

**Call for Papers for the Special Session on**

**Intelligent Control, Learning, and Robotics for Flexible and Resilient Industrial Automation**

**Organized and co-chaired by**

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**Technical Outline of the Session and Topics**

The rapid evolution of digital technologies and industrial control systems is accelerating the transition toward smarter, more autonomous, and resilient production environments. Modern industries increasingly rely on intelligent automation to improve efficiency, maintain product quality, and ensure safe interaction between humans, machines, and robotic systems. Integrating advanced control strategies with machine learning and data-driven analytics plays a key role in enabling adaptive, reliable, and cost-effective industrial operations. This special session aims to bring together researchers and industry practitioners to discuss recent advances in control theory, robotics and machine learning that support the development of next-generation industrial automation. The session will highlight both theoretical innovations and practical implementations that enhance system performance, reliability, and safety while addressing the challenges of complex and dynamic industrial environments.

**Topics of the session include, but are not limited to:**

- Intelligent and advanced control methods for industrial automation
- Modelling, simulation and digital twin for robotic and industry systems
- Machine learning applications in industrial processes and robotics
- Robot sensing, perception, guidance, navigation, mapping, and localization
- Human-robot interaction and collaborative robotics
- Computational intelligence and robust decision-making
- Flexible and adaptive manufacturing systems, bio-signal processing and understanding
- Monitoring, analytics, and decision support for industry

**Timeline for Authors**

All the instructions for paper submission are available on the conference website. Please visit [www.iecon2026.org](http://www.iecon2026.org) or scan the QR code for the timeline.

