LION16

Conference Program
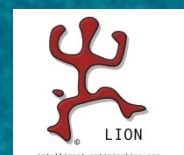
June 2022

Registration on Sunday, June 5

17:00-21:00

The 16th Learning and Intelligent Optimization (LION)
Conference Program June 5-10, 2022
Monday, June 6, 2022 (Timetable is presented in local Athens time GMT+2)

**Opening Remarks
09:00-09:30**

Co-General Chair(s), Panos Pardalos & Francesco Archetti
Program Committee Co-Chair(s), Dimitris E. Simos & Varvara A. Rasskazova
Local Organizing Committee Chair: Ilias Kotsireas
&
Greetings from the Honorable Mr. Manos Mikelis, Mayor of Milos Island

**Session 1: 09:30-11:00
Chair: TBA**

09:30-10:00	Suyun Liu and Luis Nunes Vicente. Stochastic Optimization of Multiple Objectives: A Critical Tool for Assessing Fairness in Machine Learning
10:00-10:30	Ahmed Al-Saedi and Abdul-Rahman Mawlood-Yunis. Binary Black Widow Optimization Algorithm for Feature Selection Problems
10:30-11:00	Dan Halbersberg, Matan Halevi and Moshe Shalhov. Search and Score-Based Waterfall Auction Optimization

11:00-11:30	Break

**Session 2: 11:30-13:30
Chair: TBA**

11:30-12:00	Yahia Amoura, Ana Isabel Pereira, José Lima and Angela Ferreira. Optimal Energy Management of Microgrid Using Multi-objective Optimisation Approach
12:00-12:30	Hanna Kondratiuk and Rafet Sifa. Investigating Overlaps for Kernel-Distance Pairs when Extracting Prototypes using Kernel Minimum Enclosing Balls
12:30-13:00	Elias Dritsas, Sotirios Alexiou and Konstantinos Moustakas. Metabolic Syndrome Risk Forecasting on Elderly with ML Techniques
13:00-13:30	Beatriz Flamia Azevedo, Ana Maria A. C. Rocha, Florbela P. Fernandes, M. Fatima Pacheco and Ana Isabel Pereira. Evaluating Student Behaviour on the MathE Platform - Clustering Algorithms Approaches

13:30-15:00	LUNCH

Tutorial 1: 15:00-16:00	Roberto Battiti, Tourism and Hospitality: Relevant Problems for Machine Learning and Intelligent Optimization

16:00-16:30	Break

**Session 3: 16:30-17:30
Chair: TBA**

16:30-17:00	Konstantin Barkalov, Vladimir Grishagin and Evgeniy Kozinov. ML-based approach for accelerating global search algorithm
17:00-17:30	Antonio Candelieri, Andrea Ponti and Francesco Archetti. Safe-exploration of control policies from safe-experience via Gaussian Processes

The 16th Learning and Intelligent Optimization (LION)
Conference Program June 5-10, 2022
Tuesday, June 7, 2022 (Timetable is presented in local Athens time GMT+2)

Session 1: 09:00-10:30
Chair: TBA

Time	
09:00-09:30	Dimitri Weiss and Kevin Tierney. Realtime Gray-Box Algorithm Configuration
09:30-10:00	Christian Bauckhage and Rafet Sifa. Gradient Flows for Linear Discriminant Analysis
10:00-10:30	Fynn Schmitt-Ulms, André Hottung, Meinolf Sellmann and Kevin Tierney. Learning to Solve a Stochastic Orienteering Problem with Time Windows

10:30-11:00 — Break

Session 2: 11:00-13:00
Chair: TBA

Time	
11:00-11:30	Panos Syriopoulos, Nektarios Kalampalikis and Michael Vrahatis. Maximizing the Eigenvalue-Gap and Promoting Sparsity of Doubly Stochastic Matrices with PSO
11:30-12:00	Stefan W. Pickl. 50 Years Club of Rome - Views from Intelligent Optimization to Resource Conflicts
12:00-12:30	Xiaomeng Dong, Tao Tan, Michael Potter, Yunchan Tsai, Gaurav Kumar, Ratna Saripalli and Theodore Trafalis. Autonomous Learning Rate Optimization for Deep Learning
12:30-13:00	Panos Syriopoulos, Sotiris Kotsiantis and Michael Vrahatis. Survey on KNN Methods in Data Science

