ETFA 2025 Porto

Portugal 9-12 September

30th IEEE International Conference on Emerging Technologies and Factory Automation

Call for Papers - WS02
Empowering Industry 5.0: Adaptive Planning, Learning, and Control in Human-Robot Collaboration

Organizers and Chairs

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FOCUS The rise of Industry 5.0 marks a fundamental shift in industrial automation, placing human operators at the core of intelligent and adaptive work cells. This new paradigm redefines the way humans and robots collaborate, moving beyond efficiency-driven automation to create safer, more flexible, and human-aware manufacturing environments. However, achieving seamless human-robot collaboration presents numerous engineering and research challenges, requiring innovative approaches in planning, learning, and control.

This workshop explores the next generation of collaborative robotics, focusing on advanced methodologies that enhance interaction between humans and robots.

Bringing together leading experts from academia and industry, the workshop will showcase new research, and real-world applications. Through technical presentations, case studies, and interactive discussions, participants will gain valuable perspectives on unlocking the full potential of collaborative robotics in fostering a more sustainable, and human-centered future.

Workshop Program Committee

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TOPICS

- Human-Robot Collaboration
- Safety in Human-Robot Collaboration
- Human-Aware Planning, Learning, and Control
- Task and Motion Planning in HRC
- Human Factors and Human-in-the-Loop
- Human Modeling, Monitoring, and Digital Twins
- Generative AI Techniques for Human-Robot Collaboration
- Explainable Robot Decision Making
- Smart Perception for HRC applications
- Multi-Agent coordination for HRC
- Ergonomics, Trust, and Human-Centered Automation

- **AIM** The aim of the conference is to bring together the international community to present the latest research results, share new ideas and engineering breakthroughs, and discuss state-of-the-art challenges and future directions in technology and innovation in the broad domain of Automation with a focus on Industrial and Factory Automation.

- **WORKSHOP FORMAT**
  Half day Workshop, based on solicited research papers.
  These papers must report significant and innovative research and development results that will have a long-term impact on the field of research, with the potential for implementation. The final manuscripts must comply with the formatting requirements for ETFA 2025, with a page limit of 8 pages. The working language of the conference is English. For submission rules, please refer to the Author's Instruction on the conference website.
  Accepted, registered, and presented papers will be copyrighted by IEEE and published in the conference proceedings. The proceedings will be available in the IEEE Xplore Digital Library. The final manuscript must be accompanied by a Workshop registration fee payment proof and it is mandatory that at least one author attends and presents the paper at the Workshop. Failure to adhere to these guidelines may result in paper exclusion from post-conference distribution via IEEEXplore by the ETFA 2025 Organizing Committee.
  For any detail regarding registration to the Workshop, please refer to the ETFA 2025 website.

- **AUTHOR'S SCHEDULE (2025)**

  - Solicited Workshop papers
    May 30 Submission deadline   June 20 Acceptance notification   July 4 Deadline for final manuscripts

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