



(15th- 17th June 2023)

ICEPE 2023 Special Session

on

Intelligent-Control Based Integration of Distributed Energy Resources and Electric Vehicle in Power Distribution System- Challenges and Solution

Integration of renewable energy resources and electric vehicle in power distribution system becomes a challenge for the reliable and safe operation of the existing power distribution system. The sporadic characteristics of sustainable energy sources along with the random load variations greatly affect the power quality and stability of the system. Hence, appropriate intelligent –controlled based technique is required to achieve a potential solution in this domain. This session will provide an effective forum to disseminate new technology and share the expertise among researchers, scientists and engineers in the recent development of intelligent controller towards reliable and efficient integration technique for renewable energy resources and electric vehicle.

.Topics of interest for this Special Session includes, but are not limited to:

- Modeling, operation and control of distributed energy resources and electric vehicle
- Planning and design of power distribution system along with integration of RES and EV
- Control of PV and EV Connected to Power Distribution System
- Power Management of PV and EV connected to Power Distribution System
- Design of Electric Vehicle Charging System for a Renewable Source integrated Micro-grid.
- AI-powered energy management systems for electric vehicles
- Forecasting of solar irradiance to address intermittency and variable nature of Renewable Energy.
- Development of PV fed UPQC with Advance Controller for Power Quality Improvement.
- Cyber Physical System approach to Micro-grid System Design
- Energy management system and optimization
- AI-based power quality enhancement in RESs
- Design of Electric Vehicle Charging System for a Renewable sources integrated micro-grid
- Power management and control in a PV, EV, battery and super capacitor integrated Microgrid

Special Session Organizers (names, designation, affiliation and contact emails)

Name: Dr. Pravat Kumar Ray
Department of Electrical Engineering
National Institute of Technology, Rourkela, India
E_Mail:rayp@nitrkl.ac.in

Name: Dr. Pratap Sekhar Puhan, Department of EEE
Sreenidhi Institute of Science and Technology, Hyderabad, India
E_Mail:pratapsekhar@sreenidhi.edu.in

Special Session Organizers (short bios with photo)



Pravat Kumar Ray (SM'18) received the B.E. degree from Indira Gandhi Institute of Technology, Sarang, Odisha, India, in 2000, the M.E. degree from Indian Institute of Engineering Science and Technology, Shibpur, Howrah, India, in 2003, and the Ph.D. degree from National Institute of Technology (NIT) Rourkela, India, in 2011, all in Electrical Engineering. He is currently an Associate Professor with the Department of Electrical Engineering, NIT Rourkela. He was also a Postdoctoral Fellow at Nanyang Technological University, Singapore, during January 2016 to June 2017. He is having eighteen years of experience in teaching and research. He has supervised 10 Ph.D theses. Currently, he is handling 4 research projects at NIT Rourkela. He has published more than 150 papers in international journals and conferences. His research interests include signal processing and soft computing applications to power system, power quality, and grid integration of renewable energy systems.



Pratap Sekhar Puhan (SM'22) received his BE in Electrical Engineering from Utkal University, Odisha in 2001. He received his ME in Power System from Bengal Engineering and Science University (IEST), Shibpur, West Bengal, India, in 2010 and completed his PhD in Electrical Engineering from Utkal University, Odisha, India in 2015. He is working as a Professor with the Department of Electrical and Electronics Engineering at Sreenidhi Institute of Science and Technology, Hyderabad, India. He has 17 years of experience in teaching and research. He has published more than 30 papers in reputed journal His main research interests include power quality, distributed generation, estimation of signal and systems etc