

# The 15<sup>th</sup> Learning and Intelligent Optimization (LION)

## CONFERENCE PROGRAM JUNE 21-25, 2021

**Monday, June 21, 2021 (Timetable is presented in local Vienna time, UTC+2)**

Time	
15:00 – 15:15 Vienna time 16:00 – 16:15 Athens time (9:00 a.m.-9:15 a.m EDT)	<b>Opening Remarks:</b> <ul style="list-style-type: none"> <li>• General Chair, Panos Pardalos</li> <li>• Technical Program Committee Chair, Dimitris Simos</li> <li>• Local Organizing Committee Chair, Ilias Kotsireas</li> </ul>
15:15 – 16:45 Vienna time	<b>Session 1</b>
	<b>Chairs: TBA</b>
15:15 – 15:45 Vienna time	<b>Hossein Moosaei and Milan Hladik</b> - Inverse Free Universum Twin Support Vector Machine
15:45 – 16:15 Vienna time	<b>Alexander Krylatov and Anastasiya Raevskaya</b> – Travel demand estimation in a multi-subnet urban road network
16:15 – 16:45 Vienna time	<b>Roberto Diaz-Urra, Nicolas Galvez Ramirez and Carlos Castro</b> – Towards complex scenario instances for the urban transit routing problem
16:45 – 17:00 Vienna time	Break
17:00 – 18:00 Vienna time	<b>Invited Session 1 – Chair: Ilias Kotsireas</b>
17:00 – 18:00 Vienna time	<b>Plenary Speaker: Martin Charles Golumbic</b> – B <sub>k</sub> -VPG graphs – the string graphs of paths on a grid
18:00 – 19:30 Vienna time	<b>Session 2</b>
	<b>Chairs: TBA</b>
18:00 – 18:30 Vienna time	<b>Julian Schulte and Volker Nissen</b> – Sensitivity analysis on constraints of combinatorial optimization problems
18:30 – 19:00 Vienna time	<b>Carlos Ansotegui, Meinolf Sellmann, Tapan Shah and Kevin Tierney</b> – Learning to optimize black-box functions with extreme limits on the number of function evaluations
19:00 – 19:30 Vienna time	<b>Mustafa Misir</b> – Algorithm selection on adaptive operator selection: a case study on genetic algorithms
19:30 – 19:45 Vienna time	Break
19:45 – 20:25 Vienna time	<b>Session 3</b>
	<b>Chairs: TBA</b>
19:45 – 20:05 Vienna time	<b>Suhendry Effendry, Ngo Bao Chao and Roland Yap</b> – An efficient heuristic for passenger bus VRP with preferences and tradeoffs
20:05 – 20:25 Vienna time	<b>Hamid Jalalzai and David Gaudrie</b> – Pareto optimal thresholds between extreme and central regions

**Tuesday, June 22, 2021 (Timetable is presented in local Vienna time, UTC+2)**

Time	
15:00 – 16:30 Vienna time 16:00 – 17:30 Athens time (9:00 a.m.-10:30 a.m. EDT)	<b>Session 4</b>
	<b>Chair: Paul Spirakis</b>
15:00 – 15:30 Vienna time	<b>Aldy Gunawan, Vincent F. Yu, Andro Nicus Sutanto and Panca Jodiawan</b> – Set Team Orienteering Problem with Time Windows
15:30 – 16:00 Vienna time	<b>Andrei Kudriavtsev, Daniel Khachay, Yuri Ogorodnikov, Jie Ren, Sheng Cheng Shao, Dong Zhang and Michael Khachay</b> – The shortest simple path problem with a fixed number of must-pass nodes: a problem-specific branch-and-bound algorithm
16:00 – 16:30 Vienna time	<b>Brenner Rios, Junior Casquina, Hossmell Añasco and Alfredo Paz-Valderrama</b> – Corrected formulations for the travelling car renter problem
16:30 – 16:45 Vienna time	Break
	<b>Invited Session 2 – Chair: Ilias Kotsireas</b>
16:45 – 17:45 Vienna time	<b>Plenary Speaker: Paul Spirakis</b> – Temporal networks and the impact of availability patterns
17:45 – 19:15 Vienna time	<b>Session 5</b>
	<b>Chairs: TBA</b>
17:45 – 18:15 Vienna time	<b>Nico Piatkowski, Peter N Posch and Miguel Krause</b> – How to trust generative probabilistic models for time-series data?
18:15 – 18:45 Vienna time	<b>Dmytro Pukhkaiev, Oleksandr Husak, Sebastian Götz and Uwe Assmann</b> – Multi-objective parameter tuning with dynamic compositional surrogate models
18:45 – 19:15 Vienna time	<b>Mario Manzo, Maurizio Giordano, Lucia Maddalena and Mario Rosario Guarracino</b> – Performance evaluation of adversarial attacks on whole-graph embedding models
19:15 – 19:30 Vienna time	Break
19:30 – 20:10 Vienna time	<b>Session 6</b>
	<b>Chairs: TBA</b>
19:30 – 19:50 Vienna time	<b>Rhys Agombar, Christian Bauckhage, Max Luebbering and Rafet Sifa</b> – An Optimization for Convolutional Network Layers using the Viola-Jones Framework and Ternary Weight Networks
19:50 – 20:10 Vienna time	<b>Michael Freitas Gustavo and Toon Verstraelen</b> – Reparameterization of Computational Chemistry Force Fields Using GloMPO (Globally Managed Parallel Optimization)

