SHORT PROGRAMME

The Genetic and Evolutionary Computation Conference

Lisbon, 15th–19th July 2023

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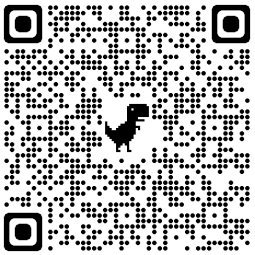

Last update: July 12, 2023

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Schedule at a Glance

Sat, 15th of July	Sun, 16th of July	Mon, 17th of July	Tue, 18th of July	Wed, 19th of July
Registration (7:30-18:00)	**Registration (7:30-18:00)**	**Registration (7:30-18:00)**	**Registration (8:30-18:00)**	**Registration (8:30-12:00)**
		Opening Session (08:45-09:30)	Poster Session II **(Online)** (08:00-09:30)	
Workshops and Tutorials (08:30-10:20)	Workshops, Tutorials, Competitions (08:30-10:20)	Invited Keynote **Riccardo Poli** (09:30-10:30)	Invited Keynote **Carla Gomes** (09:30-10:30)	Paper Sessions and HOP (9:00-10:30)
Break	Break	Break	Break	Break
Workshops and Tutorials (10:40-12:30)	Workshops, Tutorials, Competitions (10:40-12:30)	Paper Sessions and ECiP (11:00-12:30)	Paper Sessions and HOP (11:00-12:30)	SIGEVO Keynote **Kenneth De Jong** (11:00-12:00)
Lunch (on your own) (12:30-14:00)	Lunch (in the hotel) (12:30-14:00)	Lunch (on your own) (12:30-14:30)	Lunch (in the hotel) (12:30-14:30)	Awards and Closing (12:00-13:30)
Workshops and Tutorials (14:00-15:50)	Workshops and Tutorials (14:00-15:50)	Paper Sessions, Job Market and Impact (14:30-16:00)	Paper Sessions and HOP (14:30-16:00)	
Break	Break	Break	Break	
Workshops and Tutorials (16:10-18:00)	Workshops and Tutorials (16:10-18:00)	Paper Sessions and HOP (16:30-18:00)	HUMIES (16:30-18:00)	
Break				
Women+@GECCO (18:10-20:10)		Poster Session I (**Onsite:** 18:20-22:00) (**Online:** 18:20-19:30) (Buffet Dinner at 19:00-21:00)	**Social Dinner** (SUD Lisboa restaurant) (20:00-00:00)	

Notes:

- Opening, Closing, and Keynotes are in room Europa (Floor -1).
- Women+@GECCO is in room Lisboa (Floor 13).
- Onsite Poster Session is in room Londres (Floor -1) and Mezzanine (Floor 1).
- Both Poster Sessions include track posters, LBA, Competition and Student Workshop posters.
- Monday Online Poster Session can end as late as attendants wish.
- Monday and Tuesday sessions before lunch may end between 12:30 and 13:00.
- Monday sessions before Poster Session may end between 18:00 and 18:20.
- Coffee breaks are served in Mezzanine (Floor 1) and Hall (Floor 12).
- Lunch on your own: food from outside cannot be eaten in the hotel.
- Lunch in the hotel is served in Rio de Janeiro and Buenos Aires (Floor 2).

Workshop, Tutorial and Competition Sessions (Saturday, July 15)

	08:30–10:20	10:40–12:30	14:00–15:50	16:10–18:00
Lisboa Floor 13	SWINGA: Swarm Intelligence Algorithms: Foundations, Perspectives and Challenges	A Gentle Introduction to Theory (for Non-Theoreticians) (Doerr)	SAEOpt: Workshop on Surrogate-Assisted Evolutionary Optimisation	SAEOpt-GEWS2023: SAEOpt / Grammatical Evolution Workshop - 25 years of GE
Paris I Floor 13	QD-Benchmarks: Workshop on Quality Diversity Algorithm Benchmarks	Evolutionary Computation for Feature Selection and Feature Construction (Xue, Zhang)	Constraint-Handling Techniques used with Evolutionary Algorithms (Coello Coello)	Single and Multi-Objective Bilevel Optimization (Antunes, Alves)
Porto Floor 13	Runtime Analysis of Population-based Evolutionary Algorithms (Lehre, Oliveto)	BBOB: Black Box Optimization Benchmarking 2023	BBOB: Black Box Optimization Benchmarking 2023	An Introduction to Scientific Experimentation and Benchmarking (Auger, Hansen)
Madrid Floor 12	Transfer Learning in Evolutionary Spaces (Pillay)	EvoSoft: Evolutionary Computation Software Systems	EGML-EC: Enhancing Generative Machine Learning with Evolutionary Computation	Introduction to Quantum Optimization (Moraglio, Chicano)
Roma I Floor 1	NEWK: Neuroevolution at Work	Genetic Programming: A Tutorial Introduction (O'Reilly, Hemberg)	Model-Based Evolutionary Algorithms (Thierens, Bosman)	Automated Algorithm Configuration and Design (Cáceres, López-Ibáñez, Stützle)
Roma II Floor 1	Generative Hyper-heuristics (Tauritz, Woodward)	What You Always Wanted to Know About Evolution Strategies, But Never Dared to Ask (Beyer)	Exploratory Landscape Analysis (Kerschke, Preuss)	Lexicase Selection (Helmuth, La Cava)
Milão I Floor 1	Benchmarking and analyzing iterative optimization heuristics with IOHprofiler (Doerr, Wang, Vermetten, Bäck, de Nobel, Ye)	Quality-Diversity Optimisation (Cully, Mouret, Doncieux)	iGECCO: Interactive Methods at GECCO	AABOH: Analysing algorithmic behaviour of optimisation heuristics
Bruxelas Floor 0	LAHS: Landscape-Aware Heuristic Search	LAHS: Landscape-Aware Heuristic Search	Modern Applications of Evolutionary Rule-based Machine Learning (Siddique, Browne, Urbanowicz)	Representations for Evolutionary Algorithms (Rothlauf)

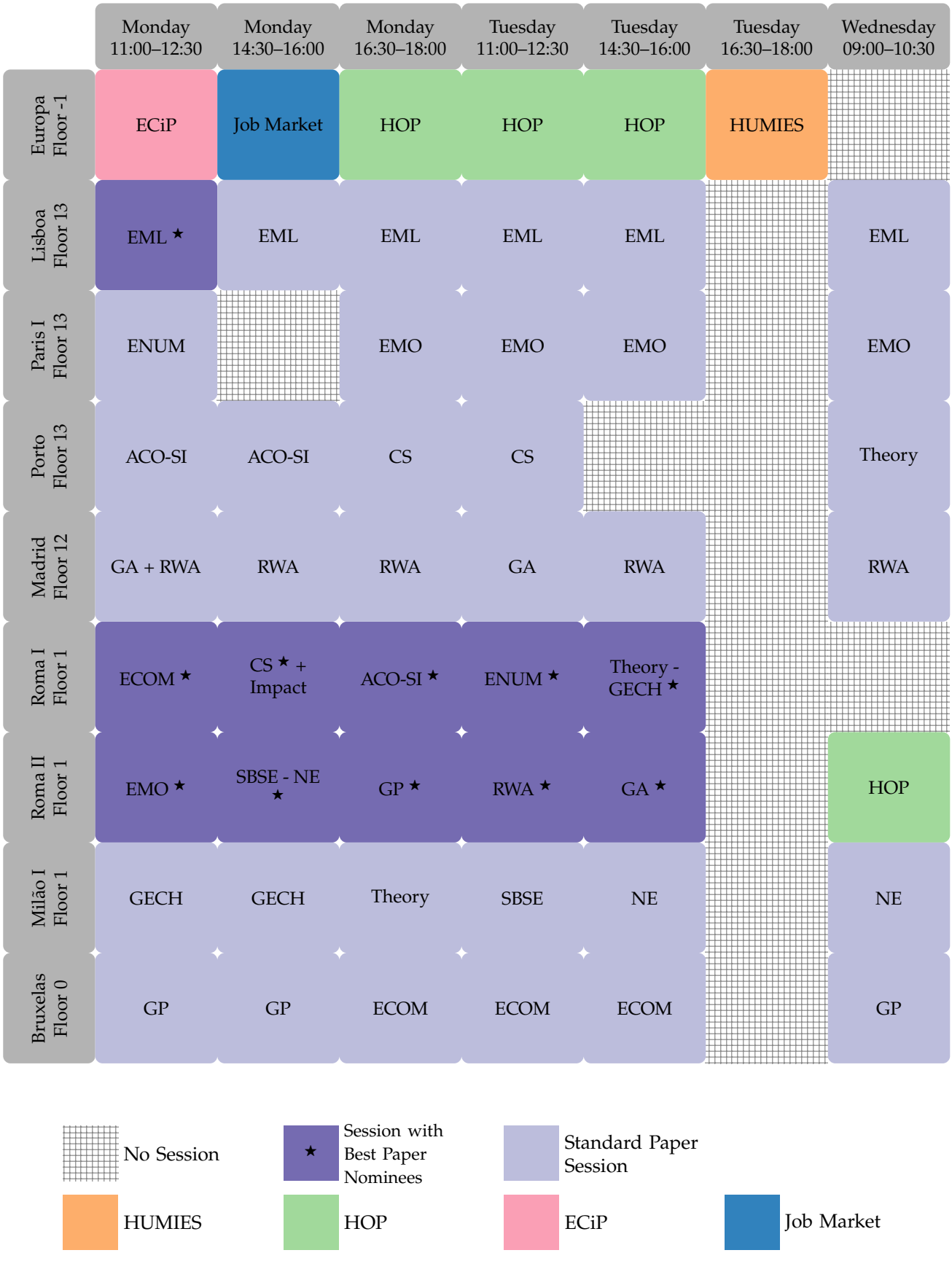
Workshop
Specialized Tutorial
Competition
No Session
Advanced Tutorial
Introductory Tutorial

Workshop, Tutorial and Competition Sessions (Sunday, July 16)

	08:30–10:20	10:40–12:30	14:00–15:50	16:10–18:00
Lisboa Floor 13	Bayesian Optimisation (Couckuyt, Gonzalez, Branke, Bischl)	ECADA-KL: Evolutionary Computation for the Automated Design of Algorithms / Keep Learning	ECADA-KL: Evolutionary Computation for the Automated Design of Algorithms / Keep Learning	SymReg: Symbolic Regression Workshop
Paris I Floor 13	Genetic improvement: Taking real-world source code and improving it using genetic programming (Brownlee, Woodward, Haraldsson)	CMA-ES and Advanced Adaptation Mechanisms (Akimoto, Hansen)	Evolutionary computation for stochastic problems (Neumann, Neumann, Singh)	Evolutionary Computation and Tunneling at the Edge of Quantum Computing (Whitey)
Porto Floor 13	Optimization Challenges at the European Space Agency (Izzo, López-Ibáñez)	Student: Student Workshop	Student: Student Workshop	EvoRL: Evolutionary Reinforcement Learning Workshop
Madrid Floor 12	BENCH: Good Benchmarking Practices for Evolutionary Computation	Large-Scale Optimization and Learning (Nabi Omidvar, Sun, Li)	ECXAI: Evolutionary Computing and Explainable AI	GGP: Graph-based Genetic Programming
Roma I Floor 1	IAM: 8th Workshop on Industrial Applications of Metaheuristics	IAM: 8th Workshop on Industrial Applications of Metaheuristics	Coevolutionary Computation for Adversarial Deep Learning (Toutouh, O'Reilly)	ERBML: 26th International Workshop on Evolutionary Rule-based Machine Learning
Roma II Floor 1	Evolution of Neural Networks (Miikkulainen)	Theory and Practice of Population Diversity in Evolutionary Computation (Sudholt, Squillero)	Landscape Analysis of Optimization Problems and Algorithms (Malan, Ochoa)	SBOX-COST: Strict box-constraint optimization studies
Milão I Floor 1	Competitions	Competitions	Benchmarking Multiobjective Optimizers 2.0 (Brockhoff, Tušar)	EC+DM: Evolutionary Computation and Decision Making
Bruxelas Floor 0	QuantOpt: Workshop on Quantum Optimization	QuantOpt: Workshop on Quantum Optimization	QuantOpt: Workshop on Quantum Optimization	Evolutionary Computation and Evolutionary Deep Learning for Image Analysis, Signal Processing and Pattern Recognition (Zhang, Cagnoni)

Workshop
Specialized Tutorial
Competition
No Session
Advanced Tutorial
Introductory Tutorial

Parallel Sessions
(Monday, July 17 – Wednesday, July 19)



Please note that the number following the letter 'F' is used to indicate the floor number in the hotel.

