

PLATINUM INDUSTRIAL SPONSORS



THE 20TH LEARNING AND INTELLIGENT OPTIMIZATION CONFERENCE

June 15–19, 2026, Milan, Italy



General Information:

- **Conference venue: Grand Hotel Villa Torretta**
Via Milanese 3 – Sesto San Giovanni Milano, Italy
(10 minute walk from the metro station "Bignami Parco Nord"
(metro line M5 – purple line)
- **On Wednesday 17 June**, poster session and other Conference activities will take place at **Univeristy of Milano-Bicocca, Building U6, Floor -1**
Entrance #1: Viale Piero e Alberto Pirelli, 22
Entrance #2: Piazza dell'Ateneo Nuovo, 1



Grand Hotel Villa Torretta



University of Milano-Bicocca, Building U6
(entrance #1: via Piero e Alberto Pirelli, 22)



University of Milano-Bicocca, Building U6
(entrance #2, Piazza dell'Ateneo Nuovo, 1)

Monday 15/06

09:00-10:00	60 mins	Registration
10:00-10:15	15 mins	Opening: Institutional Welcome and General Information
10:15-11:00	45 mins	Special Session 2 "Matheuristics" (chair: <i>Vittorio Maniezzo</i>)
		Fore-and-Back for Changepoint Detection (<i>speaker: Vittorio Maniezzo</i>) Graph Reduction with Unsupervised Learning in Column Generation: A Routing Application (<i>speaker: Laurens Bliet</i>) Algorithms and Complexity Results for the 0–1 Knapsack Problem with Group Fairness (<i>speaker: Alberto Santini</i>)
11:00-11:30	30 mins	Coffee break
11:30-12:30	60 mins	General track (chair: <i>Giovanni Righini</i>)
		Variable-Length Diverse Planning Monte Carlo Tree Search (<i>speaker: Nathan Amoussou</i>) A Benchmark Generator for Combinatorial Testing (<i>speaker: Eduard Torres Montiel</i>) Optimization algorithms for the price clustering problem (<i>speaker: Giovanni Righini</i>) An Autonomous Navigation Framework for Item Retrieval in Unknown Environments (<i>speaker: Alessio Mezzina</i>)
12:30-14:00	90 mins	Lunch
14:00-15:30	90 mins	Special Session 1 "AI-Driven Optimization: Transforming Optimization with LLMs" (chair: <i>Kevin Tierney</i>)
		Starjob: Dataset for LLM-Driven Job Shop Scheduling (<i>speaker: Henrik Abgaryan</i>) ELEVATION: Exploiting LLMs to Improve Efficiency, Scalability, and Flexibility of Heuristics in Solving Optimization Problems (<i>Lorenzo Saccucci</i>) LiFT: Local Search via Linear Programming for Overfitting-Controlled Transformers (<i>speaker: Anikeit Khanna</i>) Budgeted Multi-Objective Feature Engineering via LLM-Guided Program Search (<i>speaker: Kartik Pandey</i>) Combining Symbolic Constraints and LLMs: An Application to the Abstraction and Reasoning Corpus (<i>speaker: Lukas Kinder</i>) CP-SynC: Multi-Agent Zero-Shot Constraint Modeling in MiniZinc with Synthesized Checkers (<i>speaker: Yuliang Song</i>)
15:30-16:00	30 mins	Coffee break
16:00-17:00	60 mins	General track (chair: <i>Stefan Røpke</i>)
		Decompositions for Semidefinite Programming with Reinforcement Learning (<i>speaker: Stefan Røpke</i>) Learning-Based Minimization of Packet Loss in Time-Sensitive Networking (<i>speaker: Feyzullah Kara</i>) How forecast errors propagate into Sales and Operations Planning decisions: A controlled study of RL robustness (<i>speaker: Akram Badreddine Laissaoui</i>) Optimizing Dynamic Replica Placement in Wide-Area Replicated Systems via Reinforcement Learning (<i>speaker: Kevin Tierney</i>)

