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 07 (SS07)

Integrated Energy Systems for Net-Zero and Climate-Resilient Cities

Organized and co-chaired by:

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Call for Papers

- **Technical Outline of the Session:**

This track explores the design, optimization, and implementation of urban-scale integrated energy systems to accelerate the transition toward sustainable and climate-resilient cities. It invites contributions from authors, focused on the development and deployment of hybrid renewable energy solutions (involving solar, wind, storage, thermal, waste to energy conversion etc), AI-driven energy management, and smart power electronics to enable efficient and flexible urban energy infrastructures.

This track also encourages interdisciplinary research and innovative solutions that will support the vision of net-zero, self-sustainable and adaptive urban ecosystems.

- **Topic of the Session includes, but are not limited to:**
  - Urban-scale hybrid renewable energy systems (solar-wind-storage-thermal)
  - Artificial Intelligence based energy management systems for smart cities
  - Integration of rooftop solar with community microgrids and Electric Vehicle charging hubs
  - Integrated Power Electronics and Control Strategies for EV Propulsion and Smart Charging vehicle
  - Strategic and efficient Siting and Sizing of Renewable Distributed Generation for Smart Grids
  - Decentralized energy planning and prosumer-based energy exchange models
  - Distributed generation placement optimization in distribution system.
  - Energy-positive buildings
  - Renewable-powered public infrastructure (metro, street lighting, water supply)
  - Cross-sector coupling (renewable energy-water-waste-transport) for resource optimization

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

Author guidelines as per regular paper submission.

Submission Portal

https://nitgoa.ac.in/STPEC2025/specialsessions.html

For queries, email: ss_stpec2025@nitgoa.ac.in