00AM-10:00AM, Room: CAPRI III, Chair: Chuan-Kang Ting, Hui Cheng, and Shengxiang Yang

8:00AM Managing Quality of Service through Intelligent Scheduling in Heterogeneous Wireless Communications Networks [#18254]
David Lynch, David Fagan, Stepan Kucera, Holger Claussen and Michael O'Neill
Natural Computing Research and Applications Group, School of Business, University College Dublin, Ireland; Bell Laboratories, Nokia-Ireland, Ireland

8:20AM Manyobjective Optimization to Design Physical Topology of Optical Networks with Undefined Node Locations [#18346]
Jorge Nascimento, Danilo Araujo, Carmelo Bastos-Filho and Joaquim Martins-Filho
UFRPE, Brazil; UPE, Brazil; UFPE, Brazil

8:40AM Optimal Computational Distribution of Social Network Optimization in Wireless Sensor Networks [#18198]
Francesco Grimaccia, Marco Mussetta, Alessandro Niccolai and Riccardo Zich
Politecnico di Milano, Dipartimento di Energia, Italy

9:00AM Application of Evolutionary Algorithm to Allocate Resources in Wireless Networks with Carrier Aggregation [#18391]
Marcus Vinicius Gonzaga Ferreira, Flavio Henrique Teles Vieira, Juliana Paula Felix, Dalton Foltran de Souza and Ricardo Augusto Pereira Franco

Federal University of Goias, Brazil

9:20AM Comparison of binary Evolutionary Algorithms for Optimization of Thinned Array Antennas [#18196]
Francesco Grimaccia, Marco Mussetta, Alessandro Niccolai and Riccardo Zich
Politecnico di Milano, Dipartimento di Energia, Italy

9:40AM Metaheuristics in the Project of Cellular Automata for Key Generation in Stream Cipher Algorithms [#18479]
Andre Brito, Stenio Soares and Saulo Villela
Federal University of Juiz de Fora, Brazil

Session BIO2: Biometrics, Bioinformatics and Biomedical Applications II
Thursday, July 12, 8:00AM-10:00AM, Room: CAPRI IV, Chair: Mengjie Zhang

8:00AM Microarray Classification and Gene Selection with FS-NEAT [#18148]
Bruno Iochins Grisci, Bruno Cesar Feltes and Marcio Dorn
Institute of Informatics, Federal University of Rio Grande do Sul, Brazil

8:20AM A Genetic Algorithm Based on Restricted Tournament Selection for the 3D-PSP Problem [#18166]
Bruno Borguesan, Pedro Henrique Narloch, Mario Inostroza-Ponta and Marcio Dorn
Institute of Informatics, Federal University of Rio Grande do Sul, Brazil; Departamento de Ing. Informatica, Universidad de Santiago de Chile, Chile

8:40AM Reconstruction of Boolean regulatory models of flower development exploiting an evolution strategy [#18175]
Gonzalo Ruz, Eric Goles and Sylvain Sene
Universidad Adolfo Ibanez, Chile; Aix-Marseille University, France

9:00AM Genetic Programming for Preprocessing Tandem Mass Spectra to Improve the Reliability of Peptide Identification [#18292]
Samaneh Azari, Mengjie Zhang, Bing Xue and Lifeng Peng
Victoria University of Wellington, New Zealand

9:20AM Multimodal Feature Level Fusion based on Particle Swarm Optimization with Deep Transfer Learning [#18496]
Pedro Silva, Eduardo Luz, Luiz Zanlorensi, David Menotti and Gladston Moreira
Universidade Federal de Ouro Preto, Brazil; Universidade Federal do Parana, Brazil

9:40AM Computational Strategy to predict possible Protein Function using an Evolutionary Algorithm implement in SIFTER tool [#18523]
Julian Castaneda, Carlos Sierra, Tania Rodriguez and Jonatan Gomez
Universidad Antonio Narino, Colombia; Universidad Minuto de Dios, Colombia; Universidad Nacional de Colombia, Colombia

Plenary Talk PL4: Algorithms that play and design games
Thursday, July 12, 1:00PM-2:00PM, Room: Asia 2, Speaker: Julian Togelius

Session COEV: Coevolution, Self-Adaptation and Evolved Neural Networks
Thursday, July 12, 2:10PM-4:10PM, Room: CAPRI I, Chair: Hendrik Richter and Sriparna Saha

