



(15th – 17th June 2023)

ICEPE 2023 Special Session on

Renewable Energy based Rural Area Power Systems

Aims and scope of the session

This special session focuses on research work related to Renewable Energy based Rural Area Power Systems (RAPS). A special session on renewable energy-based power systems for rural regions can specifically focus on how these technologies can be used to promote sustainable development in remote/rural areas. Renewable energy applications for sustainable development in remote areas require an interdisciplinary approach, as they involve a wide range of technologies and social, economic, and environmental factors. This special session can bring together perspectives from different disciplines and provide a more holistic view of the topic. It can have a significant impact on researchers by providing a comprehensive overview of the current state of knowledge, highlighting research gaps, providing case studies and examples, promoting interdisciplinary research, and informing policy and practice.

Topics of interest

This special session invites research papers from the following topics (but not limited)

1. Energy management of renewable energy-based off-grid/standalone power systems
2. Operation and control of RAPS
3. Artificial intelligence (AI) and machine learning (ML) applications for RAPS
4. PV-based water pumping systems for RAPS
5. Optimization of renewable energy-based RAPS
6. Wireless charging applications for renewable energy-based RAPS
7. Techno-economic analysis of renewable energy-based RAPS
8. Cyber security of RAPS
9. Case studies related to RAPS
10. AI/ML methods for prediction of generation and load profile in rural/remote regions

Special session organizer

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Dr. Anuradha Tomar is currently working as an Assistant Professor in the Instrumentation & Control Engineering Division of Netaji Subhas University, Delhi, India. Dr. Tomar has completed her Postdoctoral research in Electrical Energy Systems Group, from Eindhoven University of Technology (TU/e), the Netherlands, and has completed European Commission's Horizon 2020, UNITED GRID, and UNICORN TKI Urban Research projects. She received her B.E Degree in Electronics Instrumentation & Control with Honours in the year 2007 from the University of Rajasthan, India. In the year 2009, she completed her M. Tech Degree with Honours in Power Systems from the National Institute of Technology Hamirpur. She received her Ph. D in Electrical Engineering, from the Indian Institute of Technology Delhi (IITD). Dr. Anuradha Tomar has committed her research work efforts towards the development of sustainable, energy-efficient solutions for the empowerment of society, and humankind. Her areas of research interest are the Operation & Control of Microgrids, Photovoltaic Systems, Renewable Energy based Rural Electrification, Congestion Management in LV Distribution Systems, Artificial Intelligent & Machine Learning Applications in Power Systems, Energy conservation, and Automation. She has authored or co-authored 69 research/review papers in various reputed International, National Journals, and Conferences. She is an Editor for books with international publications like Springer, and Elsevier. She has two granted Patents in her name and five filed Indian patents in her name. Dr. Tomar is a Senior member of IEEE, Life member of ISTE, IETE, IEI, and IAENG.

