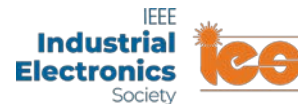




**IEEE International
Conference on Power
Electronics and
Energy (ICPEE 2025)**



Special Session 09 (SS 09)

SS 09: Intelligent Computing, Electronic Systems and Hybrid & Smart Microgrids

Organized and co-chaired by:

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Call for Papers

Technical Outline of the Session:

This special session aims to explore recent advancements, challenges, and future directions in renewable energy and microgrid technologies. The session will focus on the following: -

- Integrating AI and smart electronics in hybrid energy systems.
- Covers intelligent control of microgrids using ML and optimization techniques.
- Explores low-power VLSI and embedded solutions for energy management.
- Discusses power electronics for efficient conversion and system stability.
- Highlights IoT and edge computing for real-time monitoring and control.
- Examines intelligent battery and energy storage management systems.
- Includes modeling tools like MATLAB/Simulink and digital twins.
- Emphasizes secure communication protocols for smart microgrids.
- Shares practical challenges and case studies in hybrid systems.
- Aims to bridge computing, electronics, and energy for smarter grids.

The objective is to bring together researchers, industry professionals, and policymakers to discuss the latest developments and foster collaboration in this critical domain.

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

- ❖ AI/ML algorithms for energy/ load forecasting and Energy Management.
- ❖ Decentralized and hierarchical control strategies for hybrid microgrids.
- ❖ Power electronics for efficient energy storage integration and Intelligent battery management systems (BMS).
- ❖ Low-power VLSI design for energy monitoring and control
- ❖ Cybersecurity for smart microgrid communication systems

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

Submission Portal

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

For queries, email: icpee.kiit@gmail.com