



10th International Conference on Control,
Decision and Information Technologies

July 01 - 04, 2024

Valletta, Malta

CALL FOR PAPERS - SPECIAL SESSION

Advancements in Artificial Intelligence enabled Prognostics and Health Management

for **CODIT 2024, July 01-04, 2024** ▪ Valletta, Malta

Co-Chairs

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Description and topics

Industry 4.0 has ushered in an era of smart manufacturing and production, where systems are becoming increasingly interconnected and intelligent. This transformation is largely driven by the widespread use of Internet of Things (IoT) technology, which provides access to valuable data for optimizing processes efficiently and cost-effectively. Prognostics and Health Management (PHM) is vital in this context, as it involves the development of methods and tools that continuously monitor systems, detect any anomaly issues, diagnose faults, predict potential failures, and make informed decisions. These strategies are essential for improving system reliability, minimizing downtime, and reducing operational costs.

In practice, the important growing of industrial systems complexity poses many challenges for fault detection, diagnostic, prognostics, and maintenance functionalities. Indeed, analyzing multimodal data sources requires new powerful methods for acquisition, storage, fusion, and online processing of big data. Complex system structures and behaviors need to be studied, analyzed and modeled in a thoughtful and intelligent way. The merging of digital and physical worlds leads to an increasing number of options to weigh in the optimization of the entire production and maintenance strategy. Therefore, this session aims to provide a platform for discussing advanced techniques in AI-driven PHM. We invite you to join us at CoDiT 2024 to explore innovative solutions, share insights, and shape the future of prognostics and health management.

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

- Data acquisition, processing, fusion and analysis.
- Multimodal learning for fault detection, diagnostics and prognostics.
- Physics informed machine learning in PHM.
- Digital-twin applications in predictive maintenance.
- Degradation modeling, health assessment, and remaining useful life estimation.
- Decision support for asset health management.
- Condition-based and predictive maintenances.
- Case studies on prognostics and health management.

SUBMISSION

The authors are kindly invited to submit their contributions before **February 03, 2024** through the CoDiT 2024 submission website: <https://codit2024.com/index.php/submission>

Regular papers are limited to 6 pages and short papers (Work in Progress) to 4 pages, both adhering to the standard IEEE conference double-column format.

DEADLINES

February 03, 2024: deadline for paper submission

April 14, 2024: notification of acceptance/reject

May 10, 2024: deadline for final paper and registration

Keywords:

Prognostics and Health Management;
Predictive Maintenance; Artificial Intelligence;
Deep learning; Machine learning; Multimodal
learning; Physics-Informed Machine Learning.