Tuesday 16/06

09:00-10:00	60 mins	Special Session 5 "Advances in Data-Driven Optimization and AI-Enhanced Business Process Mining" chair: <i>Vijaya J</i>
		Towards an Explainable Decision Intelligence: Leveraging Predictive ML, SHAP, and Causal Digital Twin for Order-to-Cash Process (<i>speaker: Shruti Kirti Nandan</i>) Multimodal Explainable Wildfire Detection Using YOLOv8 and Transformer Attention (<i>speaker: Vijaya J</i>) OITM: An Object-Type Interaction and Temporal Model for Object-Centric Process Mining (<i>speaker: Pranav Sahu</i>) Drift-Aware Process Mining for Loan Processing Systems: A Framework for Detecting and Managing Concept Drift in Digital Lending and Microfinance Operations (<i>speaker: Shruti Kirti Nandan</i>)
10:00-10:30	30 mins	Coffee break
10:30-11:30	60 mins	Industrial talk "The End of Incrementalism: Generative AI is Redefining the Very Fabric of the Edge" (Danilo Pau, STMicroelectronics)
11:30-12:30	60 mins	Industrial talk "Hexaly, Hybrid Optimization Solver" (Julien Darlay, HEXALY)
12:30-14:00	90 mins	Lunch
14:00-16:00	120 mins	Keynote - Mixed-Integer Programming: 65+ years of history and the AI challenge (Andrea Lodi)
16:00-16:30	30 mins	Coffee break
16:30-17:30	60 mins	Special Session 8 "Bayesian optimization: recent achievements and challenges ahead" (chair: <i>Antonio Candelieri</i>)
		Reduced-Space Multi-Fidelity Bayesian Optimization of Process Simulation Models (<i>speaker: Niki Triantafyllou</i>) Wasserstein-enabled characterization of designs and myopic decisions in Bayesian Optimization (<i>speaker: Antonio Candelieri</i>) Combining GPs and NNs as Surrogate Models in BO (<i>speaker: Omer Ekmekcioglu</i>) BPO: Bayesian Preference Optimization for Multiobjective Discrete Optimization (<i>speaker: Elias Khalil</i>)
17:30-18:30	60 mins	Special Session 5 "Advances in Data-Driven Optimization and AI-Enhanced Business Process Mining" chair: <i>Vijaya J</i>
		AdaptSRNet: Enhancing Image Steganalysis via Adaptive Filter-Attention Fusion (<i>speaker: Lakshya Garg</i>) Physics-Guided Optimization for Learning under Physiological Constraints: A Case Study on Hemoglobin Estimation (<i>speaker: Shashank Mishra</i>) CAL-ATS: Cosine Adaptive Lookahead Optimization for Automated Applicant Tracking Systems (<i>speaker: Abhiram Alla</i>) TuroMiner: An efficient and advanced process discovery algorithm for complex processes (<i>speaker: Pranav Sahu</i>)

Remember! On Wednesday 17 June LION20 takes place at the University Milano-Bicocca, Building U6, Floor -1, Room “Martini” – Building entrance #1: Viale Piero e Alberto Pirelli, 22; building entrance #2: Piazza dell’Ateneo Nuovo, 1

If you are going to join the social event “Visiting Royal Villa of Monza”, in the afternoon:

BRING WITH YOU AN ID CARD OR PASSPORT: IT COULD BE REQUESTED AT THE ENTRANCE OF THE ROYAL VILLA

Wednesday 17/06 (in University Milano-Bicocca, Building U6)		
09:00-09:30	30 mins	1 minute poster trailer!
09:30-10:30	60 mins	Poster session (with coffee break at 10:00)
		Coffee break
10:30-12:30	120 mins	Keynote - Large-Scale and Data-Driven Markov Decision Processes (Wolfram Wiesmann)
12:30-13:30	60 mins	Lunch
13:30-14:30	60 mins	Legacy Lecture - Optimal Transport on Metric Measure Spaces, Graphs and Networked Data (Francesco Archetti)
14:30-18:00	210 mins	Social event: Visiting Royal Villa of Monza (Reggia di Monza) – bus transfer
20:00		Social Dinner at Grand Hotel Villa Torretta

