

14th International Workshop on Service -Oriented, Holonic and Multi-Agent Manufacturing Systems for Industry of the Future (SOHOMA 2024)

Augsburg Technical University of Applied Sciences– Augsburg, Germany
September 26 – 27, 2024



Call for Papers

It is our pleasure to invite you to the **14th International Workshop on Service-Oriented, Holonic and Multi-Agent Manufacturing Systems for Industry of the Future (SOHOMA2024)**, organized by the Augsburg Technical University of Applied Sciences (Germany), in collaboration with University Politehnica of Bucharest (CIMR - Research Centre in Computer Integrated Manufacturing and Robotics), Polytechnic University Hauts-de-France (LAMIH - Laboratory of Industrial and Human Automation Control, Mechanical Engineering and Computer Science) and Polytechnic Institute of Bragança (CeDRI - Research Centre in Digitalization and Intelligent Robotics).

The main objective of SOHOMA workshops is to foster innovation in and developments towards a data-driven Industry of the Future that seamlessly integrates engineering and operations of manufacturing, logistics systems and (dynamic) supply chains. In this context, the workshop focuses on concepts, methods, and solutions for the digital transformation of manufacturing through service orientation in holonic and agent-based control with distributed artificial intelligence.

The theme of the SOHOMA 2024 Workshop is **"Industrial Artificial Intelligence in the data-driven Industry of the Future: Models, Architectures, and Applications"**. In this edition, the workshop focuses on exploring the intricacies of cross-enterprise data sharing and the strategic use of artificial intelligence (AI) within manufacturing systems. Thereby, the workshop focuses on (but is not limited to) methods, tools, and architectures for the value-adding application and integration of AI in industrial production and logistics for the transformation to a data-driven industry of the future.

Workshop Topics

- Modelling of discrete event dynamic industrial systems
- Multi-Agent Systems and control with distributed intelligence in industry
- Product intelligence: concepts, architectures, implementation, use cases
- Holonic Manufacturing Execution Systems • Intelligent Manufacturing Systems
- Dynamic and green infrastructure for sustainable manufacturing
- Mixed production planning and scheduling
- Virtual factory, networked supply chains and customer-oriented logistics
- Manufacturing Integration Framework
- Digital Twins with resource and product virtualization
- Edge and Fog Computing for Industrial Internet of Things
- Industrial Internet of Things / Physical Internet
- Cloud Manufacturing and resource virtualization
- Servitization and Product-Service Systems
- Swarm intelligence in manufacturing
- Multi-robot systems in manufacturing, control, and applications
- Bio-inspired theories for smart manufacturing and evolutionary robotics
- Big Data streaming and the contextual enterprise
- Artificial intelligence and machine learning in large scale manufacturing
- Predictive resource health monitoring and maintenance
- Cyber-Physical Production Systems and Industry 4.0
- Manufacturing as a Service, product design for open manufacturing
- Universal Manufacturing: models, cloud manufacturing, enterprise specifications
- Digitalization of supply chains and Logistics 4.0
- Reconfigurable manufacturing systems
- Humans-Systems integration in Industry 4.0 environments
- Ethics of autonomous intelligent systems

Paper Submission

Papers must be submitted in via the submission menu on the SOHOMA 2024 website. The paper content must be original work not published or being considered elsewhere. The workshop language is English. Papers are limited to 12 pages formatted in the Springer book series "Studies in Computational Intelligence" according to the instructions given on the workshop's website.

All papers accepted and duly presented at the workshop will be included in the SOHOMA 2024 post-conference proceedings volume published in the Springer series "Studies in Computational Intelligence", indexed Web of Science, Scopus, ISI Proceedings and DBLP Computer Science. Selected, extended papers will be proposed for publication in special issues of journals representative for the workshop's domain.

Important Dates

Full paper submission May 31, 2024 **extended to June 8, 2024**
Notification of acceptance July 15, 2024
Early-bird registration until August 30, 2024
Final paper submission September 8, 2024
SOHOMA 2024 Workshop September 26 - 27, 2024

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Registration Fees

| | Before August 30, 2024 | After August 31, 2024 |
|-----------|------------------------|-----------------------|
| Students* | 200 € | 300 € |
| Academia | 350 € | 450 € |
| Industry | 400 € | 500 € |

* Students must provide a valid university ID