



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 01 (SS01)

Integration of EV Charging Infrastructure and Renewable Energy Sources: Challenges and Opportunities

Organized and co-chaired by:

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Call for Papers

• Technical Outline of the Session:

The rapid proliferation of Electric Vehicles (EVs) and the parallel push for renewable energy integration have ushered in a transformative era in power and energy systems. This special session aims to explore the multifaceted challenges and emerging opportunities associated with the co-integration of EV charging infrastructure and Renewable Energy Sources (RES) in modern distribution networks. The session will serve as a unique platform for discussing novel architectures, control strategies, forecasting models, grid codes, energy management techniques, and regulatory frameworks that enable the synergy between EVs and green energy. This special session aims to publish original research paper related to sustainable charging infrastructure for the EVs, solution of integration of EVs loads and renewable energy sources (RES) at the electrical distribution system, reliability analysis of the distribution system after integrating EV load and RESs. EV load impact analysis, energy management strategies at charging stations, solution of optimization problem for installing the charging stations by considering electrical distribution network and transportation network.

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

- Techno-economic analysis of renewable energy-based charging stations
- Location and capacity planning model of charging infrastructure
- Electric vehicle load impact analysis on electrical distribution system
- Energy management strategies to handle the EV load and Renewable energy sources
- Novel method for the placement and capacity of charging stations
- Comprehensive analysis of electric vehicle parking lots with renewable energy sources and battery storage system
- Novel model to analyses the electric vehicle load by considering uncertainties

• 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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