⋆ refers to the Best Paper Nominees, and ⋆⋆ refers to the SIGEVO Impact Award.

Tutorials

Saturday, July 15 — 08:30-10:20

Per Kristian Lehre, Pietro Oliveto (Room: Porto, F13)
Runtime Analysis of Population-based Evolutionary Algorithms

Nelishia Pillay (Room: Madrid, F12)
Transfer Learning in Evolutionary Spaces

Daniel Tauritz, John Woodward (Room: Roma II, F1)
Generative Hyper-heuristics

Carola Doerr, Hao Wang, Diederick Vermetten, Thomas Bäck, Jacob de Nobel, Furong Ye (Room: Milão I, F1)
Benchmarking and analyzing iterative optimization heuristics with IOHprofiler

Saturday, July 15 — 10:40-12:30

Benjamin Doerr (Room: Lisboa, F13)
A Gentle Introduction to Theory (for Non-Theoreticians)

Bing Xue, Mengjie Zhang (Room: Paris I, F13)
Evolutionary Computation for Feature Selection and Feature Construction

Una-May O'Reilly, Erik Hemberg (Room: Roma I, F1)
Genetic Programming: A Tutorial Introduction

Hans-Georg Beyer (Room: Roma II, F1)
What You Always Wanted to Know About Evolution Strategies, But Never Dared to Ask

Antoine Cully, Jean-Baptiste Mouret, Stéphane Doncieux (Room: Milão I, F1)
Quality-Diversity Optimisation

Saturday, July 15 — 14:00-15:50

Carlos Coello Coello (Room: Paris I, F13)
Constraint-Handling Techniques used with Evolutionary Algorithms

Dirk Thierens, Peter Bosman (Room: Roma I, F1)
Model-Based Evolutionary Algorithms

Pascal Kerschke, Mike Preuss (Room: Roma II, F1)
Exploratory Landscape Analysis

Abubakar Siddique, Will Browne, Ryan Urbanowicz (Room: Bruxelas, F0)
Modern Applications of Evolutionary Rule-based Machine Learning

Saturday, July 15 — 16:10-18:00

Carlos Antunes, Maria João Alves (Room: Paris I, F13)
Single and Multi-Objective Bilevel Optimization

Anne Auger, Nikolaus Hansen (Room: Porto, F13)
An Introduction to Scientific Experimentation and Benchmarking

Alberto Moraglio, Francisco Chicano (Room: Madrid, F12)
Introduction to Quantum Optimization

Leslie Pérez Cáceres, Manuel López-Ibáñez, Thomas Stützle (Room: Roma I, F1)
Automated Algorithm Configuration and Design

Thomas Helmuth, William La Cava (Room: Roma II, F1)
Lexicase Selection

Franz Rothlauf (Room: Bruxelas, F0)
Representations for Evolutionary Algorithms

Sunday, July 16 — 08:30-10:20

Ivo Couckuyt, Sebastian Rojas Gonzalez, Juergen Branke, Bernd Bischl (Room: Lisboa, F13)
Bayesian Optimisation

Alexander Brownlee, John Woodward, Sæmundur Haraldsson (Room: Paris I, F13)
Genetic improvement: Taking real-world source code and improving it using genetic programming

Dario Izzo, Manuel López-Ibáñez (Room: Porto, F13)
Optimization Challenges at the European Space Agency

Risto Miikkulainen (Room: Roma II, F1)
Evolution of Neural Networks

Sunday, July 16 — 10:40-12:30

Youhei Akimoto, Nikolaus Hansen (Room: Paris I, F13)
CMA-ES and Advanced Adaptation Mechanisms

Mohammad Nabi Omidvar, Yuan Sun, Xiaodong Li (Room: Madrid, F12)
Large-Scale Optimization and Learning

Dirk Sudholt, Giovanni Squillero (Room: Roma II, F1)
Theory and Practice of Population Diversity in Evolutionary Computation

Sunday, July 16 — 14:00-15:50

Frank Neumann, Aneta Neumann, Hemant Singh (Room: Paris I, F13)
Evolutionary computation for stochastic problems

Jamal Toutouh, Una-May O'Reilly (Room: Roma I, F1)
Coevolutionary Computation for Adversarial Deep Learning

Katherine Malan, Gabriela Ochoa (Room: Roma II, F1)
Landscape Analysis of Optimization Problems and Algorithms

Dimo Brockhoff, Tea Tušar (Room: Milão I, F1)
Benchmarking Multiobjective Optimizers 2.0

Sunday, July 16 — 16:10-18:00

Darrell Whitey (Room: Paris I, F13)
Evolutionary Computation and Tunneling at the Edge of Quantum Computing

Mengjie Zhang, Stefano Cagnoni (Room: Bruxelas, F0)
Evolutionary Computation and Evolutionary Deep Learning for Image Analysis, Signal Processing and Pattern Recognition

Workshops

Saturday, July 15 — 08:30-10:20

Swarm Intelligence Algorithms: Foundations, Perspectives and Challenges (SWINGA) (Room: Lisboa, F13)

08:30-08:33 **Roman Senkerik, Pavel Kromer, Ivan Zelinka, Swagatam Das**
Welcome & Opening by the workshop organizers

08:33-08:58 **Michal Pluhacek, Anezka Kazikova, Tomas Kadavy, Adam Viktorin, Roman Senkerik**
Leveraging Large Language Models for the Generation of Novel Metaheuristic Optimization Algorithms

08:58-09:18 **Nazrul Islam, John Oyekan**
An Improved Hybrid Multi-Objective Particle Swarm Optimization to Enhance Convergence and Diversity

09:18-09:38 **Marcela Matusikova, Michal Pluhacek, Tomas Kadavy, Adam Viktorin, Roman Senkerik**
Exploring Adaptive Components of SOMA

09:38-09:58 **Roman Senkerik, Tomas Kadavy, Peter Janku, Michal Pluhacek, Hubert Guzowski, Libor Pekar, Radek Matusu, Adam Viktorin, Maciej Smolka, Aleksander Byrski, Zuzana Kominkova Oplatkova**
Maximizing Efficiency: A Comparative Study of SOMA Variants and Constraint Handling Methods for Time Delay System Optimization

09:58-10:18 **Hubert Guzowski, Maciej Smołka**
Configuring a Hierarchical Evolutionary Strategy Using Exploratory Landscape Analysis

10:18-10:20 **Roman Senkerik, Pavel Kromer, Ivan Zelinka, Swagatam Das**
Closing of section

Workshop on Quality Diversity Algorithm Benchmarks (QD-Benchmarks) (Room: Paris I, F13)

08:30-08:35 **Antoine Cully, Stéphane Doncieux, Matthew C. Fontaine, Stefanos Nikolaidis, Adam Gaier, Amy K Hoover, Jean-Baptiste Mouret, John Rieffel, Julian Togelius**
Welcome & Opening by the workshop organizers

08:35-08:50 **Manon Flageat, Luca Grillotti, Antoine Cully**
Benchmark Tasks for Quality-Diversity Applied to Uncertain Domains

08:50-09:05 **Ryan Boldi, Lee Spector**
Can the Problem-Solving Benefits of Quality Diversity Be Obtained Without Explicit Diversity Maintenance?

09:05-09:20 **Luca Grillotti, Antoine Cully**
Kheperax: a Lightweight JAX-based Robot Control Environment for Benchmarking Quality-Diversity Algorithms

09:20-10:20 **Antoine Cully, Stéphane Doncieux, Matthew C. Fontaine, Stefanos Nikolaidis, Adam Gaier, Amy K Hoover, Jean-Baptiste Mouret, John Rieffel, Julian Togelius**
Roundtable discussion with organizers

Neuroevolution at Work (NEWK) (Room: Roma I, F1)

08:30-08:33 **Mengjie Zhang, Ernesto Tarantino**
Welcome & Opening by the workshop organizers

08:33-08:53 **Nicholas Sung, Jian Cheng Wong, Chin Chun Ooi, Abhishek Gupta, Pao-Hsiung Chiu, Yew-Soon Ong**
Neuroevolution of Physics-Informed Neural Nets: Benchmark Problems and Comparative Results

08:53-09:13 **Sujit Subramanian S, Arvindram K, Shunmuga Velayutham C., Madhusoodhan Sathya, Nathiyaa Sengodan, Divesh Kosuri, Sai Satvik Arvapalli, Thangavelu S, Jeyakumar G**
EvoPrunerPool: An Evolutionary Pruner using Pruner Pool for Compressing Convolutional Neural Networks

09:13-09:33 **Divya Kulkarni, Shivashankar Nair**
Transfer Learning for Embodied Neuroevolution

09:33-09:53 **Henrique Branquinho, Nuno Lourenço, Ernesto Costa**
SPENSER: Towards a NeuroEvolutionary Approach for Convolutional Spiking Neural Networks

09:53-10:13 **Joshua Karns, Travis Desell**
Local Stochastic Differentiable Architecture Search for Memetic Neuroevolution Algorithms

10:13-10:16 **Mengjie Zhang, Ernesto Tarantino**
Closing by the workshop organizers

Landscape-Aware Heuristic Search (LAHS) (Room: Bruxelas, F0)

08:30-08:35 **Sarah L. Thomson, Gabriela Ochoa, Nadarajen Veerapen, Katherine Malan, Arnaud Liefooghe, Sébastien Verel**
Welcome & Opening by the workshop organizers

08:35-08:56 **Anna Bosman, Andries Engelbrecht, Marde Helbig**
Empirical Loss Landscape Analysis of Neural Network Activation Functions

08:56-09:17 **Arnaud Liefooghe, Katherine Malan**
Adaptive Landscape-aware Constraint Handling with Application to Binary Knapsack Problem

09:17-09:38 **Sophie Sadler, Alma Rahat, David Walker, Daniel Archambault**
Extrema Graphs: Fitness Landscape Analysis to the Extreme!

09:38-09:59 **Paul Mitchell, Gabriela Ochoa, Romain Chassagne**
Local Optima Networks of the Black Box Optimisation Benchmark Functions

09:59-10:20 **Yifan He, Ferrante Neri**
Fitness Landscape Analysis of Genetic Programming Search Spaces with Local Optima Networks

Saturday, July 15 — 10:40-12:30

Black Box Optimization Benchmarking 2023 (BBOB) (Room: Porto, F13)

10:40-11:15 **Anne Auger, Dimo Brockhoff, Paul Dufossé, Nikolaus Hansen, Olaf Mersmann, Petr Pošík, Tea Tušar**
Introduction to Blackbox Optimization Benchmarking

11:15-11:40 **Tristan Marty, Yann Semet, Anne Auger, Sébastien Héron, Nikolaus Hansen**
Benchmarking CMA-ES with Basic Integer Handling on a Mixed-Integer Test Problem Suite

11:40-12:05 **Dimo Brockhoff, Pascal Capetillo, Jonathan Hornewall, Raphael Walker**
Benchmarking the Borg algorithm on the Biobjective bbob-biobj Testbed

12:05-12:30 **Victoria Johnson, João Duro, Visakan Kadirkamanathan, Robin Purshouse**
A Distributed Multi-Disciplinary Design Optimization Benchmark Test Suite with Constraints and Multiple Conflicting Objectives

Evolutionary Computation Software Systems (EvoSoft) (Room: Madrid, F12)

10:40-10:44 **Stefan Wagner, Michael Affenzeller**
Welcome & Opening by the workshop organizers

10:44-11:01 **Jonathan Wurth, Helena Stegherr, Michael Heider, Leopold Luley, Jörg Hähner**
Fast, Flexible, and Fearless: A Rust Framework for the Modular Construction of Metaheuristics

11:01-11:18 **Deacon Seals, Robert Wilkes, Daniel Tauritz**
Maelstrom: An Accelerator-compatible GP Framework

11:18-11:35 **Anton Bouter, Peter Bosman**
A Joint Python/C++ Library for Efficient yet Accessible Black-Box and Gray-Box Optimization with GOMEA

11:35-11:52 **Taha Arbaoui, Mohamed Elamine Athmani, Mohammed Henni, Akram Badreddine Laissaoui, Mourad Terzi**
PyScheduling: an Extensible and Easy-To-Use Python Framework for Scheduling Problems

11:52-12:09 **Thomas Weise, Zhize Wu**
Replicable Self-Documenting Experiments with Arbitrary Search Spaces and Algorithms

12:09-12:26 **Maxim Buzdalov**
Improving Time and Memory Efficiency of Genetic Algorithms by Storing Populations as Minimum Spanning Trees of Patches

