



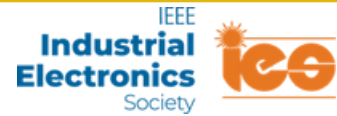
2025 IEEE 4th International Conference

on

Smart Technologies for Power, Energy and Control (STPEC 2025)

December 10-13, 2025

Department of Electrical and Electronics Engineering,
National Institute of Technology Goa, Goa, India



Special Session 04 (SS04)

Low Power Converter and Electronics Solutions for Advanced Applications

Organized and co-chaired by:

- Dr. Vivekanandan S, NIT Silchar, Assam, India
- Dr. Ballimidi Mallikarjuna, NIT Silchar, Assam, India
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Call for Papers

• Technical Outline of the Session:

This special session focuses on recent advancements and innovative solutions in low-power electronics and converter technologies tailored for advanced and emerging applications. The need for optimized power management becomes critical as the demand for energy-efficient systems grows across sectors such as edge computing, wearable devices, smart sensors, and next-generation communication systems. The session aims to bring together researchers, engineers, and industry professionals to share insights on novel circuit designs, control strategies, materials, and system-level integrations that enable high performance with minimal power consumption.

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

- Design of ultra-low power DC-DC and AC-DC converters
- Power management ICs for edge and mobile systems
- Energy harvesting and power conversion for IoT devices
- Low power techniques for mixed-signal and analog circuits
- Adaptive and intelligent power regulation methods
- Wide bandgap devices and their role in efficiency improvements
- Integration of power electronics in AI and data-driven systems
- Thermal-aware low power design strategies
- Hardware security considerations in low power electronics
- Power conversion challenges in biomedical and wearable electronics
- Power Electronics Converter related to low power applications



[IEEE Template](#)

• Important Dates:

- Special Session Paper Submission Due : June 15, 2025
- Notification of Paper Acceptance : July 31, 2025
- Camera Ready Paper Submission Due : August 31, 2025
- Regular Registration Due : October 30, 2025

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