

**IEEE INTERNATIONAL CONFERENCE ON
ADVANCED MOTION CONTROL (AMC 2026)**

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**Learning-based, Attack/Fault Detection, and Resilient
Control for Connected and Intelligent Vehicles**

organized by

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Call for Papers

Vehicle connectivity is widely regarded as an important and emerging feature. However, from the application perspective, there are still some challenges among which cyber security and fault detection form a critical concern. To achieve security requirements, attack/fault detection and resilient control are essential for the development of connected vehicles. With the continuous improvement of learning-based modeling and control, it is beneficial to embrace these advanced techniques to substantially improve system design and control.

The focus of this invited session will be on the new techniques and advances in learning-based methods, modeling, attack detection, attack estimation, signal processing, and resilient control of connected and intelligent vehicles. This invited session provides a platform for researchers to share their most recent development in the directions of attack/fault detection and resilient control.

Topics of the Session

- o Extensible architectural framework of attack detection and resilient control
- o Learning-based nonlinear system and cyber modeling
- o Learning-based control theory
- o Lateral and longitudinal simultaneous control
- o Learning-based attacks recovery mechanisms
- o Learning-based obstacle avoidance of multi-agent vehicles
- o Communication topology optimization

- o Learning-based vehicle merging/diverging resilient control
- o Experimental studies
- o Modeling and control of multi-agent vehicles
- o High-precision vehicle motion control

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