2:10PM Information content of coevolutionary game landscapes [#18021]
Hendrik Richter
HTWK Leipzig University of Applied Sciences, Germany

2:30PM Selection Methods to Relax Strict Acceptance Condition in test-based Coevolution [#18385]
ATM Golam Bari, Alessio Gaspar, R. Paul Wiegand and Anthony Bucci

University of South Florida, Tampa,FL, United States of America; University of South Florida, Tampa, FL, United States of America; University of Central Florida, Orlando, FL, United States of America; 119 Amory St. Cambridge, MA, United States of America

2:50PM Dynamic Models of Partially Connected Topologies for Population-based Metaheuristics [#18458]
Carlos M. Fernandes, J.L.J. Laredo, J.J. Merelo, Carlos Cotta and Agostinho C. Rosa
University of Lisbon, Portugal; University of Le Havre, France; University of Granada, Spain; University of Malaga, Spain

3:10PM Improved Cuckoo Search With Better Search Capabilities For Solving CEC2017 Benchmark Problems [#18325]
Rohit Salgotra, Urvinder Singh and Sriparna Saha
Thapar University, India; Indian Institute of Technology, Patna, India

3:30PM Nonlinear Map Optimization [#18319]
Kenya Jin'no
Tokyo City University, Japan

3:50PM Quantum-inspired optimization of echo state networks applied to system identification [#28044]
Paulo Paiva, Marley Vellasco and Jose Amaral
Pontifical Catholic University of Rio de Janeiro, Brazil; State University of Rio de Janeiro, Brazil

Session SS16: When Evolutionary Computation Meets Data Mining
Thursday, July 12, 2:10PM-4:10PM, Room: CAPRI II, Chair: Chuan-Kang Ting, Zhun Fan, and Xinye Cai

2:10PM A Hybrid Grammar-based Genetic Programming for Symbolic Regression Problems [#18342]
Flavio Motta, Joao Freitas, Felipe Souza, Heder Bernardino, Itamar Oliveira and Helio Barbosa
Universidade Federal de Juiz De Fora, Brazil; Universidade Federal de Juiz de Fora, Brazil; Laboratorio Nacional de Computacao Cientifica, Brazil

2:30PM A Multi-Objective Evolutionary Action Rule Mining Method [#18520]
Grant Daly, Ryan Benton and Tom Johnsten
Dept. Computer Science, School of Computing, University of South Alabama, United States of America

2:50PM Multiple Disjunctions Rule Genetic Algorithm (MDRGA): Inferring Non-Linear IF-THEN Rules in Non-Linear Datasets [#18032]
Maicon Douglas Matos and Laurence Amaral
Federal University of Uberlandia (UFU), Brazil

3:10PM SSDP+: a Diverse and More Informative Subgroup Discovery Approach for High Dimensional Data. [#18246]
Tarcisio Lucas, Renato Vimieiro and Teresa Ludermir
Universidade Federal de Pernambuco, Brazil

3:30PM A Genetic Algorithm for Transposable Elements Hierarchical Classification Rule Induction [#18416]
Gean Pereira, Bruna Zamith and Ricardo Cerri
Federal University of Sao Carlos, Brazil

3:50PM Combining Multiple Views from a Distance Based Feature Extraction for Text Classification [#18506]
Charles Ferreira, Fabricio Franca and Debora Medeiros
Federal University of ABC, Brazil

Session GP: Genetic Programming
Thursday, July 12, 2:10PM-4:10PM, Room: CAPRI III, Chair: Fabricio de Franca

2:10PM Lightweight Symbolic Regression with the Interaction-Transformation Representation [#18030]
Guilherme Aldeia and Fabricio de Franca

UFABC, Brazil

2:30PM Towards Understanding and Refining the General Program Synthesis Benchmark Suite with Genetic Programming [#18085]
Stefan Forstenlechner, David Fagan, Miguel Nicolau and Michael O'Neill
University College Dublin, Ireland

2:50PM Intelligent approach to improve genetic programming based intra-day solar forecasting models [#18373]
Gabriel Paiva, Sergio Pimentel, Sonia Leva and Marco Mussetta
Federal University of Goias, Brazil; Politecnico di Milano, Italy

