2026 IEEE 5th International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2026)

9-11 October 2026
Government College of Engineering Kannur, Kannur, Kerala, India
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Call for Special Session Papers IEEE SPICES 2026

2026 5th IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2026) is a flagship biennial conference of the IEEE Kerala Section, jointly organized by Government College of Engineering Kannur, to be held during 9–11 October 2026. The theme of the conference is "***AI, Smart Energy, and Communication Technologies for Sustainable Development***."

Special Sessions (SS) provide a focused forum for presenting innovative research, emerging trends, and recent breakthroughs in specialized and advanced topics that may not be adequately covered in the regular conference tracks.

Authors are invited to submit original, unpublished research papers formatted according to the conference guidelines and submitted electronically through the submission portal https://www.gcek.ac.in/SPICES2026/ for the special session tracks.

Special Sessions will be conducted in parallel with the regular technical sessions during 9–11 October 2026. All papers submitted under Special Sessions will undergo the same rigorous peer-review process as regular papers. Accepted and presented papers meeting IEEE requirements will be submitted for inclusion in the IEEE Xplore Digital Library (subject to IEEE quality standards). Submission guidelines are available at: https://gcek.ac.in/SPICES2026/paper-submission.php
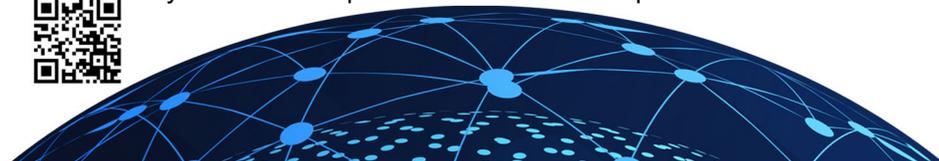
Special Session Track 3
SS3: AI-Enabled Power Electronics for Sustainable Smart Energy Systems

Organized by

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The increasing deployment of artificial intelligence (AI), Internet of Things (IoT), and communication technologies in smart energy systems has led to a substantial rise in energy demand at the device and system levels. Achieving sustainability under these constraints requires advances in low-power electronic design, energy-efficient power management, and hardware-aware artificial intelligence. Low-power electronics form the foundation of energy-constrained systems, including smart grids, microgrids, renewable energy interfaces, electric vehicles, wearable devices, and distributed sensor networks. At the same time, edge AI and TinyML enable local intelligence, reducing communication overhead, latency, and overall energy consumption. The co-design of circuits, architectures, and algorithms is therefore essential for next-generation sustainable systems. This special session aims to provide a focused technical forum for presenting

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recent research results and emerging trends at the intersection of low-power electronics, artificial intelligence, smart energy, and communication technologies, with emphasis on sustainable development.

The Special Session focuses on (but is not limited to):

- Ultra-low-power CMOS and VLSI circuit design
- Energy-efficient power management ICs (PMICs)
- Switched-capacitor and inductive DC–DC converters
- Energy harvesting and self-powered systems
- Machine learning for power optimization and reliability
- AI-enabled smart grids and microgrids
- Low-power IoT for smart energy monitoring
- Energy-aware and secure communication protocols
- Green electronics and sustainable IC technologies
- AI-based renewable energy forecasting and control
- Battery management systems and EV power electronics

Important Dates

Special Session Paper Submission Opens: **10 March 2026**
Special Session Paper Submission Deadline: **15 April 2026**
Special Session Paper Acceptance Notification: 15 June 2026
Early-Bird Registration : 15 June 2026 to 15 July 2026
Final Camera-ready Paper : 15 June 2026 to 30 July 2026
Registration Ends : 30 July 2026

Submit your innovative research to the Special Sessions of IEEE SPICES 2026 and be part of a dynamic platform fostering impactful and future-ready technologies.

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