Invited Session:

Production Planning and Scheduling Techniques in Novel Manufacturing Systems

Organizers:

Dr. Behdin Vahedi-Nouri, University of Tehran, Tehran, Iran. Email: b.vahedi@ut.ac.ir
Prof. Reza Tavakkoli-Moghaddam, University of Tehran, Tehran, Iran. Email: tavakoli@ut.ac.ir
Prof. Alexandre Dolgui, IMT Atlantique, Nantes, France. Email: alexandre.dolgui@imt-atlantique.fr
Prof. Zdeněk Hanzálek, Czech Technical University in Prague, Prague, Czech Republic. Email: Zdenek.Hanzalek@cvut.cz

Session Objectives and Scope:

Today, enterprises face enormous challenges in an increasingly competitive market due to mass customization, a globalized and volatile market, workforce and environmental issues, and unexpected disruptions. In this regard, novel manufacturing systems like Reconfigurable Manufacturing System (RMS), Cloud Manufacturing (CM), and Additive Manufacturing (AM) have been employed to face these challenges efficiently. These novel systems enjoy the latest technology advancements, including Cyber-Physical System (CPS), Artificial Intelligence (AI), Internet of Things/Everything (IoT/E), Big Data Analytics, Metaverse, Smart Robotics, and 3D Printers. Nevertheless, planning novel manufacturing systems encounters much more complexity than traditional manufacturing systems. Thus, efficient production planning and scheduling methods shall be developed to meet the requirements of novel manufacturing systems and uphold their prosperity.

We welcome theoretical and applied contributions regarding production planning and scheduling techniques (e.g., mathematical modeling, exact, hybrid, heuristic, meta-heuristic, machine learning, and AI-based methods) in the following directions, but not limited to:
- ✓ Reconfigurable manufacturing systems
- ✓ Cloud and collaborative manufacturing systems
- ✓ Additive or hybrid additive-subtractive manufacturing systems
- ✓ Remanufacturing or hybrid manufacturing-remanufacturing systems
- ✓ Human-centric manufacturing systems under the Industry 5.0 paradigm (e.g., metaverse, assistive and wearable devices, human interaction in robotics and cyber-physical systems)
- ✓ Data-driven production
- ✓ Energy-aware production

Submission:

Papers must be prepared according to IFAC format and submitted using the IFAC PaperPlaza conference manuscript management system: www.ifac.papercept.net. The corresponding author submits the paper online as an invited session paper using the **invited session code g7464**.
Accepted papers will be published open access in Elsevier's IFAC-PapersOnLine.
Post-conference special issues for extended versions of accepted papers are planned in the IFAC and other high-ranked journals.

Important dates:

Full Paper Submission: 30 November 2024
Notification to authors: 30 January 2025
Final paper submission: 28 February 2025