3:10PM Estimating the Geological Properties in Oil Reservoirs through Multi-gene Genetic Programming [#18399]
Jeff A. Maynard, Alvaro Talavera, Leonardo Forero and Marco Aurelio Pacheco
Pontificia Universidade Catolica do Rio de Janeiro, Brazil; Universidad del Pacifico, Peru; Universidade do Estado do Rio de Janeiro, Brazil

3:30PM Multi-Modal Optimization by Multi-Gene Genetic Programming [#18495]
Rogerio Povoa, Adriano Koshiyama, Douglas Dias, Patricia Souza and Bruno Horta
PUC-Rio, Brazil; UCL, United Kingdom; UERJ, Brazil; UFRJ, Brazil

Session FBA: Fruit Fly, Firefly, Fireworks & Brainstorm Algorithms and their Applications
Thursday, July 12, 2:10PM-4:10PM, Room: CAPRI IV, Chair: Milan Tuba

2:10PM A Dynamic Generalized Opposition-based Learning Fruit Fly Algorithm for Function Optimization [#18101]
Xiaoyi Feng, Ao Liu, Weiliang Sun, Xiaofeng Yue and Bo Liu
City University of Hong Kong, Hong Kong; Wuhan University of Science and Technology, China; Tianjin University, China; Huazhong University of Science and Technology, China; Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China

2:30PM Bare Bones Fireworks Algorithm for the RFID Network Planning Problem [#18489]
Ivana Strumberger, Eva Tuba, Nebojsa Bacanin, Marko Beko and Milan Tuba
Singidunum University, Serbia and Montenegro; Universidade Lusofona de Humanidades e Tecnologias, Portugal

2:50PM Which Mapping Rule in the Fireworks Algorithm is Better for Large Scale Optimization [#18331]
Ye Xuemei, Li Junzhi, Xu Bo and Tan Ying
Institute of Automation, Chinese Academy of Sciences, China; School of Electronics Engineering and Computer Science, Peking University, China

3:10PM Mobile Robot Path Planning by Improved Brain Storm Optimization Algorithm [#18481]
Eva Tuba, Ivana Strumberger, Dejan Zivkovic, Nebojsa Bacanin and Milan Tuba
Singidunum University, Serbia and Montenegro

3:30PM Multi-objective Brainstorm Optimization Algorithm for Sparse Optimization [#18318]
Liang Jing, Wang Peng, Yue Cai tong, Qu Bo yang, Yu Kun jie and Li Zhi hui
Zhengzhou University, China; Zhongyuan University of Technology, China

Plenary Poster Session PS4: Poster Session IV
Thursday, July 12, 4:10PM-6:30PM, Room: Europa II, Chair: Millaray Curilem

P701 Evolutionary Scientific Workflows [#18287]
Sergio Manuel Serra da Cruz, Anderson Oliveira and Fabricio Firmino Faria
UFRRJ, Brazil; UFRJ, Brazil

P702 Hierarchical Ant Colony for Simultaneous Classifier Selection and Hyperparameter Optimization

[#18294]
Victor Costa and Cesar Rodrigues
Federal University of Santa Maria, Brazil

P703 Discovery of Unstructured Business Processes Through Genetic Algorithms Using Activity Transitions-based Completeness and Precision [#18303]
Gabriel Silva, Marcelo Fantinato, Sarajane Peres and Hajo Reijers
University of Sao Paulo, Brazil; Vrije Universiteit Amsterdam, Netherlands

P704 A Modified Symbiotic Organisms Search Algorithm Applied to Flow Shop Scheduling Problems [#18380]
Leonardo Rodrigues, Joao Paulo Gomes, Ajalmar Rocha Neto and Amauri Souza Junior
Instituto de Aeronautica e Espaco, Brazil; Universidade Federal do Ceara, Brazil; Instituto Federal do Ceara, Brazil

P705 Application of Genetic Algorithms to Identify Ultrasonic Echoes for Thickness Measurements [#18397]
Vivian Medeiros, Alan Kubrusly, Marcelo Jimenez, Miguel Freitas and Jean Weid
Pontifical Catholic University of Rio de Janeiro, Brazil

P706 CIP-aiNet: An Entropy-based Immune Network for Multiple Clustering [#18212]
Ederson Borges and Guilherme Coelho
University of Campinas (SP), Brazil

P707 Multi-objective genetic algorithm for feature selection in a protein function prediction context [#18022]
Bruno Santos, Neri Nobre and Luis Zarate
Pontificia Universidade Catolica de Minas Gerais, Brazil