13:00-14:30 — LUNCH

Tutorial 2: 14:30-15:30 — George Michailidis, Distributed Adaptive Gradient Methods for Online Optimization

15:30-16:00 — Break

Session 3: 16:00-18:00
Chair: TBA

Time	
16:00-16:30	Adriano dos Santos Silva, Thadeu Brito, Jose Luis Diaz de Tuesta, José Lima, Ana Isabel Pereira, Adrián Manuel Tavares da Silva and Helder Teixeira Gomes. Dynamic urban solid waste management system for smart cities
16:30-17:00	Petr Koldanov. Statistically significant detection of cliques in correlation networks
17:00-17:30	Carlos Eduardo de Lima Joaquim and Thiago de Paulo Faleiros. BERT Self-Learning Approach for Document Classification with Limited Labels
17:30-18:00	Conor McMeel and Panos Parpas. Uncertainty Quantification in optimisation, with applications to convex relaxations of discrete problems.

The 16th Learning and Intelligent Optimization (LION)
Conference Program June 5-10, 2022
Wednesday, June 8, 2022 (Timetable is presented in local Athens time GMT+2)

Session 1: 09:00-10:30
Chair: TBA

09:00-09:30	Efthyvoulos Drousiotis and Paul Spirakis. Single MCMC Chain Parallelisation on Decision Trees
09:30-10:00	Andrea Ponti, Antonio Irpino, Antonio Candelieri, Anna Bosio, Ilaria Giordani and Francesco Archetti. Network Vulnerability Analysis in Wasserstein Space
10:00-10:30	Haonan Zhong and Foad Mahdavi Pajouh. Blocking dense clusters in complex networks

10:30-11:00	Break

Session 2: 11:00-13:00
Chair: TBA

11:00-11:30	Jose C. Principe and Rishabh Singh. Functional Operators in RKHS for Epistemic Uncertainty Quantification in Machine Learning
11:30-12:00	Mourad Baiou and Francisco Barahona. Packing hypertrees and the k-cut problem in Hypergraphs
12:00-12:30	Xiaomeng Dong, Michael Potter, Gaurav Kumar, Yunchan Tsai, Ratna Saripalli and Theodore Trafalis. Optimizing Data Augmentation Policy through Random Unidimensional Search
12:30-13:00	Handong Zheng, Yi Chen, Bohai Liu and Qi Song. A life cycle sustainability assessment of manufacturing-remanufacturing system in China

13:00-14:30	LUNCH

Tutorial 3: 14:30-15:30	Yaroslav D. Sergeyev, Numerical Infinities and Infinitesimals in Optimization

15:30-16:00	Break

Session 3: 16:00-18:00
Chair: TBA

16:00-16:30	Gustavo Delazeri, Marcus Ritt and Marcelo de Souza. Comparing surrogate models for tuning optimization algorithms
16:30-17:00	Ermanno Righini and Giovanni Righini. The Skewed Kruskal algorithm
17:00-17:30	Alexander Krylatov, Yulia Lonyagina and Raevskaya Anastasiya. Competitive supply allocation in a distribution network under overproduction
17:30-18:00	Maude Blondin, Multiagent optimization problems

Session 1: 09:00-10:30
Chair: TBA

09:00-09:30	Eva Agapaki. Airport Digital Twins for Resilient Disaster Management Response
09:30-10:00	Sandeep Jalui and Evangelia Agapaki. Investigation of Graph Neural Networks for Instance Segmentation of Industrial Point Cloud Data
10:00-10:30	David Winkelmann and Michael Römer. Storage Location Assignment with Varying Demand Patterns: An E-Grocery Retailing Business Case