12:26-12:30 **Stefan Wagner, Michael Affenzeller**
Closing by the workshop organizers

Landscape-Aware Heuristic Search (LAHS) (Room: Bruxelas, F0)

10:40-10:45 **Sarah L. Thomson, Gabriela Ochoa, Nadarajen Veerapen, Katherine Malan, Arnaud Liefooghe, Sébastien Verel**
Welcome & Opening by the workshop organizers

10:45-11:06 **Isobel Bosman, Anna Bosman, Katherine Malan**
Quantifying and Visualizing the Sharpness of Attraction Basins in Neural Network Error Landscapes

11:06-11:27 **James Sakal, Jonathan Fieldsend, Edward Keedwell**
Genotype Diversity Measures for Escaping Plateau Regions in University Course Timetabling

11:27-11:48 **Bernhard Werth, Johannes Karder, Andreas Beham, Erik Pitzer, Kaifeng Yang, Stefan Wagner**
Walking through the Quadratic Assignment-Instance Space: Algorithm Performance and Landscape Measures

11:48-12:09 **Sarah Thomson, Nadarajen Veerapen, Gabriela Ochoa, Daan van den Berg**
Randomness in Local Optima Network Sampling

12:09-12:30 **Bruno Gašperov, Marko Đurasević, Domagoj Jakobović**
A Search for Nonlinear Balanced Boolean Functions by Leveraging Phenotypic Properties

Saturday, July 15 — 14:00-15:50

Workshop on Surrogate-Assisted Evolutionary Optimisation (SAEOpt) (Room: Lisboa, F13)

14:00-14:05 **Alma Rahat, Richard Everson, Jonathan Fieldsend, Handing Wang, Yaochu Jin, Tinkle Chugh**
Welcome Note and Session Overview Opening by the workshop organizers

14:05-14:25 **Pablo S. Naharro, José-María Peña, Antonio LaTorre**
Sequential Hybridization of Online Surrogate Models for Continuous Optimization

14:25-14:45 **Ioana Nikova, Tom Dhaene, Ivo Couckuyt**
Cost-Aware Active Learning for Feasible Region Identification

14:45-15:05 **Alessio Benavoli, Dario Azzimonti, Dario Piga**
Bayesian Optimization For Choice Data

15:05-15:25 **Kaifeng Yang, Kai Chen, Michael Affenzeller, Bernhard Werth**
A New Acquisition Function for Multi-objective Bayesian Optimization: Correlated Probability of Improvement

15:25-15:45 **Christina Plump, Bernhard Berger, Rolf Drechsler**
Repetitive Processes and Their Surrogate-Model Congruent Encoding for Evolutionary Algorithms - A Theoretic Proposal

15:45-15:50 **Alma Rahat, Richard Everson, Jonathan Fieldsend, Handing Wang, Yaochu Jin, Tinkle Chugh**
Conclusions by the organisers

Black Box Optimization Benchmarking 2023 (BBOB) (Room: Porto, F13)

14:00-14:05 **Anne Auger, Dimo Brockhoff, Paul Dufossé, Nikolaus Hansen, Olaf Mersmann, Petr Pošík, Tea Tušar**
Introduction to Blackbox Optimization Benchmarking

14:05-14:30 **Óscar Espinoza, Katya Rodríguez-Vázquez, Carlos Hernández-Castellanos, Suemi Rodriguez-Romo**
Comparison Of Three Versions Of Whale Optimization Algorithm (WOA) On The Bbob Test Suite

14:30-14:55 **Armand Gissler**
Evaluation of the impact of various modifications to CMA-ES that facilitate its theoretical analysis

14:55-15:20 **Jakub Kudela**
Benchmarking State-of-the-art DIRECT-type Methods on the BBOB Noiseless Testbed

15:20-15:30 **Anne Auger, Dimo Brockhoff, Paul Dufossé, Nikolaus Hansen, Olaf Mersmann, Petr Pošík, Tea Tušar**
The COCO data archive and This Year's Results

15:30-15:50 **Anne Auger, Dimo Brockhoff, Paul Dufossé, Nikolaus Hansen, Olaf Mersmann, Petr Pošík, Tea Tušar**
Wrap-up and Open Discussion

Enhancing Generative Machine Learning with Evolutionary Computation (EGML-EC) (Room: Madrid, F12)

14:00-14:27 **Unai Garciarena, Roberto Santana, Alexander Mendiburu**
Analyzing the interplay between transferable GANs and gradient optimizers

14:27-14:54 **Jairo Correa, Jimena Mignaco, Gonzalo Rey, Benjamín Machín, Sergio Nesmachnow, Jamal Toutouh**
Multiobjective evolutionary search of the latent space of Generative Adversarial Networks for human face generation

14:54-15:21 **Kehinde Babaagba, Jordan Wylie**
An Evolutionary based Generative Adversarial Network Inspired Approach to Defeating Metamorphic Malware

15:21-15:48 **Luana Clare, João Correia**
Generating Adversarial Examples through Latent Space Exploration of Generative Adversarial Networks

Interactive Methods at GECCO (iGECCO) (Room: Milão I, F1)

14:00-14:05 **Ed Keedwell, David Walker, Matt Johns, Nick Ross**
Welcome & Opening by the workshop organizers

14:05-14:25 **Yan Pei**
A Comprehensive and Brief Survey on Interactive Evolutionary Computation in Sound and Music Composition for Algorithmic Auditory and Acoustic Design with Human-in-the-Loop

14:25-14:45 **Juan Ungredda, Juergen Branke**
When to Elicit Preferences in Multi-Objective Bayesian Optimization

14:45-15:05 **Thomas Helmuth, James Frazier, Yuhan Shi, Ahmed Abdelrehim**
Human-Driven Genetic Programming for Program Synthesis: A Prototype

15:05-15:50 **Ke Li**
Preference is all you need: A stepping stone to involve human in the loop

Saturday, July 15 — 16:10-18:00

SAEOpt / Grammatical Evolution Workshop - 25 years of GE (SAEOpt-GEWS2023) (Room: Lisboa, F13)

16:10-16:15 **Alma Rahat, Richard Everson, Jonathan Fieldsend, Handing Wang, Yaochu Jin, Tinkle Chugh**
Session Overview Opening by the workshop organizers

16:15-16:30 **Shintaro Takenaga, Yoshihiko Ozaki, Masaki Onishi**
Dynamic Fidelity Selection for Hyperparameter Optimization

16:30-16:45 **Konrad Krawczyk, Jarosław Arabas**
JADE with k Nearest Neighbors Surrogate Model

16:45-17:00 **Hao Chen, Zhenhua Wang, Kai Sun, Weicheng Cui, Weikun Li**
A Robust Offline Data-Driven Evolutionary Optimization Algorithm for Solving Expensive Soft Pneumatic Actuator Design

17:00-17:05 **Alma Rahat, Richard Everson, Jonathan Fieldsend, Handing Wang, Yaochu Jin, Tinkle Chugh**
Conclusions by the organisers

17:05-17:10 **Mahsa Mahdinejad, Aidan Murphy, Conor Ryan**
Welcome & Opening by the workshop organizers

17:10-17:25 **Leon Ingelse, José-Ignacio Hidalgo, José Manuel Colmenar, Nuno Lourenço, Alcides Fonseca**
Comparing Individual Representations in Grammar-Guided Genetic Programming for Glucose Prediction in People with Diabetes

17:25-17:40 **Amin V. Bernabe Rodriguez, Carlos A. Coello Coello**
Designing Scalarizing Functions Using Grammatical Evolution

17:40-17:55 **Aidan Murphy, Nuno Lourenço, Anthony Ventresque**
Initialisation in Structured Grammatical Evolution

17:55-18:00 **Mahsa Mahdinejad, Aidan Murphy, Conor Ryan**
Closing of section

Analysing algorithmic behaviour of optimisation heuristics (AABOH) (Room: Milão I, F1)

16:10-16:12 **Anna V Kononova, Niki van Stein, Daniela Zaharie, Fabio Caraffini, Thomas Bäck**
Welcome & Opening by the workshop organizers

16:12-16:32 **Eric Scott, Kenneth De Jong**
Initialization Matters for Asynchronous Steady-State Evolutionary Algorithms

16:32-16:52 **Ofer Shir, Michael Emmerich**
On the Behavior of the Mixed-Integer SMS-EMOA on Box-Constrained Quadratic Bi-Objective Models

16:52-17:12 **Lauren Hayward, Andries Engelbrecht**
How to Tell a Fish from a Bee: Constructing Meta-Heuristic Search Behaviour Characteristics

17:12-17:42 **Kenneth De Jong**
Self-analyzing EAs

17:42-18:00 **Anna V Kononova, Niki van Stein, Daniela Zaharie, Fabio Caraffini, Thomas Bäck**
Workshop Q&A

Sunday, July 16 — 08:30-10:20

Good Benchmarking Practices for Evolutionary Computation (BENCH) (Room: Madrid, F12)

08:30-08:40 **Boris Naujoks, Carola Doerr, Pascal Kerschke, Mike Preuss, Vanessa Volz, Olaf Mersmann**
Welcome & Opening by the workshop organizers

08:40-08:55 **Mario Andrés Muñoz**
Distribution Network Topology Identification - Generating multiple instances for algorithm benchmarking

08:55-09:10 **Thomas Bäck**
Reflections on mixed-integer global optimization

09:10-09:30 **Tea Tusar**
Two suites of mixed-integer optimization problems

09:30-10:15 **BBOB team, Mario Andrés Muñoz Acosta, Thomas Bäck, Carlos Fonseca**
Discussion, panel and all participants

10:15-10:20 **Boris Naujoks, Carola Doerr, Pascal Kerschke, Mike Preuss, Vanessa Volz, Olaf Mersmann**
Closing Organizers

8th Workshop on Industrial Applications of Metaheuristics (IAM) (Room: Roma I, F1)

08:30-08:40 **Silvino Fernández Alzueta, Pablo Valledor Pellicer, Thomas Stützle**
Welcome & Opening by the workshop organizers

08:40-09:30 **Iñaki Hidalgo**
Applications of Adaptive and Bioinspired Systems in Medicine

09:30-09:55 **Cristiane Pereira, Douglas Dias, Luis Martí, Marley Vellasco**
A Multi-Objective Decomposition Optimization Method for Refinery Crude Oil Scheduling through Genetic Programming

09:55-10:20 **Andrea Bonomi, Evelyn Turri, Giovanni Iacca**
Evolutionary F1 Race Strategy

Workshop on Quantum Optimization (QuantOpt) (Room: Bruxelas, F0)

08:30-08:33 **Alberto Moraglio, Mayowa Ayodele, Francisco Chicano, Oleksandr Kyriienko, Ofer Shir, Lee Spector**
Welcome & Opening by the workshop organizers

08:33-09:08 **Matthias Möller**
Opportunities and Challenges of Quantum Computing in Optimization

09:08-09:26 **Marco Baioletti, Angelo Oddi, Riccardo Rasconi**
Solving Scheduling Problems with Quantum Computing: a Study on Flexible Open Shop

09:26-09:44 **Jonas Stein, Farbod Chamanian, Maximilian Zorn, Jonas Nüßlein, Sebastian Zielinski, Michael Kölle, Claudia Linnhoff-Popien**
Evidence that PUBO outperforms QUBO when solving continuous optimization problems with the QAOA

09:44-10:02 **Francisco Chicano, Zakaria Dahi, Gabriel Luque**
An Efficient QAOA via a Polynomial QPU-Needless Approach

10:02-10:20 **Abhishek Dixit, Ashish Mani**
Quantum Entanglement inspired Differential Evolution algorithm

Sunday, July 16 — 10:40-12:30

EC for the Automated Design of Algorithms / Keep Learning (ECADA-KL) (Room: Lisboa, F13)

10:40-10:45 **Emma Hart, Ian Miguel, Christopher Stone, Quentin Renau**
Welcome & Opening by the workshop organizers

10:45-10:50 **Emma Hart, Ian Miguel, Christopher Stone, Quentin Renau**
Session Intro

10:50-11:05 **Emma Hart, Ian Miguel, Christopher Stone, Quentin Renau**
Towards optimisers that 'Keep Learning'

11:05-11:20 **Amit Kini, Swaraj Yadav, Aditya Thakur, Akshar Awari, Zimeng Lyu, Travis Desell**
Co-evolving RNNs and their Hyperparameters with SHO Co-evolving Recurrent Neural Networks and their Hyperparameters with Simplex Hyperparameter Optimization

11:20-11:25 (*Transition buffer between co-located workshops*)

