

Call For Papers

Special Session: Intelligent operation, maintenance, and scheduling of industrial manufacturing processes

Conference: The 2023 International Conference on Cyber-physical Social Intelligence (ICCSI)

Date: October 20-23, 2023

Meeting mode: In-person

Location: Xi'an, China

Web site: <https://agist.org/iccsi2023>

Industrial manufacturing processes, including process manufacturing and discrete manufacturing, are complex systems in the real world. Operation, maintenance, and scheduling problems are the keys for an industrial manufacturing process and affect its efficiency, energy consumption, production costs, safety and stability. In recent years, the theory and technology of artificial intelligence have been developing vigorously. The applications of artificial intelligence technology, like deep learning, machine learning, evolutionary computation, heuristic algorithms, are gradually affecting all walks of life in the real world. Combining artificial intelligence technology with specific industrial manufacturing process to solve its intelligent operation, maintenance, and scheduling problems is an important demand of industry and a hot research field of academia. Related research can improve operation efficiency, ensure safety and stability, and save energy consumption and production costs, which can further improve the level of intelligent manufacturing in an industrial manufacturing process. There has been some existing research on this kind of problems. However, lots of related problems keep open. This special session provides a platform to exchange research works, technical trends and practical experience related to fault diagnosis, process control, operation research, applied mathematics and management science. This session is expected to broaden the intelligent manufacturing research community and promote the application of artificial intelligence in industrial manufacturing processes.

Interested topics include (but not limited to):

- Design, control and optimization of assembly systems
- Design, control and optimization of disassembly systems
- Digital twin techniques in manufacturing
- Emission control and energy saving in manufacturing
- End-of-life product recycling
- Formal methods in the modeling, verification and analysis of manufacturing systems, such as Petri nets, UML, queuing theory, model checking techniques, etc.
- Heuristic search algorithms
- Intelligent factory
- Real-time operation management
- Real-time task allocation
- Real-time task scheduling
- Machine learning and reinforcement learning in manufacturing
- Smart sensing and control
- Smart logistics management
- System simulation and performance evaluation
- Sustainability manufacturing
- Workstation load balancing in manufacturing, assembly and disassembly

Important Dates:

March 31, 2023, Letter of intent for paper contribution
May 15, 2023, Full paper submission
July 1, 2023, Acceptance/Rejection notification
August 31, 2023, Final camera-ready papers due

Special Session Co-chairs:

Prof. Jiacun Wang (Monmouth University, USA), email jwang@monmouth.edu

Prof. Ying Tang (Rowan University, USA), email tang@rowan.edu

Prof. XiWang Guo (Liaoning Petrochemical University, China), email x.w.guo@163.com

All inquiries about the session, including the letter of intent, should be sent to any of the co-chairs above