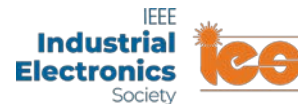




**IEEE International
Conference on Power
Electronics and
Energy (ICPEE 2025)**



Special Session 07 (SS 07)

SS 07: Smart Power Electronics and Intelligent Control for Renewable Microgrids

Organized and co-chaired by:

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Call for Papers

Technical Outline of the Session:

This Special Session focuses on the latest advancements in smart power electronics and intelligent control strategies to enhance the performance, reliability, and scalability of renewable-integrated microgrids. With the increasing penetration of distributed energy resources, advanced converter topologies and AI-driven control algorithms are essential for managing bidirectional power flow, maintaining voltage/frequency stability, and optimizing energy management. The session will feature innovations in wide-bandgap devices, real-time control schemes, fault-tolerant designs, and converter applications in electric mobility and space-based microgrids. It aims to bring together researchers and industry experts to explore solutions that accelerate the global transition to sustainable, resilient, and intelligent power systems.

Topic of the Session includes, but are not limited to:

- ❖ AI-Enabled Control Strategies for Inverter-Dominated Microgrids
- ❖ High-Efficiency Power Converter Topologies for Renewable Integration
- ❖ Bidirectional Converters for Energy Storage and EV Applications (V2G/G2V)
- ❖ Fault-Tolerant and Resilient Converter Designs for Harsh Environments
- ❖ Wide-Bandgap Devices and High-Frequency Power Electronics in Microgrids

Important Dates:

Special Session Paper Submission Due Date: 15.08.2025

Notification of Paper Acceptance Date: 31.08.2025

Camera Ready Paper Submission Due : 15.10.2025

Author guidelines areas per regular paper submission.

[IEEE Template](#)

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<https://icpee.kiit.ac.in/special-sessions/>

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