11:25-11:30 **Emma Hart, Daniel Tauritz, John Woodward**
Welcome & Opening by the workshop organizers

11:30-11:35 **Emma Hart, Daniel Tauritz, John Woodward**
Session Intro

11:35-12:00 **Weiyao Meng, Rong Qu**
Sequential Rule Mining for Automated Design of Meta-heuristics

12:00-12:15 **Vladimir Stanovov, Eugene Semenkin**
Genetic Programming for Automatic Design of Parameter Adaptation in Dual-Population Differential Evolution

12:15-12:30 **Gabriel Kopito, Jonathan Schwartz, Julien Amblard, Robert Filman, Landon Rabern**
MLStar: A System for Synthesis of Machine-Learning Programs

Student Workshop (Student) (Room: Porto, F13)

10:40-10:50 **Nelishia Pillay, Marco Tomassini**
Welcome & Opening by the workshop organizers

10:50-11:15 **Bing Xue**
Help All to Help your Research and Career

11:15-11:40 **Simon Naumov**
Empirical Analysis of Crossover-Based Evolutionary Algorithms on Rugged Landscape

11:40-12:05 **Johannes Reiter, Dirk Schweim, David Wittenberg**
Pretraining Reduces Runtime in Denoising Autoencoder Genetic Programming by an Order of Magnitude

12:05-12:30 **Lucas Fenaux, Thomas Humphries, Florian Kerschbaum**
Gaggle: Genetic Algorithms on the GPU using PyTorch

8th Workshop on Industrial Applications of Metaheuristics (IAM) (Room: Roma I, F1)

10:40-10:55 **Iffat Jamil, Sanaz Mostaghim, Berend van Wachem, Victor Chéron, Max Hausmann**
Landscape Analysis of Multi-objective Control of Fluidized Beds

10:55-11:10 **Naru Okumura, Tomoaki Takagi, Yoshihiro Ohta, Hiroyuki Sato**
Pareto Front Upconvert on Multi-objective Building Facility Control Optimization

11:10-11:25 **Hitomi Kano, Tomohiro Harada, Yukiya Miura, Masahiro Kanazaki**
Hybrid Rocket Engine Design Using Pairwise Ranking Surrogate-assisted Differential Evolution

11:25-11:50 **Luis Cordero, Brian Jaramillo-Leon, Jonatas Leite, John Franco, José Almeida, Fernando Lezama, João Soares**
Probabilistic-based Optimization for PV Hosting Capacity with Confidence Interval Restrictions

11:50-12:15 **Nikolaus Frohner, Günther Raidl, Francisco Chicano**
Multi-Objective Policy Evolution for a Same-Day Delivery Problem with Soft Deadlines

12:15-12:30 **Silvino Fernández Alzueta, Pablo Valledor Pellicer, Thomas Stützle**
Wrap up, Conclusions and Closing by Organizers

Workshop on Quantum Optimization (QuantOpt) (Room: Bruxelas, F0)

10:40-10:58 **Jesus Garcia Garcia, Pablo Galan Jativa**
Application of Quantum Annealing to Supply Chain Planning under Uncertainty

10:58-11:16 **Philippe Codognet**
Encoding the At-Most Constraint for QUBO and Quantum Annealing: Experiments with the N-Queens problem

11:16-11:34 **Sebastian Zielinski, Jonas Nüßlein, Jonas Stein, Thomas Gabor, Claudia Linnhoff-Popien, Sebastian Feld**
Influence of Different 3SAT-to-QUBO Transformations on the Solution Quality of Quantum Annealing: A Benchmark Study

11:34-11:52 **Mayowa Ayodele, Richard Allmendinger, Manuel López-Ibáñez, Arnaud Liefooghe, Matthieu Parizy**
Applying Ising Machines to Multi-objective QUBOs

11:52-12:10 **Justin Pauckert, Pieter Debevere, Matthieu Parizy, Mayowa Ayodele**
Strategic Solution Combination in Scatter Search for Quadratic Unconstrained Binary Optimization

12:10-12:28 **Thomas Gabor, Sebastian Zielinski, Sofie Henghuber, Claudia Linnhoff-Popien**
A Relative Approach to Comparative Performance Analysis for Quantum Optimization

Sunday, July 16 — 14:00-15:50

EC for the Automated Design of Algorithms / Keep Learning (ECADA-KL) (Room: Lisboa, F13)

14:00-14:05 **Emma Hart, Daniel Tauritz, John Woodward**
Session Intro

14:05-14:30 **Darren Chitty, James Lewis, Ed Keedwell**
Using a Parallel Ensemble of Sequence-Based Selection Hyper-Heuristics for Electric Bus Scheduling

14:30-14:55 **Yunshuang Xiao, Leslie Pérez Cáceres, Manuel López-Ibáñez, Thomas Stützle**
Algorithm Configuration via Continuously Racing: Preliminary Results

14:55-15:35 **Rong Qu**
A General Model and Framework for Automated Algorithm Design

15:35-15:45 **Emma Hart, Daniel Tauritz, John Woodward, Ian Miguel, Christopher Stone, Quentin Renau**
Open discussion on ECADA/Keep Learning Topics

15:45-15:50 **Emma Hart, Daniel Tauritz, John Woodward, Ian Miguel, Christopher Stone, Quentin Renau**
ECADA/Keep Learning Wrap Up

Student Workshop (Student) (Room: Porto, F13)

14:00-14:25 **Maria Laura Santoni, Elena Raponi, Renato De Leone, Carola Doerr**
Comparison of Bayesian Optimization Algorithms for BBOB Problems in Dimensions 10 and 60

14:25-14:50 **Luigi Rovito, Andrea De Lorenzo, Luca Manzoni**
Evolution of Walsh Transforms with Genetic Programming

14:50-15:15 **Kade Heckel**
Neuroevolutionary Compiler Control for Code Optimization

15:15-15:40 **Hiroki Shimizu, Masashi Toyoda**
A Dynamic Partial Update for Covariance Matrix Adaptation

15:40-15:50 **Nelishia Pillay, Marco Tomassini**
Closing by the workshop organizers

Evolutionary Computing and Explainable AI (ECXAI) (Room: Madrid, F12)

14:00-14:05 **Giovanni Iacca, David Walker, Alexander Brownlee, Stefano Cagnoni, John McCall, Jaume Bacardit**
Welcome & Opening by the workshop organizers

14:05-14:45 **Mengjie Zhang**
Genetic Programming for Explainable Artificial Intelligence

14:45-15:05 **Martin Fyvie, John McCall, Lee Christie, Alexander Brownlee**
Explaining a Staff Rostering Genetic Algorithm using Sensitivity Analysis and Trajectory Analysis.

15:05-15:25 **Sarah Thomson, Jason Adair, Alexander Brownlee, Daan van den Berg**
From Fitness Landscapes to Explainable AI and Back

15:25-15:45 **David Pätzel, Michael Heider, Jörg Hähner**
Towards Principled Synthetic Benchmarks for Explainable Rule Set Learning Algorithms

15:45-15:50 **Giovanni Iacca, David Walker, Alexander Brownlee, Stefano Cagnoni, John McCall, Jaume Bacardit**
Concluding remarks

Workshop on Quantum Optimization (QuantOpt) (Room: Bruxelas, F0)

14:00-14:18 **Shu-Yu Kuo, Yun-Ting Lai, Yu-Chi Jiang, Ming-Ho Chang, Kun-Min Wu, Po-Chun Chen, Yu-Yu Chang, Yong Feng Tong, Yao-Hsin Chou**
Entanglement Local Search-Assisted Quantum-Inspired Optimization for Portfolio Optimization in G20 Markets

14:18-14:36 **Camille Grange, Eric Bourreau, Michael Poss, Vincent T'kindt**
Quantum Speed-ups for Single-machine Scheduling Problems

14:36-14:54 **James Chao, Ramiro Rodriguez, Sean Crowe**
Quantum Enhancements for AlphaZero

14:54-15:12 **Malak Saiem, Taha Arbaoui, Faicel Hnaien**
Solving the Flow-Shop Scheduling problem using Grover's Algorithm

15:12-15:50 **Alberto Moraglio, Mayowa Ayodele, Francisco Chicano, Oleksandr Kyriienko, Ofer Shir, Lee Spector**
Panel discussion

Sunday, July 16 — 16:10-18:00

Symbolic Regression Workshop (SymReg) (Room: Lisboa, F13)

16:10-16:15 **Michael Kommenda, William La Cava, Gabriel Kronberger, Steven Gustafson**
Welcome & Opening by the workshop organizers

16:15-16:35 **Daniel Younis, Thomas Antonsen, Luke Johnson, Eric Scott, Dmitri Kaganovich, Bahman Hafizi**
Evolving Deformable Mirror Control to Generate Partially Coherent Light Fields

16:35-16:55 **Du Nguyen Duy, Michael Affenzeller, Ramin Nikzad-Langerodi**
Towards Vertical Privacy-Preserving Symbolic Regression via Secure Multiparty Computation

16:55-17:15 **Deaglan Bartlett, Harry Desmond, Pedro Ferreira**
Priors For Symbolic Regression

17:15-17:35 **Bogdan Burlacu**
GECCO'2022 Symbolic Regression Competition: Post-Analysis of the Operon Framework
17:35-17:55 **Hengzhe Zhang**
Bike Lane Usage Forecasting Using Evolutionary Feature Construction
17:55-18:00 **Michael Kommenda, William La Cava, Gabriel Kronberger, Steven Gustafson**
Workshop closing by the organizers

Evolutionary Reinforcement Learning Workshop (EvoRL) (Room: Porto, F13)

16:10-16:15 **Giuseppe Paolo, Antoine Cully, Adam Gaier**
Welcome & Opening by the workshop organizers
16:15-16:50 **Dennis Wilson**
Evolutionary Methods for Interpretable Control
16:50-17:25 **Manon Flageat**
Quality Diversity and RL
17:25-18:00 **Joel Lehman**
Evolution through Large Models

Graph-based Genetic Programming (GGP) (Room: Madrid, F12)

16:10-16:15 **Roman Kalkreuth, Dennis Wilson, Thomas Bäck, Timothy Atkinson, Leo Sotto, Paul Kaufmann**
Welcome & Opening by the workshop organizers
16:15-16:50 **Wolfgang Banzhaf**
Are Linear GP and Graph GP close Relatives?
16:50-17:25 **Lukas Sekanina**
Cartesian Genetic Programming in Electronic Design Automation
17:25-18:05 **Maziar Kanani, Seán O'Leary, James McDermott**
Graph-Based Mutations for Music Generation
17:25-18:05 **Julien Amblard, Robert Filman, Gabriel Kopito**
GPStar4: A flexible framework for experimenting with genetic programming
17:25-18:05 **Yuri Lavinas, Kevin Cortacero, Sylvain Cussat-blanc**
Evolving Graphs with Cartesian Genetic Programming with Lexicase Selection
17:25-18:05 (*Poster Presentations*)

26th International Workshop on Evolutionary Rule-based Machine Learning (ERBML) (Room: Roma I, F1)

16:10-16:20 **David Pätzel, Michael Heider, Alexander Wagner, Abubakar Siddique**
Welcome Note and Opening by the workshop organizers
16:20-16:40 **Will Browne**
How Can Large Language Models Help Learning Classifier Systems?
16:40-17:00 **Romain Orhand, Pierre Collet, Pierre Parrend, Anne Jeannin-Girardon**
CRACS: Compaction of Rules in Anticipatory Classifier Systems
17:00-17:20 **Sooraj K Babu, Tim Schneider, Sebastian von Mammen**
User-centred Design and Development of a Graphical User Interface for Learning Classifier Systems
17:20-17:40 **Ryan Urbanowicz, Harsh Bandhey, Malek Kamoun, Nolan Fogarty, Yi-An Hsieh**
Scikit-FIBERS: An 'OR'-Rule Discovery Evolutionary Algorithm for Risk Stratification in Right-Censored Survival Analyses
17:40-17:55 **Alexa Woodward**
Capturing Complex Patterns of Association in Genetic Data: A Rule Based Machine Learning Approach to Survival Analysis

Strict box-constraint optimization studies (SBOX-COST) (Room: Roma II, F1)

