

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)*

<b>Monday 15/06</b>		
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	<b>Special Session 2 "Matheuristics"</b>
		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	<b>General track</b>
		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	<b>Special Session 1 "AI-Driven Optimization: Transforming Optimization with LLMs"</b>
		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	<b>General track</b>
		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> )

<b>Tuesday 16/06</b>		
09:00-10:00	60 mins	<b>Special Session 5 "Advances in Data-Driven Optimization and AI-Enhanced Business Process Mining"</b>
		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	<b>Industrial talk "The End of Incrementalism: Generative AI is Redefining the Very Fabric of the Edge" (Danilo Pau, STMicroelectronics)</b>
11:30-12:30	60 mins	<b>Industrial talk "Hexaly, Hybrid Optimization Solver" (Julien Darlay, HEXALY)</b>
12:30-14:00	90 mins	Lunch
14:00-16:00	120 mins	<b>Keynote - Mixed-Integer Programming: 65+ years of history and the AI challenge (Andrea Lodi)</b>
16:00-16:30	30 mins	Coffee break
16:30-17:30	60 mins	<b>Special Session 8 "Bayesian optimization: recent achievements and challenges ahead"</b>
		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	<b>Special Session 5 "Advances in Data-Driven Optimization and AI-Enhanced Business Process Mining"</b>
		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> )

## 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	<b>Keynote - Large-Scale and Data-Driven Markov Decision Processes (Wolfram Wiesmann)</b>
12:30-13:30	60 mins	Lunch
13:30-14:30	60 mins	<b>Legacy Lecture - Optimal Transport on Metric Measure Spaces, Graphs and Networked Data (Francesco Archetti)</b>
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	<b>General track</b>
		<p>A Clustering-Based Variable Ordering Framework for Relaxed Decision Diagrams for Maximum Weighted Independent Set Problem (<i>speaker: Mohsen Nafar</i>)</p> <p>Practical Visual Question Answering at the Edge (<i>speaker: Danilo Pau</i>)</p> <p>Leveraging Structural Constraints for Diffusion-based Neural TSP Solvers (<i>speaker: Mickael Basson</i>)</p> <p>Defining Core Problems for Set Covering Instances Using Machine Learning: a Proof of Concept (<i>speaker: Sameh Al Shihabi</i>)</p> <p>Generative Modeling of Approximately Periodic Time Series by a Posterior-Weighted Gaussian Process (<i>speaker: Elias Reich</i>)</p> <p>Adaptive Backbone Selection for Complexity-Aware and Energy-Efficient Visual Inference (<i>speaker: Alexander Jesser</i>)</p>
10:30-11:00	30 mins	Coffee break
11:00-13:00	100 mins	<b>Keynote - AI and the Future of the Universe (Juergen Schmidhuber)</b>
13:00-14:30	90 mins	Lunch
14:30-15:30	60 mins	<b>General track</b>
		<p>Diffusion-enabled Optimal Transport distances for graph matching (<i>speaker: Francesco Archetti</i>)</p> <p>Optimizing persistent surveillance missions for UAVs by column generation (<i>speaker: William Stenberg</i>)</p> <p>A Preliminary Study on GAN-Augmented Column Generation (<i>speaker: Mick Molitor</i>)</p> <p>From Ensembles to One Graph: Consensus DAGs with Minimal Information Loss (<i>speaker: Efthymou Drouiotis</i>)</p>
15:30-16:30	60 mins	<b>General track</b>
		<p>Genetic Branching: An Evolutionary Framework for Interpretable Branching Strategies (<i>speaker: Simon Renard</i>)</p> <p>An Efficient Greedy-Randomized Heuristic for the Minimum Weakly Connected Dominating Set Problem (<i>speaker: Sachchida Nand Chaurasia</i>)</p> <p>Multi-fidelity Optimisation via Hybrid Genetic-Greedy Search (<i>speaker: Mitra Heidari</i>)</p> <p>Integrated Formulation of Sequential Multiobjective Optimization Based on System Surrogate Model Learning Under <math>L_\infty</math>-norm Error Constraints (<i>speaker: Kenichi Tamura</i>)</p>
16:30-17:00	30 mins	Coffee break
17:00-18:00	60 mins	<b>General track</b>
		<p>Opening the Black Box: Topologically Guided Latent Steering for Neural Combinatorial Optimization (<i>speaker: Henrik Abgaryan</i>)</p> <p>A Scalable Matheuristic for Routing Capacity-Constrained Groundfish Surveys (<i>speaker: Margrét Vala Þórisdóttir</i>)</p> <p>Vertex Sampling for Backdoor Search in Binary Linear Optimization (<i>speaker: Chang Liu</i>)</p> <p>Heuristic-Based Agent to Solve The Online Three-Dimensional Container Loading Problem (<i>speaker: Juan Sebastián Herrera Cobo</i>)</p>

Friday 19/06		
09:00-10:00	60 mins	<b>General track</b>
		<p>Quantum-Enhanced Chaotic Particle Swarm Optimization for LSTM-Based Stock Market Forecasting (<i>speaker: Absalom Ezugwu</i>)</p> <p>Learning District Visitation Sequences for Hierarchical Last-Mile Delivery (<i>speaker: Farzam Salimi</i>)</p> <p>Constraint programming for unrelated parallel machine scheduling with unrelated servers (<i>speaker: Nikolaos Liouliakis</i>)</p> <p>A Two-Stage Learning-and-Optimization Framework for Real-Time Train Platforming (<i>speaker: Md Tabish Haque</i>)</p>
10:00-10:30	30 mins	Coffee break
10:30-11:30	60 mins	<b>General track</b>
		<p>Is there a (carbon-) free lunch? Energy/performance tradeoffs in population-based metaheuristics (<i>speaker: Juan Luis Jiménez Laredo</i>)</p> <p>Heuristics for Variable Cost and Size Cluster Vector Bin Packing (<i>speaker: Laura Wolf</i>)</p> <p>COAgents: Multi-Agent Framework to Learn and Navigate Routing Problems Search Space (<i>speaker: Mahdi Mostajabdaveh</i>)</p> <p>Latent Heuristic Search: Continuous Optimization for Automated Algorithm Design (<i>speaker: Mahdi Mostajabdaveh</i>)</p>
11:30-12:00	30 mins	Closing and news about LION21