P708 Alternative Population Initialization Schemes for Group Search Optimization for Data Clustering [#18278]
Luciano Pacifico and Teresa Ludermir
Universidade Federal Rural de Pernambuco, Brazil; Universidade Federal de Pernambuco, Brazil

Session SS44: Evolutionary Methods and Machine Learning in Software Engineering, Testing and SE Repositories

Thursday, July 12, 4:30PM-6:30PM, Room: CAPRI I, Chair: Jose A. Lozano, Daniel Rodr�guez, Francisco Chicano, and Francisco Palomo Lozano

4:30PM Incorporating User Preferences in a Software Product Line Testing Hyper-Heuristic Approach [#18243]
Helson Jakubovski-Filho, Thiago Ferreira and Silvia Vergilio
Federal University of Parana, Brazil

4:50PM Mutation-based Evolutionary Fault Localisation [#18282]
Diogo de-Freitas, Plinio Leitao-Junior, Celso Camilo-Junior and Rachel Harrison
Universidade Federal de Goias, Brazil; Oxford Brookes University, United Kingdom

5:10PM Boosting Search Based Software Testing by Using Ensemble Methods [#18162]
Xiong Xu, Li Jiao and Ziming Zhu
Institute of Software Chinese Academy of Sciences, China

5:30PM A Hybrid Algorithm for Multi-objective Test Case Selection [#18244]
Takfarinas Saber, Florian Delavernhe, Mike Papadakis, Michael O'Neill and Anthony Ventresque
Lero, Natural Computing Research and Applications Group, School of Business, University College Dublin, Ireland; Lero, School of Computer Science, University College Dublin, Ireland; Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg, Luxembourg

5:50PM Cluster-Guided Genetic Algorithm for Distributed Data-intensive Web Service Composition [#18410]
Soheila Sadeghiram, Hui Ma and Aaron Chen

Victoria University of Wellington, New Zealand

6:10PM Using a Many-Objective Optimization Algorithm to Select Sampling Approaches for Imbalanced Datasets [#18113]
Pericles Miranda, Romero Morais and Ricardo Silva
UFRPE, Brazil; UFPE, Brazil

Session RW1: Real-World Applications
Thursday, July 12, 4:30PM-6:30PM, Room: CAPRI II, Chair: Mateusz Polnik and Leonardo Moreira

4:30PM The Simulated Tree-Growth Algorithm Based on T-Invariants for State Reduction of Petri Nets [#18158]
Xiong Xu, Li Jiao and Ziming Zhu
Institute of Software Chinese Academy of Sciences, China

4:50PM A hybrid differential evolution algorithm for real world problems [#18466]
Mokhtar Essaid, Lhassane Idoumghar, Julien Lepagnot, Mathieu Brevilliers and Daniel FodOrean
University of Haute-Alsace, France; University of Cluj Napoca, Romania

5:10PM Indexing Discrete Sets in a Label Setting Algorithm for Solving the Elementary Shortest Path Problem with Resource Constraints [#18096]
Mateusz Polnik and Annalisa Riccardi
University of Strathclyde, United Kingdom

5:30PM A Biased Random Key Genetic Algorithm to Solve the Transmission Expansion Planning Problem with Re-design [#18490]
Pedro Henrique Gonzalez and Julliany Brandao
Federal Center for Technological Education of Rio de Janeiro (CEFET/RJ), Brazil

5:50PM Evolutionary Mission Planning [#18253]
Rahul Kala, Abeer Khan, Diksha Diksha, Shelly Shelly and Surabhi Sinha
Indian Institute of Information Technology, Allahabad, India

6:10PM A Multi-agent Planning Model Applied to Teamwork Management [#18132]
Leonardo Moreira and Celia Ralha
University of Brasilia, Brazil

Session HMH: Heuristics, Metaheuristics and Hyper-heuristics
Thursday, July 12, 4:30PM-6:30PM, Room: CAPRI III, Chair: Elizabeth Wanner and Marcio Basgalupp

4:30PM Meta-learning for Optimization: a Case Study on the Flowshop Problem using Decision Trees [#18272]
Lucas Pavelski, Myriam Delgado and Marie-Eleonore Kessaci
Federal University of Technology of Parana, Brazil; Universite Lille, France