**Wednesday, June 23, 2021 (Timetable is presented in local Vienna time, UTC+2)**

Time	
15:00 – 16:30 Vienna time 16:00 – 17:30 Athens time (9:00 a.m.-10:30 a.m. EDT)	<b>Session 7</b>  <b>Chairs: TBA</b>
15:00 – 15:30 Vienna time	<b>Roman Plotnikov and Adil Erzin</b> – Multi-channel conflict-free square grid aggregation
15:30 – 16:00 Vienna time	<b>Apostolos Chalkis, Emmanouil Christoforou, Theodore Dalamagas and Ioannis Z. Emiris</b> – Modeling of crisis periods in stock markets
16:00 – 16:30 Vienna time	<b>Jakob Bossek, Aneta Neumann and Frank Neumann</b> – Exact counting and sampling of optima for the knapsack problem
16:30 – 16:45 Vienna time	Break
16:45 – 17:45 Vienna time	<b>Invited Session 3 – Chair: Dimitris Simos</b>
16:45 – 17:45 Vienna time	<b>Tutorial Speaker: Rick Kuhn</b> – Combinatorial Difference Methods in AI
17:45 – 18:45 Vienna time	<b>Session 8</b>
	<b>Chairs: TBA</b>
17:45 – 18:15 Vienna time	<b>Konstantin Avrachenkov, Aurélie Boisbunon and Mikhail Kamalov</b> – Graph diffusion & PCA framework for semi-supervised learning
18:15 – 18:45 Vienna time	<b>Riccardo Di Dio, André Galligo, Angelos Mantzaflaris and Benjamin Mauroy</b> – Spirometry-based airways disease simulation and recognition using machine learning approaches
18:45 – 19:00 Vienna time	Break
19:00 – 19:40 Vienna time	<b>Session 9</b>
	<b>Chairs: TBA</b>
19:00 – 19:20 Vienna time	<b>Shaowen Lan, Wenjuan Fan, Kaining Shao, Shanlin Yang and Panos M. Pardalos</b> – Medical staff scheduling problem in Chinese mobile cabin hospitals during covid-19 outbreak
19:20 – 19:40 Vienna time	<b>Hu Chaoming, Lu Shaojun, Kong Min, Liu Xinbao and Panos. M Pardalos</b> – Joint production and maintenance scheduling considering the increasing operating cost