List of Posters to be exposed on 17/06

- *Andrea Taverna*: “Prime-Times: Applying Metaheuristics and Simulators for Real-World Large-Scale Network Planning”
- *Rodrigo Viana*: “A Matheuristic Simulated Annealing Framework with a Machine Learning–Based Objective Function”
- *Sanja Stevanovic*: “A Grasshopper Plugin for Meta-Optimized Parallel Surrogate Building Energy Optimization”
- *Niki Triantafyllou*: “Learning Feasibility Landscapes for Combinatorial Optimization via Graph Energy-Based Models”
- *Laurens Bliet*: “Beyond Human-centered Automated Machine Learning”
- *Antonio Candelieri*: “Optimal Transport-based Permutation-Invariant Bayesian Optimization of Offshore Wind Farm Layouts”
- *Francesco Bianchi*: “Optimization and correlation analysis for the location of services in urban areas using multi-source data”
- *Federico Pavesi*: “Reaching the Boundary: Bringing astral spaces to Riemannian optimization over the probability simplex”
- *Yu Liu*: “Input convex neural networks as surrogates in mathematical optimization”
- *Pavel Falta*: “Expanding Arterial Blood Pressure Dataset with Synthetic Data”
- *Simon Urbak*: “Graph Neural Network-Based Network Reduction for Large-Scale Column Generation in Liner Shipping”
- *Elisa Savio*: “A Tabu Search and a Maskable PPO for the Three-Dimensional Block Relocation Problem with Item Families”
- *Michal Soukup*: “Interpretable Frequency-Based Synthesis of Intracranial Pressure Signals”
- *Albert Olson*: “Graph Neural Network Enhanced Column Generation”
- *Emma Pajak*: “Rethinking LLM-in-the-loop-Bayesian Optimisation: Where, How, and When Should LLMs Be Integrated?”
- *Nele Bertling*: “Quantile-Based Sequential Learning and Optimization”
- *Nayeli Gast Zepeda*: “LLM-Driven Discovery of Heuristic Operators for Highly Constrained Routing Problems”
- *Thomä Simon*: “Inventory for Impact: Scalable Inventory Routing for Clean Cooking Access in Developing Economies”
- *Dietl Markus*: “Operational route planning under uncertainty for Demand Adaptive Systems with Multiple Lines”
- *Jesse van Remmerden*: “Generalizing Beyond Suboptimality: Offline Reinforcement Learning Learns Effective Scheduling through Random Solutions”
- *Zbysek Posel*: “Machine Learning Approaches for Imbalanced Intracranial Pressure Analysis”
- *Zhou Miao*: “Scalable Service Network Design via Smart-Quantile Estimate-then-Optimize: Application to UAV-Truck Logistics”

Thursday 18/06

09:00-10:30	90 mins	General track (chair: Danilo Pau)
		<p>A Clustering-Based Variable Ordering Framework for Relaxed Decision Diagrams for Maximum Weighted Independent Set Problem (speaker: Mohsen Nafar)</p> <p>Practical Visual Question Answering at the Edge (speaker: Danilo Pau)</p> <p>Leveraging Structural Constraints for Diffusion-based Neural TSP Solvers (speaker: Mickael Basson)</p> <p>Defining Core Problems for Set Covering Instances Using Machine Learning: a Proof of Concept (speaker: Sameh Al Shihabi)</p> <p>Generative Modeling of Approximately Periodic Time Series by a Posterior-Weighted Gaussian Process (speaker: Elias Reich)</p> <p>Adaptive Backbone Selection for Complexity-Aware and Energy-Efficient Visual Inference (speaker: Alexander Jesser)</p>
10:30-11:00	30 mins	Coffee break
11:00-13:00	100 mins	Keynote - AI and the Future of the Universe (Juergen Schmidhuber)
13:00-14:30	90 mins	Lunch
14:30-15:30	60 mins	General track (chair: Iman Seyedi)
		<p>Diffusion-enabled Optimal Transport distances for graph matching (speaker: Iman Seyedi)</p> <p>Optimizing persistent surveillance missions for UAVs by column generation (speaker: William Stenberg)</p> <p>A Preliminary Study on GAN-Augmented Column Generation (speaker: Mick Molitor)</p> <p>From Ensembles to One Graph: Consensus DAGs with Minimal Information Loss (speaker: Efthymou Drouiotis)</p>
15:30-16:30	60 mins	General track (chair: Maximilian Schiffer)
		<p>Genetic Branching: An Evolutionary Framework for Interpretable Branching Strategies (speaker: Simon Renard)</p> <p>An Efficient Greedy-Randomized Heuristic for the Minimum Weakly Connected Dominating Set Problem (speaker: Sachchida Nand Chaurasia)</p> <p>Multi-fidelity Optimisation via Hybrid Genetic-Greedy Search (speaker: Mitra Heidari)</p> <p>Integrated Formulation of Sequential Multiobjective Optimization Based on System Surrogate Model Learning Under L_∞-norm Error Constraints (speaker: Kenichi Tamura)</p>
16:30-17:00	30 mins	Coffee break
17:00-18:00	60 mins	General track (chair: Roberto Battiti)
		<p>Opening the Black Box: Topologically Guided Latent Steering for Neural Combinatorial Optimization (speaker: Henrik Abgaryan)</p> <p>A Scalable Matheuristic for Routing Capacity-Constrained Groundfish Surveys (speaker: Margrét Vala Þórisdóttir)</p> <p>Vertex Sampling for Backdoor Search in Binary Linear Optimization (speaker: Chang Liu)</p> <p>Heuristic-Based Agent to Solve The Online Three-Dimensional Container Loading Problem (speaker: Juan Sebastián Herrera Cobo)</p>