16:10-16:14 **Anna V Kononova, Olaf Mersmann, Diederick Vermetten, Manuel López-Ibáñez, Richard Allmendinger, Youngmin Kim**
Welcome & Opening by the workshop organizers
16:14-16:24 **Dimo Brockhoff**
Comparing Boundary Handling Techniques of CMA-ES on the bbob and sbox-cost Test Suites
16:24-16:34 **Mădălina-Andreea Mitran, Anna Kononova, Fabio Caraffini, Daniela Zaharie**
Patterns of Convergence and Bound Constraint Violation in Differential Evolution on SBOX-COST Benchmarking Suite
16:34-16:40 **Konstantin Dietrich, Pascal Kerschke**
Evaluation of Algorithms from the Nevergrad Toolbox on the Strictly Box-Constrained SBOX-COST Benchmarking Suite

16:40-16:50 **Tomas Kadavy, Michal Pluhacek, Adam Viktorin, Roman Senkerik**
Exploring the Frequency of Boundary Control Methods Activation in Metaheuristic Algorithms

16:50-17:00 **Diederick Vermetten, Manuel López-Ibáñez, Olaf Mersmann, Richard Allmendinger, Anna Kononova**
Analysis of modular CMA-ES on strict box-constrained problems in the SBOX-COST benchmarking suite

17:00-18:00 **Anna V Kononova, Olaf Mersmann, Diederick Vermetten, Manuel López-Ibáñez, Richard Allmendinger, Youngmin Kim**
Panel discussion

Evolutionary Computation and Decision Making (EC+DM) (Room: Milão I, F1)

16:10-16:15 **Tinkle Chugh, Julia Handl, Richard Allmendinger, Jussi Hakanen**
Welcome & Opening by the workshop organizers

16:15-16:30 **Giomara Larraga Maldonado, Kaisa Miettinen**
Component-based thinking in designing interactive multiobjective evolutionary methods

16:30-16:45 **Farzaneh Jouyandeh, Pooya Moradian Zadeh**
Personalized Group Itinerary Recommendation using a Knowledge-based Evolutionary Approach

16:45-17:00 **José Almeida, Fernando Lezama, João Soares, Leonardo Macedo, Zita Vale, Ruben Romero**
Metaheuristic Optimization for Transmission Network Expansion Planning: Testebed 2 of the Competition on Evolutionary Computation in the Energy Domain

17:00-17:15 **Boris Djartov, Sanaz Mostaghim**
Multi-objective Multiplexer Decision Making Benchmark Problem

17:15-17:30 **Bhupinder Saini, Giomara Lárraga, Kaisa Miettinen**
Using a Database to Support Interactive Multiobjective Optimization, Visualization, and Analysis

17:30-17:55 **Xiaodong Li**
Decision Making in Evolutionary Optimization and Beyond

17:55-18:00 **Tinkle Chugh, Julia Handl, Richard Allmendinger, Jussi Hakanen**
Closing the workshop

Competitions

Sunday, July 16 — 08:30-10:20

Competitions (Room: Milão I, F1)

08:30-08:35 **William La Cava**
Competitions opening

08:35-08:50 **Maciej Komosinski, Konrad Miazga, Agnieszka Mensfelt**
Automated Design Competition

08:50-09:05 **Fabricio Olivetti de França, Marco Virgolin, Pierre-Alexandre Kamienny, Geoffrey Bomarito**
Interpretable Symbolic Regression for Data Science

09:05-09:20 **Markus Wagner, Adriano Rodrigues Figueiredo Torres**
Travelling Thief Problem Competition

09:20-09:35 **Adriano Rodrigues Figueiredo Torres, Markus Wagner, Christop Treude, Sebastian Baltes, Sebastian Baltes**
Predicting Good Configurations for Topic Models

09:35-09:50 **Fernando Lezama, Joao Soares, José Almeida, Zita Vale, Leonardo H. Macedo, Ruben Romero**
Evolutionary Computation in the Energy Domain: Operation and Planning Applications

09:50-10:05 **Rong Qu, Nelishia Pillay, Weiyao Meng**
Machine Learning for Evolutionary Computation - Solving the Vehicle Routing Problems (ML4VRP)

10:05-10:10 **William La Cava**
Competitions closing

Sunday, July 16 — 10:40-12:30

Competitions (Room: Milão I, F1)

10:40-10:45 **William La Cava**
Competitions opening

10:45-11:00 **Carola Doerr, Francois Clement, Diederick Vermetten, Jacob de Nobel, Alexandre D. Jesus, Thomas Bäck**
Star Discrepancy Computation

11:00-11:15 **Daan Apeldoorn, Alexander Dockhorn, Lars Hadidi, Torsten Panholzer**
AbstractSwarm Multi-Agent Logistics Competition

11:15-11:30 **Aneta Neumann, Frank Neumann, Chao Qian, Hao Wang, Saba Sadeghi Ahouei, Jacob de Nobel**
Evolutionary Submodular Optimisation

11:30-11:45 **Johannes Karder, Stefan Wagner, Bernhard Werth, Andreas Beham, Sebastian Leitner**
Dynamic Stacking Optimization in Uncertain Environments

11:45-12:00 **Emmanuel Blazquez, Dario Izzo, Alexander Hadjivanov, Dominik Dold, Amy Thomas, Loic Azzalini**
SpOC: Space Optimisation Competition

12:00-12:05 **William La Cava**
Competitions closing

Papers

Monday, July 17 — 11:00-12:30

Evolutionary Machine Learning (Room: Lisboa, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Hiroki Shiraishi, Yohei Hayamizu, Tomonori Hashiyama**
Fuzzy-UCS Revisited: Self-Adaptation of Rule Representations in Michigan-Style Learning Fuzzy-Classifier Systems★
11:30-11:50 **Matthew Fontaine, Stefanos Nikolaidis**
Covariance Matrix Adaptation MAP-Annealing★
11:50-12:10 **Mathurin Videau, Nickolai Knizev, Alessandro Leite, Marc Schoenauer, Olivier Teytaud**
Interactive Latent Diffusion Model★
12:10-12:30 **Ana Nikolikj, Saso Dzeroski, Mario Muñoz, Carola Doerr, Peter Korosec, Tome Eftimov**
Algorithm Instance Footprint: Separating Easily Solvable and Challenging Problem Instances

Evolutionary Numerical Optimization (Room: Paris I, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Diederick Vermetten, Fabio Caraffini, Anna Kononova, Thomas Bäck**
Modular Differential Evolution
11:30-11:50 **André Thomaser, Jacob de Nobel, Diederick Vermetten, Furong Ye, Thomas Bäck, Anna Kononova**
When to be Discrete: Analyzing Algorithm Performance on Discretized Continuous Problems
11:50-12:10 **Koki Ikeda, Isao Ono**
Natural Evolution Strategy for Mixed-Integer Black-Box Optimization
12:10-12:30 **Yohei Watanabe, Kento Uchida, Ryoki Hamano, Shota Saito, Masahiro Nomura, Shinichi Shirakawa**
(1+1)-CMA-ES with Margin for Discrete and Mixed-Integer Problems

Ant Colony Optimization and Swarm Intelligence (Room: Porto, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Youwei Sun, Chaoli Sun**
Particle Swarm Optimization with Ring Topology for Multi-modal Multi-objective Problems
11:30-11:50 **Tan-Lin Xiao, Qiang Yang, Xu-Dong Gao, Zhen-Yu Lu, Yuan-Yuan Ma, Sang-Woon Jeon, Jun Zhang**
Variation Encoded Large-Scale Swarm Optimizers for Path Planning of Unmanned Aerial Vehicle
11:50-12:10 **Yi Liu, Jiang Qiu, Emma Hart, Yilan Yu, Zhongxue Gan, Wei Li**
Learning-Based Neural Ant Colony Optimization
12:10-12:30 **Chi Zhang, Jian-Yu Li, Chun-Hua Chen, Yun Li, Zhi-Hui Zhan**
Region-based Evaluation Particle Swarm Optimization with Dual Solution Libraries for Real-time Traffic Signal Timing Optimization
12:30-12:50 **Emilio Singh, Nelishia Pillay**
A Study of Ant-Based Pheromone Spaces for Generation Perturbative Hyper-Heuristics

Genetic Algorithms and Real World Applications (Room: Madrid, F12)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Renato Tinós, Michal Przewozniczek, Darrell Whitley, Francisco Chicano**
Genetic Algorithm with Linkage Learning
11:30-11:50 **Adel Nikfarjam, Ralf Rothenberger, Frank Neumann, Tobias Friedrich**
Evolutionary Diversity Optimisation in Constructing Satisfying Assignments
11:50-12:10 **Alexandra Ivanova, Denis Antipov, Benjamin Doerr**
Larger Offspring Populations Help the $(1 + (\lambda, \lambda))$ Genetic Algorithm to Overcome the Noise
12:10-12:30 **Pier Luca Lanzi, Daniele Loiacono**
ChatGPT and Other Large Language Models as Evolutionary Engines for Online Interactive Collaborative Game Design

Evolutionary Combinatorial Optimization and Metaheuristics (Room: Roma I, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Xabier Benavides, Josu Ceberio, Leticia Hernando, Jose Antonio Lozano**
New Knowledge about the Elementary Landscape Decomposition for Solving the Quadratic Assignment Problem★

11:30-11:50 **Jairo Enrique Ramírez Sánchez, Camilo Chacón Sartori, Christian Blum**
Q-Learning Ant Colony Optimization supported by Deep Learning for Target Set Selection★

11:50-12:10 **Luyao Zhu, Fangfang Zhang, Xiaodong Zhu, Ke Chen, Mengjie Zhang**
Sample-Aware Surrogate-Assisted Genetic Programming for Scheduling Heuristics Learning in Dynamic Flexible Job Shop Scheduling

12:10-12:30 **Manuel Torralbo, Leticia Hernando, Ernesto Contreras-Torres, Jose Lozano**
On the Use of Second Order Neighbors to Escape from Local Optima

12:30-12:50 **Joao Cavalcanti Costa, Yi Mei, Mengjie Zhang**
Learning to Select Initialisation Heuristic for Vehicle Routing Problems

Evolutionary Multiobjective Optimization (Room: Roma II, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Arnaud Liefooghe, Manuel López-Ibáñez**
Many-objective (Combinatorial) Optimization is Easy★

11:30-11:50 **Ryoji Tanabe**
On the Unbounded External Archive and Population Size in Preference-based Evolutionary Multi-objective Optimization Using a Reference Point★

11:50-12:10 **Arnaud Liefooghe, Gabriela Ochoa, Sébastien Verel, Bilel Derbel**
Pareto Local Optimal Solutions Networks with Compression, Enhanced Visualization and Expressiveness★

12:10-12:30 **Duc-Cuong Dang, Andre Opris, Bahare Salehi, Dirk Sudholt**
Analysing the Robustness of NSGA-II under Noise

General Evolutionary Computation and Hybrids (Room: Milão I, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Federico Pigozzi, Federico Julian Camerota Verdù, Eric Medvet**
How the Morphology Encoding Influences the Learning Ability in Body-Brain Co-Optimization

11:30-11:50 **Per Kristian Lehre, Mario Hevia Fajardo, Erik Hemberg, Una-May O'Reilly, Jamal Toutouh**
Analysis of a Pairwise Dominance Coevolutionary Algorithm And DefendIt

11:50-12:10 **Rajesh Pandian Muniasamy, Somesh Singh, Rupesh Nasre., N.S. Narayanaswamy**
Effective Parallelization of the Vehicle Routing Problem

Genetic Programming (Room: Bruxelas, F0)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Evangelia Christodoulaki, Michael Kampouridis, Maria Kyropoulou**
Enhanced Strongly typed Genetic Programming for Algorithmic Trading

11:30-11:50 **Matheus Fernandes, Fabrício de França, Emílio Francesquini**
HOTGP - Higher-Order Typed Genetic Programming

11:50-12:10 **Alina Geiger, Dominik Sobania, Franz Rothlauf**
Down-Sampled Epsilon-Lexicase Selection for Real-World Symbolic Regression Problems

12:10-12:30 **Giorgia Nadizar, Fraser Garrow, Berfin Sakallioglu, Lorenzo Canonne, Sara Silva, Leonardo Vanneschi**
An Investigation of Geometric Semantic GP with Linear Scaling

12:30-12:50 **Li Ding, Edward Pantridge, Lee Spector**
Probabilistic Lexicase Selection

Monday, July 17 — 14:30-16:00

Evolutionary Machine Learning (Room: Lisboa, F13)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)

14:40-15:00 **Qi Chen, Bing Xue, Wolfgang Banzhaf, Mengjie Zhang**
Relieving Genetic Programming from Coefficient Learning for Symbolic Regression via Correlation and Linear Scaling

15:00-15:20 **Gaurav Dixit, Kagan Tumer**
Learning Synergies for Multi-Objective Optimization in Asymmetric Multiagent Systems