4:50PM An Evolutionary mono-objective approach for solving the Menu Planning Problem [#18275]
Rafaela P. C. Moreira, Elizabeth F. Wanner, Fl\'avio V. C. Martins and Joao F. M. Sarubbi
PPGMMC - CEFET-MG, Brazil; EAS -Aston University - UK; PPGMMC - CEFET-MG, United Kingdom; Departamento de Computacao CEFET-MG, Brazil

5:10PM Automatic Design of Evolutionary Algorithms Based on Entropy Triggers [#18311]
Guilherme Silva, Marcio Basgalupp and Ana Carolina Lorena
Universidade Federal de Sao Paulo, Brazil

5:30PM Automatic Design of Heuristics for Minimizing the Makespan in Permutation Flow Shops [#18374]
Artur Brum and Marcus Ritt
Universidade Federal do Rio Grande do Sul, Brazil

5:50PM An Automatically Designed Recombination Heuristic for the Test-Assignment Problem [#18395]

Marcelo de Souza and Marcus Ritt

Universidade do Estado de Santa Catarina, Brazil; Universidade Federal do Rio Grande do Sul, Brazil

6:10PM Population Size Control for Efficiency and Efficacy Optimization in Population Based Metaheuristics [#18355]

Marcelo Lacerda, Hugo Amorim Neto, Teresa Ludermir, Herbert Kuchen and Fernando Lima Neto

Federal University of Pernambuco, Brazil; University of Pernambuco, Brazil; University of Muenster, Germany

Session CDSS-19: Computational Intelligence in Aerospace Science and Engineering
Thursday, July 12, 4:30PM-6:30PM, Room: CAPRI IV, Chair: Ya-zhong Luo and Massimiliano Vasile

4:30PM A Graph-based Genetic Algorithm to Solve the Virtual Constellation Multi-Satellite Collection Scheduling Problem [#18123]

Jean Berger, Emmanuel Giasson, Mihai Florea, Moufid Harb, Alexander Teske, Rami Abielmona, Rafael Falcon, Nassirou Lo and Emil Petriu

Defence Research and Development Canada, Canada; Thales Research and Technology, Canada; Larus Technologies, Canada; University of Ottawa, Canada; WARWII Solutions Inc., Canada

4:50PM Fast Accessibility Evaluation of the Main-Belt Asteroids Manned Exploration Mission Based on a Learning Method [#18180]

Yuehe Zhu, Yazhong Luo and Wen Yao

National University of Defense Technology, China

5:10PM Satellite Lifetime Optimization Based on Discrete Cross Entropy Method [#18189]

Yao Wen, Ma Zhengyang, Luo Yazhong, Chen Xiaoqian and Yang Longqi

National Innovation Institute of Defense Technology, China; National University of Defense Technology, China

5:30PM Optimal Multi-Gravity-Assist Trajectories Design with Likelihood Analysis [#18204]

Hou Liqiang, Hou Zhaohui, Ma Hong and Yang Yue

Xi'an Satellite Control Center, China; School of Information and Communication Engineering, Beijing University of Posts and Telecommunication, China; School of Software Engineering,Xian Jiaotong University, China

5:50PM A Fast Computation Method for The Satellite-to-site Visibility [#18208]

Chao Han, Pengbin Yang, Xiaohui Wang and Shenggang Liu

Beihang University School of Astronautics, China

Session SS24: Swarm Intelligence in Operations Research, Management Science and Decision Making
Friday, July 13, 8:00AM-10:00AM, Room: CAPRI IV, Chair: Yunzhi Jiang, Wei-Chang Yeh, Yew Soon Ong, and Vera Yuk Ying Chung

8:00AM Optimal Resource Allocation of Communicating Multi-agent System using Genetic Algorithm [#18043]

Tianpeng Zhang and Kwok Yip Szeto

Hong Kong University of Science and University, Hong Kong

8:20AM Hybrid Particle Swarm Algorithm Applied to Flexible Job-Shop Problem [#18465]

Diego Luiz Cavalca and Ricardo Augusto Souza Fernandes

Federal University of Sao Carlos, Brazil

8:40AM A PSO based Community Detection in Social Networks with Node Attributes [#18067]

Chaitanya Kanchibhotla, Somayajulu Dvln and Radha Krishna Pisipati

Infosys Limited, India; National Institute of Technology Warangal, India

9:00AM Multi Objective Scheduling in Cloud Computing using MOSSO [#18137]

