

34th IEEE International Symposium on Industrial Electronics (ISIE 2025)

17-20 June 2025

Toronto, Canada

Special Sessions on

“Advances in Fault Diagnosis and Tolerance Strategies for Intelligent Transportation Systems”

Organized by

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Call for Papers: Special Session

Intelligent Transportation Systems (ITS) are pivotal to the evolution of smart mobility and autonomous driving, demanding high standards of safety, reliability, resilience, comfort, safety, and efficiency. Fault diagnosis and fault-tolerant control (FTC) play essential roles in maintaining these standards. This special session will focus on recent advances in methods, algorithms, and practical applications for fault diagnosis and FTC in ITS, aiming to bring together researchers and industry experts to exchange ideas, methodologies, and case studies. Papers accepted to this session will contribute to both theoretical development and real-world applications, enhancing the overall reliability and safety of ITS through state-of-the-art techniques. Topics of interest include, but are not limited to:

- Fault diagnosis for electrical vehicles
- Fault tolerant control for electrical vehicles
- Fault Detection and Isolation (FDI) Techniques for ITS
- Fault-Tolerant Control (FTC) Strategies in Autonomous and Connected Vehicles
- Model-Based and Data-Driven Approaches for Fault Diagnosis
- Cyber-Physical Security and FTC in Intelligent Transportation Systems
- Sensor and Actuator Fault Diagnosis in Advanced Driver Assistance Systems (ADAS)
- Quantum Computing, Blockchain, and Explainable AI for Fault Diagnosis and FTC
- Dataset for cybersecurity strategies

We kindly request the contributors to confirm your interest in participating by reaching out to one of the session organizers on or before **November 26, 2024**. In your response, please include the following information:

- A brief summary of your proposed paper (this will help us plan and organize the sessions effectively),
- A list of authors,
- The proposed title of your paper.

We look forward to your participation and appreciate your timely response.

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Deadlines (following the ISIE 2025):

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| • Special Session Paper Submission | March 31, 2025 |
| • Paper Submission Acceptance Notification | April 15, 2025 |
| • Camera-ready paper submission | May 14, 2025 |

Accepted and presented papers will be published in the conference proceedings, and submitted for inclusion in IEEE Xplore on-line digital library.

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