15:20-15:40 **Kaan Demir, Bach Nguyen, Bing Xue, Mengjie Zhang**
Co-operative Co-evolutionary Many-objective Embedded Multi-label Feature Selection with Decomposition-based PSO

15:40-16:00 **Joshua Cook, Kagan Tumer, Tristan Scheiner**
Leveraging Fitness Critics To Learn Robust Teamwork

Ant Colony Optimization and Swarm Intelligence (Room: Porto, F13)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Tim Blackwell**
The Barrier Tree Benchmark: Many Basins and Double Funnels
15:00-15:20 **Ahmed Almansoori, Muhanad Alkilabi, Elio Tuci**
On the evolution of mechanisms for three-option collective decision-making in a swarm of simulated robots
15:20-15:40 **Connor Mattson, Daniel Brown**
Leveraging Human Feedback to Evolve and Discover Novel Emergent Behaviors in Robot Swarms
15:40-16:00 **Luigi Feola, Antoine Sion, Vito Trianni, Andreagiovanni Reina, Elio Tuci**
Aggregation Through Adaptive Random Walks in a Minimalist Robot Swarm

Real World Applications (Room: Madrid, F12)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Peter Bentley, Soo Ling Lim, Paolo Arcaini, Fuyuki Ishikawa**
Using a Variational Autoencoder to Learn Valid Search Spaces of Safely Monitored Autonomous Robots for Last-Mile Delivery
15:00-15:20 **Piotr Lipinski**
Evolutionary Approach to Recommender Systems Improvement by Directory of Products Optimization
15:20-15:40 **François Clément, Diederick Vermetten, Jacob de Nobel, Alexandre Jesus, Luís Paquete, Carola Doerr**
Computing Star Discrepancies with Numerical Black-Box Optimization Algorithms
15:40-16:00 **Vojtech Mrazek, Soyiba Jawed, Muhammad Arif, Aamir Malik**
Effective EEG Feature Selection for Interpretable MDD (Major Depressive Disorder) Classification

Complex Systems and Impact (Room: Roma I, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Maxence Faldor, Félix Chalumeau, Manon Flageat, Antoine Cully**
MAP-Elites with Descriptor-Conditioned Gradients and Archive Distillation into a Single Policy★
15:00-15:20 **Caitlin Grasso, Josh Bongard**
Selection for short-term empowerment accelerates the evolution of homeostatic neural cellular automata★
15:20-15:40 **Nick Cheney, Robert MacCurdy, Jeff Clune, Hod Lipson**
SIGEVO Impact Award: Unshackling evolution: Evolving soft robots with multiple materials and a powerful generative encoding★★
15:40-16:00 **Bryon Tjanaka, Matthew Fontaine, David Lee, Yulun Zhang, Nivedit Reddy Balam, Nathaniel Dennler, Sujay Garlanka, Nikitas Klapsis, Stefanos Nikolaidis**
pyribs: A Bare-Bones Python Library for Quality Diversity Optimization

Search-Based Software Engineering and Neuroevolution (Room: Roma II, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Yameng Peng, Andy Song, Vic Ciesielski, Haytham Fayek, Xiaojun Chang**
Fast Evolutionary Neural Architecture Search by Contrastive Predictor with Linear Regions★
15:00-15:20 **Patric Feldmeier, Gordon Fraser**
Learning by Viewing: Generating Test Inputs for Games by Integrating Human Gameplay Traces in Neuroevolution★

General Evolutionary Computation and Hybrids (Room: Milão I, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Paul Kent, Juergen Branke**
Bayesian Quality Diversity Search with Interactive Illumination
15:00-15:20 **Benjamin Doerr, Arthur Dremaux, Johannes Lutzeyer, Aurelien Stumpf**
How the Move Acceptance Hyper-Heuristic Copes With Local Optima: Drastic Differences Between Jumps and Cliffs
15:20-15:40 **Benjamin Doerr, Taha El Ghazi El Houssaini, Amirhossein Rajabi, Carsten Witt**
How Well Does the Metropolis Algorithm Cope With Local Optima?

Genetic Programming (Room: Bruxelas, F0)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Fabricio de Franca, Gabriel Kronberger**
Reducing Overparameterization of Symbolic Regression Models with Equality Saturation
15:00-15:20 **Edward Pantridge, Thomas Helmuth**
Solving Novel Program Synthesis Problems with Genetic Programming using Parametric Polymorphism
15:20-15:40 **Joe Harrison, Marco Virgolin, Tanja Alderliesten, Peter Bosman**
Mini-Batching, Gradient-Clipping, First- versus Second-Order: What Works in Gradient-Based Coefficient Optimisation for Symbolic Regression?
15:40-16:00 **Alcides Fonseca, Diogo Poças**
Comparing the expressive power of Strongly-Typed and Grammar-Guided Genetic Programming

Monday, July 17 — 16:30-18:00

Hot Off the Press (Room: Europa, F-1)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-16:50 **Matthew Moreno, Alexander Lalejini, Charles Ofria**
Tag Affinity Criteria Influence Adaptive Evolution
16:50-17:00 **Jiahui Wu, Paolo Arcaini, Tao Yue, Shaukat Ali, Huihui Zhang**
On the Preferences of Quality Indicators for Multi-Objective Search Algorithms in Search-Based Software Engineering
17:00-17:10 **Marcin Komarnicki, Michal Przewozniczek, Halina Kwasnicka, Krzysztof Walkowiak**
Incremental Recursive Ranking Grouping – A Decomposition Strategy for Additively and Non-additively Separable Problems
17:10-17:20 **Diederick Vermetten, Bas Van Stein, Fabio Caraffini, Leandro Minku, Anna Kononova**
BIAS: A Toolbox for Benchmarking Structural Bias in the Continuous Domain
17:20-17:30 **Hao Tong, Leandro Minku, Stefan Menzel, Bernhard Sendhoff, Xin Yao**
A Novel Generalized Metaheuristic Framework for Dynamic Capacitated Arc Routing Problems
17:30-17:40 **Stefano Sarti**
Neuroevolution Trajectory Networks: revealing the past of incrementally neuroevolved CNNs
17:40-17:50 **Max Hort, Rebecca Moussa, Federica Sarro**
Multi-objective Search for Gender-fair and Semantically Correct Word Embeddings

Evolutionary Machine Learning (Room: Lisboa, F13)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Myeongjong Kang**
Positive Definite Nonparametric Regression using an Evolutionary Algorithm with Application to Covariance Function Estimation
17:00-17:20 **Nicolas Fontbonne, Nicolas Maudet, Nicolas Bredeche**
Adaptive Team Cooperative Co-Evolution for a Multi-Rover Distribution Problem
17:20-17:40 **Angus Kenny, Tapabrata Ray, Steffen Limmer, Hemant Singh, Tobias Rodemann, Markus Olhofer**
Hybridizing TPOT with Bayesian Optimization
17:40-18:00 **Stefano Tiso, Pedro Carvalho, Nuno Lourenço, Penousal Machado**
Biological insights on grammar-structured mutations improve fitness and diversity
18:00-18:20 **Naoya Yatsu, Hiroki Shiraishi, Hiroyuki Sato, Keiki Takadama**
Exploring High-Dimensional Rules Indirectly via Latent Space Through a Dimensionality Reduction for XCS

Evolutionary Multiobjective Optimization (Room: Paris I, F13)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Han Zhu, Ke Shang, Hisao Ishibuchi**
STHV-Net: Hypervolume Approximation based on Set Transformer
17:00-17:20 **Michał Tomczyk, Miłosz Kadziński**
Co-evolution improves the efficiency of preference learning methods when the Decision Maker's aspirations develop over time
17:20-17:40 **Linjun He, Yang Nan, Hisao Ishibuchi, Dipti Srinivasan**
Effects of Objective Space Normalization in Multi-Objective Evolutionary Algorithms on Real-World Problems

17:40-18:00 **Guangyan An, Ziyu Wu, Zhilong Shen, Ke Shang, Hisao Ishibuchi**
Evolutionary Multi-Objective Deep Reinforcement Learning for Autonomous UAV Navigation in Large-Scale Complex Environments

Complex Systems (Room: Porto, F13)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Federico Pigozzi, Stephanie Woodman, Eric Medvet, Rebecca Kramer-Bottiglio, Josh Bongard**
Morphology Choice Affects the Evolution of Affordance Detection in Robots
17:00-17:20 **Hannah Janmohamed, Thomas Pierrot, Antoine Cully**
Improving the Data Efficiency of Multi-Objective Quality-Diversity through Gradient Assistance and Crowding Exploration
17:20-17:40 **Luca Grillotti, Manon Flageat, Bryan Lim, Antoine Cully**
Don't Bet on Luck Alone: Enhancing Behavioral Reproducibility of Quality-Diversity Solutions in Uncertain Domains
17:40-18:00 **Giorgia Nadizar, Eric Medvet, Kathryn Walker, Sebastian Risi**
A Fully-distributed Shape-aware Neural Controller for Modular Robots
18:00-18:20 **Raphaël Boige, Guillaume Richard, Jérémie Dona, Thomas Pierrot, Antoine Cully**
Gradient-Informed Quality Diversity for the Illumination of Discrete Spaces

Real World Applications (Room: Madrid, F12)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Mohammad Majid al-Rifaie, Tim Blackwell**
Tomographic Reconstruction with Search Space Expansion
17:00-17:20 **Gonzalo Carazo-Barbero, Eva Besada-Portas, José Risco-Martín, José López-Orozco**
EA-based ASV Trajectory Planner for Detecting Cyanobacterial Blooms in Freshwater
17:20-17:40 **Annibale Panichella, Giuseppe Di Domenico**
A Fast Multi-objective Evolutionary Approach for Designing Large-Scale Optical Mode Sorter
17:40-18:00 **Hinata Edo, Yoshiki Miyauchi, Atsuo Maki, Youhei Akimoto**
Trade-off Between Robustness and Worst-Case Performance in Min-Max Optimization
18:00-18:20 **Daiki Kiribuchi, Ryoko Hatakeyama, Tomoshi Otsuki, Tatsuya Yoshioka, Kana Konno, Takumi Matsuda**
Combined Layout Optimization of Wind Farm and Cable Connection on Complex Terrain Using a Genetic Algorithm

Ant Colony Optimization and Swarm Intelligence (Room: Roma I, F1)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Maryam Kebari, Annie Wu, H. Mathias**
Pid-Inspired Modifications in Response Threshold Models In Swarm Intelligent Systems★
17:00-17:20 **Geoff Nitschke, Sindiso Mkhatshwa**
The Impact of Morphological Diversity in Robot Swarms★
17:20-17:40 **Kordel France, John Sheppard**
Factored Particle Swarm Optimization for Policy Co-training in Reinforcement Learning
17:40-18:00 **Giada Simionato, Federico Galatolo, Mario Cimino**
Swarms of Artificial Platelets for Emergent Hole Detection and Healing in Wireless Sensor Networks

Genetic Programming (Room: Roma II, F1)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Zhixing Huang, Yi Mei, Fangfang Zhang, Mengjie Zhang**
Grammar-guided Linear Genetic Programming for Dynamic Job Shop Scheduling★
17:00-17:20 **Christian Raymand, Qi Chen, Bing Xue, Mengjie Zhang**
Fast and Efficient Local-Search for Genetic Programming Based Loss Function Learning★
17:20-17:40 **Vadim Liventsev, Anastasiia Grishina, Aki Härmä, Leon Moonen**
Fully Autonomous Programming with Large Language Models★
17:40-18:00 **Hengzhe Zhang, Qi Chen, Bing Xue, Wolfgang Banzhaf, Mengjie Zhang**
A Double Lexicase Selection Operator for Bloat Control in Evolutionary Feature Construction for Regression

Theory (Room: Milão I, F1)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Benjamin Doerr, Andrew Kelley**
Fourier Analysis Meets Runtime Analysis: Precise Runtimes on Plateaus

17:00-17:20 **Joost Jorritsma, Johannes Lengler, Dirk Sudholt**
Comma Selection Outperforms Plus Selection on OneMax with Randomly Planted Optima
17:20-17:40 **Mario Hevia Fajardo, Per Kristian Lehre**
How Fitness Aggregation Methods Affect the Performance of Competitive CoEAs on Bilinear Problems
17:40-18:00 **Per Kristian Lehre, Xiaoyu Qin**
Self-adaptation Can Help Evolutionary Algorithms Track Dynamic Optima

Evolutionary Combinatorial Optimization and Metaheuristics (Room: Bruxelas, F0)

