IEEE International Conference on Industrial Technology (ICIT 2026)

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http://icit2026.ieee-ies.org

Call for Papers - Special Session on

Data-driven fault diagnosis and fault-tolerant control for industrial systems

Organized and co-chaired by:

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Technical Outline of the Session and Topics:

The growing complexity of modern industrial and intelligent systems has intensified the focus on data-driven solutions to bolster safety and operational reliability. While these systems generate immense volumes of process data, a failure to effectively utilize this resource means missed opportunities for critical insights. Simultaneously, the rise of industrial big data presents persistent challenges: theoretical gaps and complex application scenarios continue to hinder the design of effective fault diagnosis systems and fault-tolerant control strategies. Against this backdrop, this special session emphasizes cutting-edge data-driven and machine learning approaches for fault diagnosis and fault-tolerant control in complex industrial systems. We aim to create a collaborative platform for researchers and industry professionals to share groundbreaking advancements, including theoretical breakthroughs, algorithmic innovations, and successful real-world applications. By fostering dialogue between academia and industry, the session seeks to bridge the gap between emerging methodologies and their practical implementation, ultimately advancing the resilience and intelligence of next-generation industrial systems.

Within this scope, topics of interest include, but are not limited to:

- Data-driven and intelligent algorithms for fault diagnosis
- Data-driven monitoring of performance degradation
- Intelligent learning methods for system monitoring
- Data-driven modelling of complex faults and failures
- Data-driven design of fault-tolerant controllers
- Data-driven residual generation and evaluation
- Applications to complex industrial systems
- Other topics that are closely relevant to the theme

Supported by: **IEEE IES TC "Data Driven Control and Monitoring"**

Author's schedule: *Same as the ICIT Conference*

All the instructions for paper submission are included on the conference website: https://icit2026.ieee-ies.org