

IFKAD
International Forum on Knowledge Asset Dynamics

28 - 30
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IFKAD 2027

22nd International Forum on Knowedge Asset Dynamics

University of Basilicata, Matera, Italy

The Ecology of Knowledge in the AI Era

CALL FOR EXTENDED ABSTRACTS - IFKAD 2027
www.ifkad.org

Special Track n.: 03

Electronics, Robotics and AI: Advances in Sustainable Industry/ Healthcare 6.0 Ecosystem

Description

The new era of Industry and Healthcare 6.0 is addressed on economic and social sustainable technologies improving ecosystems and gaining digital knowledge for powerful use of the AI. Advanced electronics and IT devices in the technology transition operate alongside digital twins, autonomous control systems and AI-driven applications, enabling high levels of monitoring systems, rapid sensor prototyping, automation and production ecosystem adaptability. At the same time, the increasing complexity of interconnected cyber-physical systems exposes new vulnerabilities, demanding innovative approaches to cybersecurity and hardware-level protection. In healthcare applications, multimodal AI, innovative devices, biomedical robotics, telemedicine, image processing 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 sustainable industrial processes and medical environments while ensuring transparency, security, and human well-being.

This special session aims to bring together researchers and practitioners to explore innovative solutions that upgrade Industry 5.0 and Healthcare 5.0 into 6.0 frameworks properly addressing AI on sustainable applications. 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, advanced rehabilitation, and multimodal diagnostic systems. By integrating these perspectives, the session intends to define new pathways for creating innovative sustainable ecosystems that improve both industrial performance and healthcare outcomes.

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

- Electronic and IT advanced devices
- Advanced cyberphysical systems
- Advances in rehabilitation
- AI image processing
- Advanced IoT and IT technologies in distributed systems
- Digital Twins 5.0/6.0 and circuit simulation
- Intelligent materials for advanced sensor prototypes
- Energy and manufacturing 5.0/6.0
- Digital twin in optics
- Energy harvesting for biomedical and industrial applications
- Cybersecurity 5.0/6.0 and Hardware Attacks
- Healthcare 5.0/6.0 and assisted biomedical robotics
- Small integrated automatic and control systems
- AI-driven applications for the upgrade of Industry 5.0 in 6.0 environments
- Multimodal AI for diagnostics, monitoring and decision support
- Explainable and Trustworthy AI for human-cantered systems
- Verticalization of technology and process mining

Indicative Topics

- Transition from Industry/Healthcare 5.0 to Industry/Healthcare 6.0;
- Use of sustainable technologies (accessible technologies) to upgrade processes;
- AI role in modern Industries/Healthcare scenarios;
- Upgrade of Digital Twin (DT) models based on AI integration;
- Verticalization of electronic/mechatronic technologies in advanced industrial/healthcare processes.

Keywords

Advances in Electronics, Mechatronics and IT; Sustainable Technology and Processes; Industry/Healthcare 6.0; Artificial Intelligence Upgrade; AI-Digital Twin.

Organizers

Alessandro Massaro – LUM University, Italy
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Giuseppe Loseto – LUM University, Italy
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Follow this link to see the Special Track details on IFKAD website ››

Guidelines and Requirements

Researchers wishing to contribute are invited to submit an EXTENDED ABSTRACT (in MS Word format) of min 500 and max 1000 words, not later than **22 JANUARY 2027**. All submission must be done via dedicated form on our website. The abstract should address theoretical background, research objective, methodology, and results in terms of expected contribution to Knowledge Management theory and practice.
Authors are required to follow the guidelines and templates available on IFKAD website: www.ifkad.org

Important Dates

22 January 2027 – Extended Abstract Submission Deadline
19 February 2027 – Acceptance Notification to Authors
16 April 2027 – Early-Bird Registration & Payment Deadline
23 April 2027 – Full Paper Submission Deadline
28 May 2027 – Regular and PhD Students Registration & Payment Deadline
12 June 2027 – Conference Program Release
28-30 June 2027 – Conference sessions *(to be considered as 3 full working days)*

Please note that all above indicated dates are **CUT-OFF** deadlines. There will not be an extention to any of these.

Further Information

For any information related to the conference and/or any special track, please see the event website at www.ifkad.org or contact the conference manager at **info@ifkad.org**