CALL FOR PAPERS
SPECIAL SESSION ON

Advanced vehicle dynamics control, fault detection and diagnosis

for ICCAD 2026
July 7-9, 2026, Lisbon, Portugal

Session Co-Chairs:
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Session description:

This special session deals with the problem of ensuring safety, reliability, and performance in modern vehicles through advanced control strategies and intelligent monitoring methods. As vehicles become increasingly automated, connected, and electrified, the complexity of their dynamics grows, making them more sensitive to uncertainties, component faults, and harsh operating conditions. Addressing these challenges requires new approaches to modelling, control, fault detection and isolation (FDI), and fault-tolerant control (FTC) that can operate in real time and under demanding constraints.

The session focuses on recent methodologies, algorithms, and applications that enhance vehicle stability, comfort, and safety by combining model-based, data-driven, and hybrid techniques. Contributions discussing robust estimation, diagnosis of critical subsystems, and integrated control architectures capable of handling faults and unknown disturbances are particularly encouraged.

The goal is to bring together researchers and practitioners from academia and industry to present the latest advances, exchange ideas, and discuss emerging trends in vehicle dynamics control, fault diagnosis, and fault-tolerant systems.

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

- Advanced vehicle dynamics modelling, estimation, and control.
- Fault detection, isolation, diagnosis, and health monitoring for vehicle subsystems
- Fault-tolerant control strategies for steering, braking, suspension, and powertrain systems
- Data-driven and AI-based methods for diagnosis and predictive maintenance
- Robust and adaptive control under uncertainties and varying driving conditions
- Integrated control architectures for autonomous and connected vehicles
- Experimental validation, real-time implementation, and automotive applications

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SUBMISSION

Papers must be submitted electronically for peer review by: **January 31, 2026**
https://www.iccad-conf.com/submission/

All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).