



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 Cyber-Physical Security of Networked Control Systems

Organized and co-chaired by:

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Technical Outline of the Session and Topics:

Networked control systems (NCSs) are control systems where feedback loops are linked via communication networks, enabling efficient data exchange between sensors, controllers, and actuators. NCSs are highly valued for their scalability and adaptability while enabling real-time control in complex environments. However, the use of open or wireless communication channels introduces significant security risks, making them vulnerable to a range of cyber threats, such as DoS, eavesdropping, and integrity attacks. This special session aims to gather experts worldwide to discuss the latest research on NCS security, focusing on vulnerability assessments and the development of robust countermeasures against security threats.

Topics:

- Vulnerability Analysis of NCSs in Unreliable Networks
- Detection, Identification, and Isolation of Integrity Attacks
- Resilient Estimation and Control Design
- Advanced Eavesdropping Techniques and Privacy Preservation
- Secure Communication Protocols for Real-Time Control
- Impact of Network Delays and Packet Loss on NCS Security
- Game-Theoretic Strategies for Defense Against Cyber-Attacks
- Learning-based Secure Estimation and Control

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