16:30-16:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
16:40-17:00 **Alejandro Marrero, Eduardo Segredo, Emma Hart, Jakob Bossek, Aneta Neumann**
Generating diverse and discriminatory knapsack instances by searching for novelty in variable dimensions of feature-space
17:00-17:20 **Florian Mischek, Nysret Musliu**
Leveraging problem-independent hyper-heuristics for real-world test laboratory scheduling
17:20-17:40 **Jakob Bossek, Aneta Neumann, Frank Neumann**
On the Impact of Basic Mutation Operators and Populations within Evolutionary Algorithms for the Dynamic Weighted Traveling Salesperson Problem
17:40-18:00 **Valentino Santucci, Josu Ceberio**
Doubly Stochastic Matrix Models for Estimation of Distribution Algorithms
18:00-18:20 **Ernestine Großmann, Sebastian Lamm, Christian Schulz, Darren Strash**
Finding Near-Optimal Weight Independent Sets at Scale

Tuesday, July 18 — 11:00-12:30

Hot Off the Press (Room: Europa, F-1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:20 **Robert Lange, Tom Schaul, Yutian Chen, Tom Zahavy, Valentin Dalibard, Chris Lu, Satinder Singh, Sebastian Flennerhag**
Discovering Evolution Strategies via Meta-Black-Box Optimization
11:20-11:30 **Benjamin Doerr, Zhongdi Qu**
A First Runtime Analysis of the NSGA-II on a Multimodal Problem
11:30-11:40 **Benjamin Doerr, Zhongdi Qu**
Runtime Analysis for the NSGA-II - Provable Speed-Ups From Crossover
11:40-11:50 **Benjamin Doerr, Zhongdi Qu**
From Understanding the Population Dynamics of the NSGA-II to the First Proven Lower Bounds
11:50-12:00 **Mohamad Alissa, Kevin Sim, Emma Hart**
A Feature-Free Approach to Automated Algorithm Selection
12:00-12:10 **Robert Lange, Henning Sprekeler**
Lottery tickets in evolutionary optimization: On sparse backpropagation-free trainability
12:10-12:20 **Krzysztof Michalak**
Classifier-based evolutionary multiobjective optimization for the graph protection problem

Evolutionary Machine Learning (Room: Lisboa, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)
11:10-11:30 **Hayden Andersen, Andrew Lensen, Will Browne, Yi Mei**
Producing Diverse Rashomon Sets of Counterfactual Explanations with Niching Particle Swarm Optimization
11:30-11:50 **Ritam Guha, Wei Ao, Stephen Kelly, Vishnu Boddeti, Erik Goodman, Wolfgang Banzhaf, Kalyanmoy Deb**
MOAZ: A Multi-Objective AutoML-Zero Framework
11:50-12:10 **Victor Caetano, Matheus Teixeira, Gisele Pappa**
Symbolic Regression Trees as Embedded Representations
12:10-12:30 **Pablo Moscato, Andrew Ciezak, Nasimul Noman**
Dynamic Depth for Better Generalization in Continued Fraction Regression
12:30-12:50 **Gonglin Yuan, Bing Xue, Mengjie Zhang**
An Effective One-Shot Neural Architecture Search Method with Supernet Fine-Tuning for Image Classification

Evolutionary Multiobjective Optimization (Room: Paris I, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Cheng Gong, Yang Nan, Lie Pang, Qingfu Zhang, Hisao Ishibuchi**
Effects of Including Optimal Solutions into Initial Population on Evolutionary Multiobjective Optimization

11:30-11:50 **Yuhao Kang, Jialong Shi, Jianyong Sun, Ye Fan**
Improving Neighborhood Exploration Mechanism to Speed up Pareto Local Search

11:50-12:10 **Tianye Shu, Yang Nan, Ke Shang, Hisao Ishibuchi**
Two-Phase Procedure for Efficiently Removing Dominated Solutions from Large Solution Sets

12:10-12:30 **Mohamed Gharafi, Nikolaus Hansen, Dimo Brockhoff, Rodolphe Le Riche**
Multiobjective Optimization with a Quadratic Surrogate-assisted CMA-ES

12:30-12:50 **Hisao Ishibuchi, Lie Meng Pang, Ke Shang**
Effects of Dominance Modification on Hypervolume-based and IGD-based Performance Evaluation Results of NSGA-II

Complex Systems (Room: Porto, F13)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Atoosa Parsa, Sven Witthaus, Nidhi Pashine, Corey O'Hern, Rebecca Kramer-Bottiglio, Josh Bongard**
Universal Mechanical Polycomputation in Granular Matter

11:30-11:50 **Alican Mertan, Nick Cheney**
Modular Controllers Facilitate the Co-Optimization of Morphology and Control in Soft Robots

11:50-12:10 **Alessandro Pierro, Kristine Heiney, Shamit Shrivastava, Giulia Marcucci, Stefano Nichele**
Optimization of a Hydrodynamic Computational Reservoir through Evolution

12:10-12:30 **François Cochevelou, David Bonner, Martin-Pierre Schmidt**
Differentiable Soft-Robot Generation

Genetic Algorithms (Room: Madrid, F12)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Chenyang Bu, Zhiyong Cao, Chenlong He, Yuhong Zhang**
Probabilistic model with evolutionary optimization for cognitive diagnosis

11:30-11:50 **João Correia, Vítor Pereira, Miguel Rocha**
Combining Evolutionary Algorithms with Reaction Rules Towards Focused Molecular Design

11:50-12:10 **Ludovico Scarton, Alexander Hagg**
On the Suitability of Representations for Quality Diversity Optimization of Shapes

12:10-12:30 **Hormoz Shahrzad, Risto Miikkulainen**
Accelerating Evolution Through Gene Masking and Distributed Search

Evolutionary Numerical Optimization (Room: Roma I, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Diederick Vermetten, Furong Ye, Carola Doerr**
Using Affine Combinations of BBOB Problems for Performance Assessment★

11:30-11:50 **Masahiro Nomura, Youhei Akimoto, Isao Ono**
CMA-ES with Learning Rate Adaptation: Can CMA-ES with Default Population Size Solve Multimodal and Noisy Problems?★

11:50-12:10 **Yuan Hong, Dirk Arnold**
Evolutionary Mixed-Integer Optimization with Explicit Constraints★

12:10-12:30 **Gjorgjina Cenikj, Gašper Petelin, Carola Doerr, Peter Korošec, Tome Eftimov**
DynamoRep: Trajectory-Based Population Dynamics for Classification of Black-box Optimization Problems

12:30-12:50 **Lisa Schönenberger, Hans-Georg Beyer**
On a Population Sizing Model for Evolution Strategies Optimizing the Highly Multimodal Rastrigin Function

Real World Applications (Room: Roma II, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Daniel Zambrano-Gutierrez, Jorge Cruz-Duarte, Herman Castañeda**
Automatic Hyper-Heuristic to Generate Heuristic-based Adaptive Sliding Mode Controller Tuners for Buck-Boost Converters★

11:30-11:50 **Matthew Hayslep, Edward Keedwell, Raziyeh Farmani**
Multi-Objective Multi-Gene Genetic Programming for the Prediction of Leakage in Water Distribution Networks★

11:50-12:10 **Diksha Goel, Aneta Neumann, Frank Neumann, Hung Nguyen, Mingyu Guo**
Evolving Reinforcement Learning Environment to Minimize Learner's Achievable Reward: An Application on Hardening Active Directory Systems

12:10-12:30 **Aneta Neumann, Sharlotte Gounder, Xiankun Yan, Gregory Sherman, Benjamin Campbell, Mingyu Guo, Frank Neumann**
Evolutionary Diversity Optimization for the Detection and Concealment of Spatially Defined Communication Networks

12:30-12:50 **Benjamin Kovács, Pierre Tassel, Martin Gebser**
Optimizing Dispatching Strategies for Semiconductor Manufacturing Facilities with Genetic Programming

Search-Based Software Engineering (Room: Milão I, F1)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Teklit Gereziher, Selam Gebrekrstos, Gregory Gay**
Search-Based Test Generation Targeting Non-Functional Quality Attributes of Android Apps

11:30-11:50 **Matías Brizzio, Maxime Cordy, Mike Papadakis, César Sánchez, Nazareno Aguirre, Renzo Degiovanni**
Automated Repair of Unrealisable LTL Specifications Guided by Model Counting

11:50-12:10 **Davide Li Calsi, Matias Duran, Thomas Laurent, Xiao-Yi Zhang, Paolo Arcaini, Fuyuki Ishikawa**
Adaptive Search-based Repair of Deep Neural Networks

12:10-12:30 **Leonhard Applis, Annibale Panichella, Ruben Marang**
Searching for Quality: Genetic Algorithms and Metamorphic Testing for Software Engineering ML

Evolutionary Combinatorial Optimization and Metaheuristics (Room: Bruxelas, F0)

11:00-11:10 (*Time needed for onsite attendees to use the elevator or the stairs*)

11:10-11:30 **Francisco Chicano, Gabriela Ochoa, Lorenzo Canonne, Bilel Derbel**
Local Optima Markov Chain: A New Tool for Landscape-aware Analysis of Algorithm Dynamics

11:30-11:50 **Quan Phan, Ngoc Hoang Luong**
Pareto Local Search is Competitive with Evolutionary Algorithms for Multi-Objective Neural Architecture Search

11:50-12:10 **Lorenzo Canonne, Bilel Derbel, Francisco Chicano, Gabriela Ochoa**
To Combine or not to Combine Graybox Crossover and Local Search?

12:10-12:30 **Francisco Chicano, Bilel Derbel, Sébastien Verel**
Fourier Transform-based Surrogates for Permutation Problems

Tuesday, July 18 — 14:30-16:00

Hot Off the Press (Room: Europa, F-1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)

14:40-14:50 **Rebecca Moussa, Giovani Guizzo, Federica Sarro**
MEG: Multi-objective Ensemble Generation for Software Defect Prediction

14:50-15:00 **Yang Syu, Yong-Yi Fanjiang**
Multi-Step-Ahead Web Service QoS Time Series Forecasting: A Multi-Predictor-Based Genetic Programming Approach

15:00-15:10 **Mohammed Ghaith Altarabichi, Sławomir Nowaczyk, Sepideh Pashami, Peyman Sheikholharam Mashhadi**
Fast Genetic Algorithm for feature selection — A qualitative approximation approach

15:10-15:20 **Ke Shang, Tianye Shu, Hisao Ishibuchi**
Learning to Approximate: Auto Direction Vector Set Generation for Hypervolume Contribution Approximation

15:20-15:30 **Lennart Schäpermeier, Christian Grimme, Pascal Kerschke**
Plotting Impossible? Surveying Visualization Methods for Continuous Multi-Objective Benchmark Problems

15:30-15:40 **Steven Adriaensen, André Biedenkapp, Gresa Shala, Noor Awad, Theresa Eimer, Marius Lindauer, Frank Hutter**
Automated Dynamic Algorithm Configuration

15:40-15:50 **Hengzhe Zhang, Aimin Zhou, Qi Chen, Bing Xue, Mengjie Zhang**
Genetic Programming-based Evolutionary Feature Construction for Heterogeneous Ensemble Learning

15:50-16:00 **Tomas Kadavy, Adam Viktorin, Anezka Kazikova, Michal Pluhacek, Roman Senkerik**
Impact of Boundary Control Methods on Bound-constrained Optimization Benchmarking

Evolutionary Machine Learning (Room: Lisboa, F13)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Jamal Toutouh, Subhash Nalluru, Erik Hemberg, Una-May O'Reilly**
Semi-Supervised Learning with Coevolutionary Generative Adversarial Networks
15:00-15:20 **William La Cava**
Optimizing fairness tradeoffs in machine learning with multiobjective meta-models
15:20-15:40 **Lapo Frati, Neil Traft, Nick Cheney**
OmnImage: Evolving 1k Image Cliques for Few-Shot Learning
15:40-16:00 **Lennart Schneider, Bernd Bischl, Janek Thomas**
Multi-Objective Optimization of Performance and Interpretability of Tabular Supervised Machine Learning Models

Evolutionary Multiobjective Optimization (Room: Paris I, F13)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Yongfan Lu, Bingdong Li, Hong Qian, Wenjing Hong, Peng Yang, Aimin Zhou**
RM-SAEA: Regularity Model Based Surrogate-Assisted Evolutionary Algorithms for Expensive Multi-Objective Optimization
15:00-15:20 **Hsu Chen Liao, Wen Zhong Fang, Tian Li Yu**
Adaptive Donor Selection Mixing for Multi-objective Optimization: an Enhanced Variant of MO-GOMEA
15:20-15:40 **Frank Neumann, Carsten Witt**
3-Objective Pareto Optimization for Problems with Chance Constraints

