



ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

Chicago | Illinois, November 3-6, 2024

Special Session on Emerging Trends in Electric Vehicles and Smart Grid for Sustainable Development

Organized and co-chaired by:

Prof. Kundan Kumar, National Institute of Technology, Manipur, India
Prof. Vima Mali, Pandit Deendayal Energy University, Gujarat, India
Dr. Sanjeet K. Dwivedi, Green Hydrogen Danish MNC Everfuel A/S, Denmark
Prof. Ranjan Kumar Behera, Indian Institute of Technology Patna, India

kundan01012020@gmail.com
vima.mali@sot.pdpu.ac.in
sanjeet.dwivedi@ieee.org
rkb@iitp.ac.in

Call for Papers

Technical Outline of the Session and Topics:

Nowadays, climate change is one of the most significant challenges of society which needs to be addressed for a healthy environment. The shift from the power grid to a smart grid introduces enhanced services for energy consumers and stakeholders while potentially causing disruptions to existing electricity services. The utilization of Electric Vehicles (EVs) not only poses challenges to the sustainability of smart grids but also acts as a catalyst for their improvement. Moreover, the inherent unpredictability of renewable energy sources complicates the gradual transition from conventional power grids to smart grids. The integration of EVs holds the promise of substantial societal changes, not solely in providing transportation services but also in steering economies away from petroleum reliance, consequently reducing carbon dioxide (CO₂) emissions in the transportation sector. Embracing EVs coupled with the advancement of Smart Grid technologies, presents a critical path toward meeting sustainability objectives, curbing emissions, and addressing the pressing issue of climate change. These technological advancements possess the capability to transform not only the transportation industry but also reshape the broader energy landscape within society.

Topics of the Session include, but are not limited to:

- Electric vehicle planning and operation in the smart grid
- High power density batteries for Electric Vehicle system
- Emerging Power electronics drives for Electric vehicles
- Modeling flexibility of distributed energy resources
- Smart grid and green energy integration
- Wired and wireless charging networks
- Role of Artificial Intelligence (AI) in smart grid and EV
- Battery Management systems for Electric Vehicles
- Electricity market modeling and simulation for the integration of renewable sources
- The Internet of Things (IoT) for smart cities
- Energy management system in Electric Vehicles
- Role of Artificial Intelligence (AI) in smart grid and smart cities revolution
- Smart grid technology and solutions for smart cities
- Thermal management for electric vehicle applications

Author's schedule:

Deadline for submission of special session papers April 15, 2024
Notification of acceptance June 10, 2024
Deadline for submission of final manuscript July 01, 2024
Early submission is highly encouraged for early decision notifications!

All the instructions for paper submission are included in the conference website:

www.iecon-2024.org



CHICAGO