10:30-11:00	Break

Session 2: 11:00-12:30
Chair: TBA

11:00-11:30	Evangelos Kranakis. Strategies for Surviving Aggressive Multiparty Repeated Standoffs
11:30-12:00	Eliza Gaile, Andis Draguns, Emīls Ozoliņš and Karlis Freivalds. Unsupervised Training for Neural TSP Solver
12:00-12:30	Abtin Nourmohammadzadeh, Malek Sarhani and Stefan Voß. Fitness landscape ruggedness impact on PSO in dealing with three variants of the travelling salesman problem

12:30-14:00	LUNCH

Tutorial 4: 14:00-15:00	Bernhard Garn, Klaus Kieseberg, and Dimitris E. Simos, Crops, Tuples and Disasters

15:00-15:30	Break

Tutorial 5: 15:30-16:30	Mario Rosario Guarracino, Amor Messaoud, Yassine Msakni, Giovanni Camillo Porzio, A Random Generator of Hypergraphs Ensembles

Session 3: 16:30-17:00
Chair: TBA

16:30-17:00	Damir N. Gainanov, Dmitriy A. Berenov, Egor A. Nikolaev and Varvara A. Rasskazova. Integer Linear Programming in Solving an Optimization Problem at the Mixing Department of the Metallurgical Production

17:00-18:00	Business Meeting

18:00-20:30	Conference Excursion

The 16th Learning and Intelligent Optimization (LION)
Conference Program June 5-10, 2022
Friday, June 10, 2022 (Timetable is presented in local Athens time GMT+2)

Session 1: 09:00-10:30
Chair: TBA

09:00-09:30	Giorgia Maria Cappello, Gabriella Colajanni, Patrizia Daniele, Laura Galluccio, Christian Grasso, Laura Rosa Maria Scrimali and Giovanni Schembra. A Multi-UAVs' Provider Model for the provision of 5G Service Chains: a game theoretic approach
09:30-10:00	Themistoklis Stamadianos, Magdalene Marinaki, Nikolaos Matsatsinis and Yannis Marinakis. A Hybridization of GRASP and UTASTAR for Solving the Vehicle Routing Problem with Pickups and Deliveries and 3D Loading Constraints
10:00-10:30	Hossein Moosaei and Milan Hladík. Bounds for sparse solutions of K-SVCR multi-class classification model

10:30-11:00	Break

Session 2: 11:00-13:00
Chair: TBA

11:00-11:30	Abdelrahman Aboeulrous, Adriana F. Gabor and Yingqian Zhang. A new method of scenario reduction for an omnichannel inventory optimization problem
11:30-12:00	Roman Belavkin, Panos Pardalos and Jose Principe. Value of Information in the Mean-Square Case and its Application to the Analysis of Financial Time-Series Forecast
12:00-12:30	Antonio Candelieri, Andrea Ponti and Francesco Archetti. Bayesian Optimization in Wasserstein Spaces
12:30-13:00	Ammon Washburn, Neng Fan and Hao Helen Zhang. Novel SVM-Based Classification Approaches for Evaluating Pancreatic Carcinoma

13:00-14:30	LUNCH

Plenary Talk 14:30-15:30	Christos Papadimitriou, How does our mind emerge from our brain?

15:30-16:00	Break

Session 3: 16:00-17:30
Chair: TBA

16:00-16:30	Mohadese Basirati, Romain Billot and Patrick Meyer. An Extension of NSGA-II for scaling up Multi-Objective Spatial Zoning Optimization
16:30-17:00	Adil Erzin, Roman Plotnikov and Ilya Ladygin. Constrained Shortest Path and Hierarchical Structures
17:00-17:30	Jakob Schulte, David Winkelmann and André Hottung. Capacitated Vehicle Routing with Stochastic Loading Constraints

20:00	Conference Dinner

LION16.2

Extension Program

June 2022

LION16.2 is the extension program of LION16 that aims to aspire to research-oriented dialogues, create networks, and open discussions among all interested participants.

The extension, LION16.2, will take place after the main conference of LION16 from the 11th of June to the 15th of June 2022.

Moreover, it offers a place where scholars from various parts of the world can debate the research findings, possible new methodologies, compare results, and establish new collaborations. More details, regarding LION16.2 will be announced during the conference.