

Advanced scheduling and rescheduling techniques for digitized manufacturing and supply chain systems

Organisers

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Short presentation

We are pleased to invite submissions for a session at MIM conference, dedicated to exploring the forefront of scheduling and rescheduling methodologies. This session will highlight the intersection of emerging technologies and sustainable practices in the field of scheduling in manufacturing and logistics.

We seek contributions that address digital technologies that can reshape scheduling processes, enhancing flexibility and efficiency. Research on integrating sustainable performance metrics into scheduling practices is highly encouraged, as we aim to align operational strategies with environmental sustainability. The session will also focus on the application of multi-agent systems, machine learning in Industry 4.0, showcasing how these advancements can transform scheduling through improved prediction and adaptability. We are also particularly interested in studies that tackle the complexities of scheduling within reconfigurable manufacturing systems and employ heuristic, metaheuristic, or operational research techniques to propose novel solutions. We invite original research and unconventional approaches that address emerging and atypical scheduling challenges, on how to overcome these issues with innovative methodologies.

Considering the above-mentioned, this session addresses advanced techniques, tools and methods to solve scheduling and rescheduling problems in digitized context of manufacturing and supply chain systems.

This session aims at bringing together reflections and innovative ideas on methodologies and solutions to deal with scheduling and rescheduling issues through the use of advanced industrial digital technologies and classical approaches.

We welcome contributions in the following research lines, but not limited to:

- Multi-agent and innovative architectures for dynamic scheduling.
- Scheduling or rescheduling methods with sustainable performances in manufacturing and logistics systems
- Innovative technologies based Machine learning for scheduling
- I4.0 technologies for scheduling and rescheduling.
- Scheduling methods for reconfigurable manufacturing system
- Heuristic, meta-heuristic and Operational research techniques for sustainable manufacturing
- Any original scheduling problem or atypical resolution method.

Keywords: Scheduling, rescheduling, digital technologies, multi-agent architecture, machine learning, dynamic scheduling, sustainable manufacturing, supply chain 4.0 / 5.0, Industry 4.0 / 5.0.

Important dates

- 30 November 2024 – Full regular papers, papers for invited tracks/sessions, extended abstracts deadline
- 30 January 2025 – Notifications to authors; Registration opens
- 28 February 2025 – Camera ready paper submission deadline
- 30 June to 3 July – Conference days IFAC MIM 2025 in Trondheim