

**THE 7TH IEEE INTERNATIONAL
CONFERENCE ON INDUSTRIAL CYBER-
PHYSICAL SYSTEMS
ICPS 2024
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Special Session on

**“Harnessing Multi-Agent Systems for the Realization of
Industrial Cyber-Physical Systems”**

Organized by

José Barbosa, jbarbosa@ipb.pt, Polytechnic Institute of Bragança
Paulo Leitão, pleitao@ipb.pt, Polytechnic Institute of Bragança
Bilal Ahmad, b.ahmad@warwick.co.uk, University of Warwick
André Rocha, andre.rocha@uninova.pt, UNINOVA

Call for Papers

This special session aims to explore the role of multi-agent systems (MAS) in driving the implementation of industrial cyber-physical systems (CPS). Multi-agent systems have emerged as a promising approach to address the challenges of designing and implementing complex CPS. This session will provide a platform for researchers and practitioners to share their latest research findings, exchange ideas, and discuss future directions in this area. The motivation behind this special session is to highlight the importance and latest advances in MAS in driving the implementation of industrial CPS. MAS is considered to be highly effective in addressing various challenges associated with design and implementation of complex CPS, such as scalability, adaptability, and fault tolerance. Area. This special session will provide a unique opportunity to exchange ideas, share experiences, and discuss future directions in this area by bringing together researchers and practitioners from academia, industry, and government.

Topics of interest include, but are not limited to:

- Implementation of ICPS using MAS as a technology
- MAS in education
- Application of multi-agent system in digital twins
- Role of Ethics in MAS development
- Algorithms for MAS cooperation/collaboration
- Multi-Agent Systems development platforms
- Integration of MAS with Artificial Intelligence algorithms
- MAS applications in Edge, Fog and Cloud computing
- Simulation using multi-agent systems
- Complex modelling
- Distributed control using MAS
- MAS for system optimization
- Modelling and conceptualization of agent-based ICPS

The special session is sponsored by IES TC on Industrial Agents.