Friday 19/06

09:00-10:00	60 mins	General track (chair: Antonio Candelieri)
		<p>Quantum-Enhanced Chaotic Particle Swarm Optimization for LSTM-Based Stock Market Forecasting (speaker: Absalom Ezugwu)</p> <p>Learning District Visitation Sequences for Hierarchical Last-Mile Delivery (speaker: Farzam Salimi)</p> <p>Constraint programming for unrelated parallel machine scheduling with unrelated servers (speaker: Nikolaos Liouliakis)</p> <p>A Two-Stage Learning-and-Optimization Framework for Real-Time Train Platforming (speaker: Md Tabish Haque)</p>
10:00-10:30	30 mins	Coffee break
10:30-11:30	60 mins	General track (chair: Juan Luis Jiménez Laredo)
		<p>Is there a (carbon-) free lunch? Energy/performance tradeoffs in population-based metaheuristics (speaker: Juan Luis Jiménez Laredo)</p> <p>Heuristics for Variable Cost and Size Cluster Vector Bin Packing (speaker: Laura Wolf)</p> <p>COAgents: Multi-Agent Framework to Learn and Navigate Routing Problems Search Space (speaker: Mahdi Mostajabdaveh)</p> <p>Latent Heuristic Search: Continuous Optimization for Automated Algorithm Design (speaker: Mahdi Mostajabdaveh)</p>
11:30-12:00	30 mins	Closing and news about LION21

Information related to the social event on 17 June “Visiting Royal Villa of Monza (Reggia di Monza)”

LION20 is delighted to invite you to a special afternoon of history, art, and architectural grandeur at the **Royal Villa of Monza (Reggia di Monza)**. Nestled within **one of the largest enclosed parks in Europe**, this stunning 18th-century neoclassical palace was built during the Austrian Empire and later served as a majestic residence for the Italian Royal Family.

This exclusive visit offers you the chance to:

- **Explore the Royal Apartments:** Walk through the beautifully restored rooms, filled with period furniture, intricate frescoes, and timeless elegance.
- **Discover the Architecture:** Admire the genius of Giuseppe Piermarini, the same visionary architect behind Milan’s famous Teatro alla Scala.
- **Network in a Historic Setting:** Connect with fellow researchers from around the globe while immersed in Italy’s rich cultural heritage.



Detailed program of the social event (pickup times are strict!)

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14:30 Pickup at via Piero e Alberto Pirelli 22 (Entrance #1 of Building U6 of University Milano-Bicocca)

- Bus #1: **Group 1** and **Group 2** only
- Bus #2: **Group 3** and **Group 4** only

15:30 Arrival to Royal Villa of Monza: each group will start its own guided tour 15 minutes from the previous (duration of the guided tour 1 hour)

- **Group 1** – starts at **15:30**
- **Group 2** – starts at **15:45**
- **Group 3** – starts at **16:00**
- **Group 4** – starts at **16:15**

Last group will finish the tour (approximately) at 17:15.

18:00 Pickup at the main entrance of Royal Villa of Monza and arrival to via Piero e Alberto Pirelli 22 around 18:30

18:30 - 20:00: free time for you!

20:00 Social dinner @ Grand Hotel Villa Torretta