**Thursday, June 24, 2021 (Timetable is presented in local Vienna time, UTC+2)**

Time	
15:00 – 16:30 Vienna time 16:00 – 17:30 Athens time (9:00 a.m.-10:30 a.m. EDT)	<b>Session 10</b>  <b>Chairs: TBA</b>
15:00 – 15:30 Vienna time	<b>Antonio Candelieri, Andrea Ponti and Francesco Archetti</b> – Learning the optimal sensor placement by Pareto analysis and problem specific evolutionary operators
15:30 – 16:00 Vienna time	<b>Abtin Nourmohammadzadeh and Stefan Voß</b> – Hybridising self organizing maps with genetic algorithms
16:00 – 16:30 Vienna time	<b>Konstantinos Chatzilygeroudis, Aristidis Vrahatis, Sotiris Tasoulis and Michael Vrahatis</b> – Feature Selection in single-cell RNA-seq data via a Genetic Algorithm
16:30 – 16:45 Vienna time	Break
16:45 – 17:45 Vienna time	<b>Invited Session 4 – Chair: Panos Pardalos</b>
16:45 – 17:45 Vienna time	<b>Plenary Speaker: Evangelos Kranakis</b> – Communication and mobility in optimization for infrastructure resilience
17:45 – 18:45 Vienna time	<b>Session 11</b>  <b>Chair: Evangelos Kranakis</b>
17:45 – 18:15 Vienna time	<b>Benjamin Sauk and Nick Sahinidis</b> – HybridTuner: Tuning with hybrid derivative-free optimization initialization strategies
18:15 – 18:45 Vienna time	<b>Brenner Rios, Junior Casquina, Hossmell Añasco and Alfredo Paz-Valderrama</b> – Hybrid meta-heuristics for the traveling car renter salesman problem
18:45 – 19:00 Vienna time	Break
19:00 – 19:40 Vienna time	<b>Session 12</b>  <b>Chairs: TBA</b>
19:00 – 19:20 Vienna time	<b>Elias Dritsas, Nikos Fazakis, Otilia Kocsis, Nikos Fakotakis and Konstantinos Moustakas</b> – Long-term Hypertension Risk Prediction with ML Techniques in ELSA database
19:20 – 19:40 Vienna time	<b>Hanna Kondratiuk and Rafet Sifa</b> – Towards structural hyperparameter search in kernel minimum enclosing balls
19:40 – 20:10 Vienna time	<b>Damir Gainanov, Dmitriy Berenov and Varvara Rasskazova</b> – Algorithm for predicting the quality of the product based on technological pyramids in graphs

**Friday, June 25, 2021 (Timetable is presented in local Vienna time, UTC+2)**

Time	
15:00 – 16:00 Vienna time 16:00 – 17:00 Athens time (9:00 a.m.-10:00 a.m. EDT)  15:00 – 16:00 Vienna time	<b>Invited Session 5 – Chair: Dimitris Simos</b>  <b>Tutorial Speaker: Franz Wotawa</b> – On the use of ontologies for automated test suite generation
16:00 – 17:30 Vienna time	<b>Session 13</b>  <b>Chairs: TBA</b>
16:00 – 16:30 Vienna time	<b>Jan Koza, Jiří Tumpach, Zbyněk Pitra and Martin Holeňa</b> – Using Past Experience for Configuration of Gaussian Processes in Black-Box Optimization
16:30 – 17:00 Vienna time	<b>Antonio Candelieri and Francesco Archetti</b> – Sparsifying to optimize over multiple information sources: an augmented Gaussian process based algorithm
17:00 – 17:30 Vienna time	<b>Mustafa Misir</b> – Algorithm Selection for Protein Structure Prediction on 2D AB Off-lattice Model
17:30 – 17:45 Vienna time	Break
17:45 – 18:45 Vienna time	<b>Session 14</b>
	<b>Chairs: TBA</b>
17:45 – 18:15 Vienna time	<b>Damir Gainanov, Dmitriy Berenov, Egor Nikolaev and Varvara Rasskazova</b> – Integer Linear Programming in Solving Optimal Dispatching Problem at the Metallurgical Production
18:15 – 18:45 Vienna time	<b>Antonio Candelieri, Riccardo Perego, Ilaria Giordani, Andrea Ponti and Francesco Archetti</b> – Modelling human active search in optimizing black-box functions
18:45 – 19:00 Vienna time	Break
19:00 – 19:20 Vienna time	<b>Session 15</b>  <b>Chairs: TBA</b>
19:00 – 19:20 Vienna time	<b>Giovanni Campuzano, Eduardo Lalla-Ruiz and Martijn Mes</b> – A general VNS algorithm for the TSP with drone
19:20 – 19:35 Vienna time	<b>Closing Remarks:</b> <ul style="list-style-type: none"> <li>• <b>General Chair, Panos Pardalos</b></li> <li>• <b>Technical Program Committee Chair, Dimitris Simos</b></li> <li>• <b>Local Organizing Committee Chair, Ilias Kotsireas</b></li> </ul>