Chia-Ling Huang, Yunzhi Jiang, Ying Yin, Wei-Chang Yeh, Vera Yuk Ying Chung and Chyh-Ming Lai

Department of Logistics and Shipping Management, Kainan University, Taiwan; School of Mathematics and Systems Science, Guangdong Polytechnic Normal University, China; Department of Industrial Engineering and Engineering Management, National Tsing Hua University, Taiwan; School of Information Technology, University of Sydney, Australia; Institute of Resources Management and Decision Science, Management College, National Defense University, Taiwan

9:20AM Simplified Swarm Optimization for the Time Dependent Competitive Vehicle Routing Problem with Heterogeneous Fleet [#18138]

Chia-Ling Huang, Yunzhi Jiang, Shi-Yi Tan, Wei-Chang Yeh, Vera Yuk Ying Chung and Chyh-Ming Lai

Department of Logistics and Shipping Management, Kainan University, Taiwan; School of Mathematics and Systems Science, Guangdong Polytechnic Normal University, China; Department of Industrial Engineering and Engineering Management, National Tsing Hua University, Taiwan; School of Information Technology, University of Sydney, Australia; Institute of Resources Management and Decision Science, Management College, National Defense University, Taiwan

Session EMO3: Multi-Objective Evolutionary Algorithms III
Friday, July 13, 8:00AM-10:00AM, Room: CAPRI V+VI, Chair: Rodrigo Cardoso

8:00AM Performance Analysis on Knee Point Selection Methods for Multi-objective Sparse Optimization Problems [#18330]

Liang Jing, Zhu Xiaopei, Yue Caitong, Qu Boyang and Li Zhihui

Zhengzhou University, China; Zhongyuan University of Technology, China

8:20AM Parallel MOEAs for combinatorial multiobjective optimization model of financial portfolio selection [#18301]

Fernando Ferreira, Rodrigo Cardoso, Gustavo Hanaoka and Felipe Paiva

Federal Center for Technological Education of Minas Gerais, Brazil

8:40AM Team Selection Using Multi-/Many-Objective Optimization with Integer Linear Programming [#18073]

Shelvin Chand, Hemant Singh and Tapabrata Ray

The University of New South Wales, Australia

9:00AM Multi-objective semantic mutation for genetic programming [#28036]

Joao V. Calvo Fracasso and Fernando J. Von Zuben

University of Campinas (Unicamp), Brazil

Plenary Talk PL5: On Parallel Evolutionary Algorithms for Multilevel Optimization
Friday, July 13, 1:00PM-2:00PM, Room: Asia 2, Speaker: Helio J.C. Barbosa

Session SS33: Artificial Immune Systems: Algorithms, Simulation, Modelling & Theory and Artificial Life
Friday, July 13, 2:10PM-4:10PM, Room: CAPRI IV, Chair: Guilherme P. Coelho, Zaineb Chelly, Grazziela Figueredo, and Mario F. Pavone

2:10PM Immune-Inspired Optimization with Autocorrentropy Function for Blind Inversion of Wiener Systems [#18343]

Stephanie Fernandez, Denis Fantinato, Jugurta Montalvao, Romis Attux and Daniel Silva

Dept. of Electrical Engineering, University of Brasilia, Brazil; Mathematics, Computation and Cognition Center, Federal University of ABC, Brazil; Dept. of Electrical Engineering, University of Sergipe, Brazil; School of Electrical and Computer Engineering, University of Campinas, Brazil

2:30PM Dendritic Cell Algorithm with Optimised Parameters using Genetic Algorithm [#18502]
Noe Elisa, Longzhi Yang and Nitin Naik
Department of Computer and Information Sciences, Northumbria University, United Kingdom; Defence School of Communications of Information Systems, Ministry of Defense, United Kingdom

2:50PM An Immune Algorithm with an Evolutionary Scheme for Component Selection for the kNN Method [#18046]
Alberto Palacios Pawlovsky
Toin University of Yokohama, Japan

3:10PM Evolutionary and Immune Algorithms Applied to Association Rule Mining in Static and Stream Data [#18145]
Danilo Cunha and Leandro de Castro
Natural Computing and Machine Learning Laboratory - Mackenzie Presbyterian University, Brazil

Session RW2: Real-World and Engineering Applications
Friday, July 13, 2:10PM-4:10PM, Room: CAPRI V+VI, Chair: Robert Reynolds

