IEEE Conference on Industrial Cyber-Physical Systems (ICPS)

Emden, Germany, 12-15 May 2025

https://icps2025.ieee-ies.org

Call for Papers - Special Session on

Advances in Data-Driven Fault Diagnosis and Fault-Tolerant Control for Industrial Systems

Organized and co-chaired by:

Zhiwen Chen	Central South University, China
Hao Luo	Harbin Institute of Technology, China
Chao Cheng	Changchun University of Technology, China

Technical Outline of the Session and Topics:

Due to the ever-increasing demands on product quality and economic benefit, the degree of automation in modern industrial cyber-physical systems is continuously growing. This fact calls for advanced fault diagnosis and fault-tolerant control (FDFTC) methodologies using offline, stored, or online process data. This special session is to provide a forum for researchers and industrial engineers to exchange their latest results and discuss the challenges and possible future trends in data-driven FDFTC techniques. The papers to be accepted in this Special Session are expected to provide the latest developments in data-driven approaches, especially new theoretical results with practical applications.

Topics:

- Time series/image/graph data-based monitoring and fault diagnosis.
- Data-driven predictive maintenance.
- Monitoring and fault diagnosis with deep learning.
- Machine learning-aided process monitoring and fault diagnosis.
- Model-free or data-driven fault-tolerant control designs and applications.
- Data-driven performance evaluation, diagnosis, decisions, and their applications.
- Data-driven optimization methods and applications.
- Real-time model-free learning methods and practical applications.

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

IES Technical Committees supporting the special session: Data-Driven Control and Monitoring

All the instructions for paper submission are included on the conference website: icps2025.ieee-ies.org