CALL FOR PAPERS - SPECIAL SESSION

"Advanced Technologies for Industry 5.0 and Healthcare Applications"

for CODIT 2026

July 13-16, 2026 ▪ Bari, Italy

Session Co-Chairs:

- Prof. Nicola Epicoco, LUM "Giuseppe Degennaro" University, Casamassima, Italy (email: epicoco@lum.it) – *IEEE Member*
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Session description:

The rapid evolution of Industry 5.0 is driving the need for intelligent, resilient, sustainable, and human-centered technological ecosystems, which is particularly crucial in healthcare applications. Advanced electronic and IT devices now operate alongside digital twins, autonomous control systems and AI-driven applications, enabling high levels of monitoring systems, rapid sensor prototyping, automation and adaptability. At the same time, the increasing complexity of interconnected cyber-physical systems exposes new vulnerabilities, demanding innovative approaches to Cybersecurity 5.0 and hardware-level protection. In healthcare applications, multimodal AI, innovative devices, biomedical robotics, and explainable decision-support systems represent relevant aspects for delivering safe and personalized assistance. This special session addresses the overarching challenge of integrating these technologies into trustworthy, interoperable, and efficient frameworks capable of supporting next-generation industrial processes and medical environments while ensuring transparency, security, and human well-being. The principal aim is to bring together researchers and practitioners to explore innovative solutions that advance Industry 5.0 and Healthcare 5.0 frameworks.

Main goals of the special session include fostering the development of next-generation electronic and IT systems, promoting the use of digital twins and autonomous control for enhanced efficiency and addressing emerging cybersecurity and hardware threats. It also seeks to highlight breakthroughs in AI-driven industrial applications, energy harvesting, robotics, and multimodal diagnostic systems. By integrating these perspectives, the session intends to define new pathways for creating novel interoperable ecosystems that improve both industrial performance and healthcare outcomes.

The topics of interest include, but are not limited to:

- Electronic and IT advanced devices
- Systems modelling, Digital Twins 5.0, and circuit simulation
- Intelligent materials for advanced sensor prototypes
- Energy harvesting for biomedical and industrial applications
- Cybersecurity 5.0 and Hardware Attacks
- Healthcare 5.0 and assisted biomedical robotics
- Small integrated automatic and control systems
- AI-driven applications for Industry 5.0
- Multimodal AI for diagnostics, monitoring, and decision support
- Explainable and Trustworthy AI for human-centered systems
- Optimization for industrial and healthcare applications

SUBMISSION

Papers must be submitted electronically for peer review through PaperCept by **February 07, 2026:** **http://controls.papercept.net/conferences/scripts/start.pl**. In PaperCept, click on the **CoDIT 2026 link "Submit a Contribution to CoDIT 2026" and follow the steps.**

IMPORTANT: All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).

DEADLINES

February 07, 2026: deadline for paper submission

April 30, 2026: notification of acceptance/reject

May 20, 2026: deadline for final paper and registration