2:10PM Optimization of the Water Alternating Gas Injection Strategy in an Oil Reservoir using Evolutionary Algorithms [#18317]
Tiago Ferreira, Luciana Almeida and Juan Lazo
Centro Federal de Educacao Tecnologica Celso Suckow da Fonseca, Brazil; Universidad del Pacifico, Peru

2:30PM Iterated racing algorithm for simulation-optimisation of maintenance planning [#18390]
Benjamin Lacroix, John McCall and Jerome Lonchampt
Robert Gordon University, Scotland; EDF, France

2:50PM Evolving Bent Quaternary Functions [#18417]
Stjepan Picek, Karlo Knezevic, Luca Mariot, Domagoj Jakobovic and Alberto Leporati
TU Delft, Netherlands; University of Zagreb, Croatia; Universita degli Studi di Milano-Bicocca, Italy

3:10PM Hierarchical Surrogate-Assisted Evolutionary Multi-Scenario Airfoil Shape Optimization [#18134]
Handing Wang, John Doherty and Yaochu Jin
University of Surrey, United Kingdom

3:30PM Optimizing AI Pipelines: A Game-Theoretic Cultural Algorithms Approach [#18314]
Faisal Waris and Robert Reynolds
Wayne State University, United States of America; Wayne State/University of MIchigan-Ann Arbor, United States of America

3:50PM Target-Oriented Granular Inference with Evolutionary Updating for Converter Gas Scheduling [#18181]
Tianyu Wang, Jun Zhao, Wei Wang, Ying Liu and Ge Guo
Dalian University of Technology, China; Northeastern University, China

Session NUM: Numerical Optimization
Friday, July 13, 4:30PM-6:30PM, Room: CAPRI IV, Chair: Junqi Zhang

4:30PM An Enhanced Cuckoo Search Algorithm for Solving Optimization Problems [#18024]
Ammar Kamoona, Jagdish Patra and Alex Stojcevski
University of Kufa, Iraq; Swinburne University of Technology, Australia

4:50PM Efficient Global Optimization using Deep Gaussian Processes [#18362]
Ali Hebbal, Loic Brevault, Mathieu Balesdent, Talbi El-Ghazali and Nouredine Melab
ONERA, France; INRIA, France

5:10PM Coyote Optimization Algorithm: A new metaheuristic for global optimization problems [#18398]

Juliano Pierezan and Leandro dos Santos Coelho
Federal University of Parana - UFPR, Brazil

5:30PM Learning Automata-based Particle Swarm Optimizer [#18173]
Zhang JunQi, Zhu XiXun and Zhou MengChu
Tongji University, China; New Jersy Institute of Technology, United States of America

5:50PM Cooling Strategies for the Moment-Generating Function in Bayesian Global Optimization [#18419]
Hao Wang, Michael Emmerich and Thomas Baeck
Leiden University, Netherlands

6:10PM Competitive Swarm Optimizer with Dynamic Grouping for Large Scale Optimization [#18045]
Zhi-Hui Zhan, Yong-Xing Wang, Zi-Jia Wang, Wei-Jie Yu and Jun Zhang
South China University of Technology, China

Session EMO2: Multi-Objective Evolutionary Algorithms II
Friday, July 13, 4:30PM-6:30PM, Room: CAPRI V+VI, Chair: Andrew Lewis

4:30PM Performance comparison of multi-objective local search strategies to infer phylogenetic trees [#18171]
Manuel Villalobos-Cid, Marcio Dorn and Mario Inostroza-Ponta
Universidad de Santiago de Chile, Chile; Federal University of Rio Grande do Sul, Brazil

4:50PM A Method for a Posteriori Identification of Knee Points Based on Solution Density [#18099]
Guo Yu, Yaochu Jin and Markus Olhofer
University of Surrey, United Kingdom; Honda Research Institute Europe GmbH, Germany

5:10PM Sampling Reference Points on the Pareto Fronts of Benchmark Multi-Objective Optimization Problems [#18020]
Ye Tian, Xiaoshu Xiang, Xingyi Zhang, Ran Cheng and Yaochu Jin
Anhui University, China; University of Birmingham, United Kingdom; University of Surrey, United Kingdom

5:30PM Back to nature: improving MOPSO inspired by the behaviour of starlings [#18471]
Mathew Curtis and Andrew Lewis
Griffith University, School of Information and Communication Technology, Australia