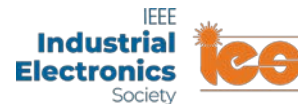




**IEEE International
Conference on Power
Electronics and
Energy (ICPEE 2025)**



Special Session 11 (SS 11)

SS 11: Artificial Intelligence Meets Green Innovation: Emerging Sustainable Technologies for Future Electrical Networks

Organized and co-chaired by:

Organizer 1:

Name: Dr. Nirmalya Mallick
Affiliation: Sanaka Educational
Trust's Group of Institutions
Durgapur, India
Email id:
nirsayo2109@gmail.com

Organizer 2:

Name: Dr. Soumen Biswas
Affiliation: Sanaka Educational
Trust's Group of Institutions
Durgapur, India
Email id:
soumeniitkgp10@gmail.com

Organizer 3:

Name: Dr. Arnab Ghosh
Affiliation: NIT
Rourkela
Rourkela, India
Email id:
ghosha@nitrkl.ac.in

Organizer 4:

Name: Dr. Rajib Banerjee
Affiliation: School of Computing,
UPES, Dehradun, India
Email id:
rajib.banerjee@ddn.upes.ac.in

Call for Papers

Technical Outline of the Session:

The AIGREEN blends artificial intelligence (AI) with green innovation across the electrical networks. This special session invites contributions on AI-augmented renewable prediction, optimal storage scheduling, autonomous micro-grid control, and demand-side management; data-driven predictive maintenance, and resilience; blockchain technology, and edge/ IoT systems to perform secure and transparent settlement of energy trades; quantum and advanced optimization techniques to develop carbon-free planning; and cyber physical security methods to protect sustainable grids. By combining theoretical advances with real-world case studies, the session seeks to showcase scalable, climate-resilient, and economically viable pathways that merge machine learning, power engineering, and environmental science, promoting interdisciplinary collaboration towards net-zero electric infrastructures.

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

- ❖ AI-Enhanced Renewable Energy Forecasting and Integration
- ❖ Intelligent Energy Storage and Grid Management Systems
- ❖ Sustainable Smart Grid Infrastructure with IoT and Edge Computing
- ❖ AI-Driven Demand Response and Energy Efficiency
- ❖ Emerging Technologies for Carbon-Neutral Power 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