Real World Applications (Room: Madrid, F12)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Matthew Lette, Kamrul Rahi, Hemant Singh, Tapabrata Ray**
Vertical-Axis Wind Turbine Design Using Surrogate-assisted Optimization with Physical Experiments In-loop
15:00-15:20 **Darrell Whitley, Ozeas Quevedo de Carvalho, Mark Roberts, Vivint Shetty, Piyabutra Jampathom**
Scheduling Multi-Resource Satellites using Genetic Algorithms and Permutation Based Representations
15:20-15:40 **Lukas Bostelmann-Arp, Christoph Steup, Sanaz Mostaghim**
Multi-Objective Seed Curve Optimization for Coverage Path Planning in Precision Farming
15:40-16:00 **Alejandro Medina, Melanie Richey, Mark Mueller, Jacob Schrum**
Evolving Flying Machines in Minecraft Using Quality Diversity

Theory and General Evolutionary Computation and Hybrids (Room: Roma I, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Emily Dolson**
Calculating lexicase selection probabilities is NP-Hard★
15:00-15:20 **Steve Huntsman**
Quality-diversity in dissimilarity spaces★
15:20-15:40 **Jakob Bossek, Dirk Sudholt**
Runtime Analysis of Quality Diversity Algorithms
15:40-16:00 **Johannes Lengler, Andre Opris, Dirk Sudholt**
Analysing Equilibrium States for Population Diversity

Genetic Algorithms (Room: Roma II, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Michal Przewozniczek, Renato Tinós, Marcin Komarnicki**
First Improvement Hill Climber with Linkage Learning – on Introducing Dark Gray-Box Optimization into Statistical Linkage Learning Genetic Algorithms★
15:00-15:20 **Robert Lange, Tom Schaul, Yutian Chen, Chris Lu, Tom Zahavy, Valentin Dalibard, Sebastian Flennerhag**
Discovering Attention-Based Genetic Algorithms via Meta-Black-Box Optimization★
15:20-15:40 **Arthur Guijt, Dirk Thierens, Tanja Alderliesten, Peter Bosman**
The Impact of Asynchrony on Parallel Model-Based EAs
15:40-16:00 **Michal Przewozniczek, Marcin Komarnicki**
To slide or not to slide? Moving along fitness levels and preserving the gene subsets diversity in modern evolutionary computation

Neuroevolution (Room: Milão I, F1)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Thai Huy Nguyen, Ngoc Hoang Luong**
Stable and Sample-Efficient Policy Search for Continuous Control via Hybridizing Phenotypic Evolutionary Algorithm with the Double Actors Regularized Critics
15:00-15:20 **Bruno Gašperov, Marko Đurasević**
On Evolvability and Behavior Landscapes in Neuroevolutionary Divergent Search
15:20-15:40 **Sarah Thomson, Gabriela Ochoa, Nadarajen Veerapen, Krzysztof Michalak**
Channel Configuration for Neural Architecture: Insights from the Search Space
15:40-16:00 **Martín Naya-Varela, Andrés Faíña, Richard Duro**
Guiding the Exploration of the Solution Space in Walking Robots Through Growth-Based Morphological Development.

Evolutionary Combinatorial Optimization and Metaheuristics (Room: Bruxelas, F0)

14:30-14:40 (*Time needed for onsite attendees to use the elevator or the stairs*)
14:40-15:00 **Napoleão Nepomuceno, Ricardo Saboia, André Coelho**
A MILP-Based Very Large-Scale Neighborhood Search for the Heterogeneous Vehicle Routing Problem with Simultaneous Pickup and Delivery
15:00-15:20 **Jiyuan Pei, Hao Tong, Jialin Liu, Yi Mei, Xin Yao**
Local Optima Correlation Assisted Adaptive Operator Selection
15:20-15:40 **Miqing Li, Xiaofeng Han, Xiaochen Chu**
MOEAs Are Stuck in a Different Area at a Time
15:40-16:00 **Firas Ben Jedidia, Benjamin Doerr, Martin Krejca**
Estimation-of-Distribution Algorithms for Multi-Valued Decision Variables

Wednesday, July 19 — 09:00-10:30

Evolutionary Machine Learning (Room: Lisboa, F13)

09:00-09:20 **Hai Long Tran, Long Doan, Ngoc Hoang Luong, Binh Huynh Thi Thanh**
A Two-Stage Multi-Objective Evolutionary Reinforcement Learning Framework for Continuous Robot Control
09:20-09:40 **Marcel Wever, Miran Özdogan, Eyke Hüllermeier**
Cooperative Co-Evolution of Ensembles of Nested Dichotomies for Multi-Class Classification
09:40-10:00 **Ayhan Alp Aydeniz, Robert Loftin, Kagan Tumer**
Novelty Seeking Multiagent Evolutionary Reinforcement Learning
10:00-10:20 **Bowen Zheng, Ran Cheng**
Rethinking Population-assisted Off-policy Reinforcement Learning

Evolutionary Multiobjective Optimization (Room: Paris I, F13)

09:00-09:20 **Ying Wu, Na Yang, Long Chen, Ye Tian, Zhenzhou Tang**
Directed Quick Search Guided Evolutionary Algorithm for Large-scale Multi-objective Optimization Problems
09:20-09:40 **Na Yang, Quan Zhang, Ying Wu, Yisu Ge, Zhenzhou Tang**
A hierarchical clustering-based cooperative multi-population many-objective optimization algorithm
09:40-10:00 **Deepanshu Yadav, Palaniappan Ramu, Kalyanmoy Deb**
Multi-objective Robust Optimization and Decision-Making Using Evolutionary Algorithms
10:00-10:20 **Yin Wu, Ruihao Zheng, Zhenkun Wang**
Decomposition-Based Multi-Objective Evolutionary Algorithm with Model-Based Ideal Point Estimation

Theory (Room: Porto, F13)

09:00-09:20 **Tobias Friedrich, Timo Kötzing, Aneta Neumann, Frank Neumann, Aishwarya Radhakrishnan**
Analysis of (1+1) EA on LeadingOnes with Constraints
09:20-09:40 **Carola Doerr, Duri Andrea Janett, Johannes Lengler**
Tight Runtime Bounds for Static Unary Unbiased Evolutionary Algorithms on Linear Functions
09:40-10:00 **Per Kristian Lehre, Andrew Sutton**
Runtime Analysis with Variable Cost

10:00-10:20 **Samuel Baguley, Tobias Friedrich, Aneta Neumann, Frank Neumann, Marcus Pappik, Ziena Zeif**
Fixed Parameter Multi-Objective Evolutionary Algorithms for the W-Separator Problem

Real World Applications (Room: Madrid, F12)

09:00-09:20 **Georgios Andreadis, Peter Bosman, Tanja Alderliesten**
MOREA: a GPU-accelerated Evolutionary Algorithm for Multi-Objective Deformable Registration of 3D Medical Images

09:20-09:40 **Alberto Tonda, Isabelle Alvarez, Sophie Martin, Giovanni Squillero, Evelyne Lutton**
Towards Evolutionary Control Laws for Viability Problems

09:40-10:00 **Jordan MacLachlan, Yi Mei, Fangfang Zhang, Mengjie Zhang, Jessica Signal**
Learning Emergency Medical Dispatch Policies Via Genetic Programming

10:00-10:20 **Magnus Schjølberg, Nicklas Bekkevold, Xavier Sánchez-Díaz, Ole Jakob Mengshoel**
Comparing Metaheuristic Optimization Algorithms for Ambulance Allocation: An Experimental Simulation Study

Hot Off the Press (Room: Roma II, F1)

09:00-09:10 **Steve Huntsman**
Diversity Enhancement via Magnitude

09:10-09:20 **Suraj Pandey, Shivashankar Nair**
Enhancing Siamese Neural Networks for Multi-class Classification: An Immuno-inspired approach

09:20-09:30 **Francisco Chicano, Gabriela Ochoa, Darrell Whitley, Renato Tinós**
Dynastic Potential Crossover operator

09:30-09:40 **Tasos Asonitis, Richard Allmendinger, Matt Benatan, Ricardo Climent**
SonOpt: Understanding the behaviour of bi-objective population-based optimisation algorithms through sound

09:40-09:50 **Alma Rahat, Tinkle Chugh, Jonathan Fieldsend, Richard Allmendinger, Kaisa Miettinen**
Efficient Approximation of Expected Hypervolume Improvement Using Gauss-Hermite Quadrature

09:50-10:00 **Kei Sen Fong, Shelvia Wongso, Mehul Motani**
Evolutionary Symbolic Regression: Mechanisms from the Perspectives of Morphology and Adaptability

10:00-10:10 **Ke Shang, Weiyu Chen, Weiduo Liao, Hisao Ishibuchi**
HV-Net: Hypervolume Approximation based on DeepSets

Neuroevolution (Room: Milão I, F1)

09:00-09:20 **Jinglue Xu, Suryanarayanan NAV, Hitoshi Iba**
MPENAS: Multi-fidelity Predictor-guided Evolutionary Neural Architecture Search with Zero-cost Proxies

09:20-09:40 **Bryan Lim, Manon Flageat, Antoine Cully**
Understanding the Synergies between Quality-Diversity and Deep Reinforcement Learning

09:40-10:00 **Valentin Macé, Raphaël Boige, Felix Chalumeau, Thomas Pierrot, Guillaume Richard, Nicolas Perrin-Gilbert**
The Quality-Diversity Transformer: Generating Behavior-Conditioned Trajectories with Decision Transformers

10:00-10:20 **Joachim Pedersen, Sebastian Risi**
Learning to Act through Evolution of Neural Diversity in Random Neural Networks

Genetic Programming (Room: Bruxelas, F0)

09:00-09:20 **Francisco Javier Gil Gala, Sezin Afsar, Marko Durasevic, Juan Palacios, Murat Afsar**
Genetic programming for the vehicle routing problem with zone-based pricing

09:20-09:40 **Marko Durasevic, Francisco Javier Gil-Gala, Domagoj Jakobović**
Divide and conquer: Using single objective dispatching rules to improve convergence for multi-objective optimisation

09:40-10:00 **Eric Medvet, Simone Pozzi, Luca Manzoni**
A General Purpose Representation and Adaptive EA for Evolving Graphs

ECiP

Monday, July 17 — 11:00-12:30

Evolutionary Computation in Practice (Room: Europa, F-1)

11:00-11:30 **Sunith Bandaru**
Evolutionary Optimization + Knowledge Discovery: A Practical Combination for Intelligent Decision Support

11:30-12:00 **Ruxandra Stoean**
Surrogate-based evolutionary algorithms in the optimization of deep learning for semantic segmentation

12:00-12:30 **Thomas Bartz-Beielstein, Matthias Groß**
IMProvT II – Intelligent measurement methods for the energetic process optimization of drinking water supply and distribution

12:30-13:00 **Jens Uwe Brandt, Noah Pütz, Marc Hilbert**
Sideslip angle estimation with transfer learning capabilities: A deep learning approach for motorsports

HUMIES

Tuesday, July 18 — 16:30-18:00

Humies (Room: Europa, F-1)

16:30-16:40 **Jordan MacLachlan**
Learning Emergency Medical Dispatch Policies via Genetic Programming

16:40-16:50 **Joel Kuepper, Andres Erbsen, Jason Gross, Owen Conoly, Chuyue Sun, Samuel Tian, David Wu, Adam Chlipala, Chitchanok Chuengsatiansup, Daniel Genkin, Markus Wagner, Yuval Yarom**
CryptOpt: Can Write Faster Security-critical Code Than Humans

16:50-17:00 **Marina de la Cruz, J. Ignacio Hidalgo, Carlos Cervigón, Jorge Alvarado, Marta Botella**
Evolving Classification Rules for Predicting Hypoglycemia Events

17:00-17:10 **Ritwik Murali, C. Shunmuga Velayutham**
Towards Evolving Malware Variants as Antigens for Antivirus Systems

17:10-17:20 **Atoosa Parsa, Sven Witthaus, Nidhi Pashine, Corey O'Hern, Rebecca Kramer-Bottiglio, Josh Bongard**
Universal Mechanical Polycomputation in Granular Matter

17:20-17:30 **Vadim Liventsev, Anastasiia Grishina, Aki Härmä, Leon Moonen**
Fully Autonomous Programming with Large Language Models

17:30-17:40 **Julia Reuter**
Identifying Symbolic Models for Particle-Laden Flows with Genetic Programming

17:40-17:50 **William LaCava**
A Symbolic Regression Method for Interpretable Clinical Prediction Models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