CALL FOR PAPERS - SPECIAL SESSION

"AI, Digital Twins, and Bio-Inspired Intelligence for Smart and Sustainable Healthcare Systems"

for CODIT 2026
July 13-16, 2026 ▪ Bari, Italy

Session Co-Chairs:

Prof. Inès Benjaafar, ESCT, University of Manouba, Tunisia- (Ines.benjaafar@esct.uma.tn)

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Session description:

This special session deals with exploring how artificial intelligence, digital twins, and bio-inspired optimization can transform healthcare systems into smarter, more adaptive, and sustainable environments. Healthcare is evolving toward data-driven, patient-centered ecosystems where IoT, edge computing, and AI converge to enable real-time monitoring, predictive analytics, and personalized treatment.

The goal is to invite contributions that bridge operational research, AI, and biomedical engineering to tackle key challenges such as hospital logistics, emergency response, and resource management, while addressing ethical and privacy constraints.

By fostering interdisciplinary collaboration between engineers, computer scientists, clinicians, and policymakers, this session seeks to shape the next generation of intelligent, resilient, and sustainable healthcare networks.

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

- Bio-inspired and AI-based optimization models for hospital and healthcare logistics
- Digital twins for real-time patient and resource management
- Multi-objective scheduling for operating rooms and emergency units
- Predictive analytics and reinforcement learning for clinical decision support
- Edge/fog computing architectures for smart healthcare environments
- AI-driven telemedicine, homecare, and remote patient monitoring
- Integration of IoT and wearable sensors for health data streams
- Privacy-preserving and ethical AI models in medical applications
- Intelligent epidemic forecasting and health crisis management
- Green and sustainable healthcare systems (energy, waste, and transport)
- Interoperability and data governance frameworks for healthcare AI

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