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Call for Papers for the Special Session on

Secure EV Infrastructure and Renewable Energy Integration

Organized and co-chaired by

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Technical Outline of the Session and Topics

The rapid growth of electric vehicles (EVs) and renewable energy systems has increased the reliance on grid-connected power electronic converters and communication networks. This digitalization expands the cyber-attack surface, making EV chargers, V2G interfaces, and renewable energy inverters vulnerable to cyber-physical threats. Successful attacks can disrupt grid stability, compromise user safety, and impact large-scale energy operations. Ensuring secure data exchange, resilient control, and robust protection mechanisms is therefore essential. This topic is significant and timely, as future converter-dominated grids will require strong cybersecurity frameworks to maintain reliability, trust, and safe operation under growing electrification and renewable integration.

Topics of the session include, but are not limited to:

- Cybersecurity of EV charging infrastructure and V2G systems
- Secure communication and control of converter-dominated grids
- Cyber-physical threat detection and mitigation in renewable energy integration
- Resilient control strategies for power electronic converters under attacks
- Protection schemes and secure monitoring for smart grids and EV ecosystems
- Standards, protocols, and privacy challenges in EV–grid interaction
- AI and data-driven approaches for cyber resilience in energy systems

Timeline for Authors

All the instructions for paper submission are available on the conference website. Please visit www.iecon2026.org or scan the QR code for the timeline.