CALL FOR PAPERS
SPECIAL SESSION ON

Advanced Hybrid Optimization and Intelligent Decision-Making for Sustainable Transportation and Industrial Systems

for ICCAD 2026
July 7-9, 2026, Lisbon, Portugal

Session Co-Chairs:
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Session description:

This special session focuses on advanced hybrid optimization methodologies and intelligent decision-making frameworks for solving complex, large-scale, and multi-objective problems arising in sustainable transportation and industrial systems.

Modern industrial and logistics systems are increasingly constrained by energy consumption, environmental impact, operational efficiency, and real-time decision requirements. Classical optimization techniques often struggle to cope with the combinatorial complexity, nonlinearity, uncertainty, and dynamic nature of these systems. As a result, there is a growing need for innovative solution paradigms that combine the strengths of metaheuristic optimization, artificial intelligence, and data-driven approaches.

This special session aims to bring together researchers and practitioners working on hybrid metaheuristics, AI-assisted optimization, and intelligent control strategies, with particular emphasis on energy-aware, sustainable, and multi-criteria decision-making problems. The session will highlight both methodological advances and real-world applications, fostering cross-fertilization between optimization, automation, control, and intelligent transportation communities.

The goal is to:

- Present recent theoretical and algorithmic advances in hybrid and intelligent optimization.
- Explore the integration of metaheuristics with machine learning, deep learning, and reinforcement learning.
- Address energy-efficient and sustainable optimization in transportation, logistics, and industrial systems.
- Promote robust, adaptive, and scalable decision-making frameworks for complex engineering applications.
- Encourage discussion on open challenges and future research directions in intelligent optimization and control.

The topics of interest include, but are not limited to:

- Hybrid metaheuristic algorithms for large-scale and constrained optimization
- Multi-objective optimization with energy, environmental, and economic criteria
- AI-assisted metaheuristics and learning-enhanced optimization strategies
- Reinforcement learning for scheduling, routing, and decision-making problems
- Energy-aware and sustainable Job Shop Scheduling Problems (JSP, FJSP, OJSP)
- Electric Vehicle Routing Problems (EVRP, CEVRP, EVRP-C)
- Intelligent transportation systems and smart logistics optimization
- Data-driven optimization and predictive decision-support systems
- Explainable AI for multi-criteria and industrial decision-making

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SUBMISSION

Papers must be submitted electronically for peer review by**: January 31, 2026**
https://www.iccad-conf.com/submission/

All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).