The Institution of Engineering and Technology

RPG 2025

Invited Session Call for Papers

The 14th International Conference on Renewable Power Generation

24-26 October 2025 | Shanghai, China

Full Paper Submission Deadline: 05 June 2025 | https://rpg2025.theiet.org.cn/

Session Chair:

- Session Chair: Chenxi HU, Department of Electrical and Electronic Engineering, The University of Hong Kong
- Co-Session Chair: Jun WANG, The College of Smart Energy, Shanghai Jiao Tong University

Invited Session on:

09. Constructing Resilient Power Grids Under Multi-source Heterogeneous Uncertainties

The accelerating impacts of climate change and the global energy transition necessitate a fundamental rethinking of how energy systems are planned and operated. Our proposed special session aims to explore advanced methodologies and innovative solutions for enhancing power grid resilience. As we integrate more renewable energy sources (RESs), inverter-based resources (IBRs) and face increasing extreme weather events (EWEs), traditional planning and operational methods often fall to address the new situation with new components and more complex uncertainties.

This session will discuss cutting-edge research and practical approaches for building resilient power grids. Topics will cover a range of strategies for improving adaptability, resilience, and sustainability in energy systems. By leveraging advanced mathematical modeling, optimization, and machine learning techniques, this session aims to address the challenges posed by diverse and unpredictable uncertainties by considering the new characteristics and challenges faced by modern power systems. We will discuss potential resilience enhancement solutions to provide insights into how to better prepare for and respond to the diverse scenarios power systems may face under the new energy paradigm. Our objective is to bridge theoretical advancements with practical applications to enhance power system resilience.

Session Chair: Chenxi HU, Department of Electrical and Electronic Engineering, The University of Hong Kong

Chair's Bio:

Chenxi Hu received the B.E. degree in electrical engineering and automation from Wuhan University, Wuhan, China, in 2020. She is currently pursuing the Ph.D. degree with the Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong. Her current research interests include resilient planning of renewable-dominated power systems, uncertainty modeling and quantification, and machine learning and its application in power system.

BENEFITS OF SUBMITTING

- Successful Authors will receive **10% off the Adult Registration Fee** (early bird or standard registration) Please use code **INVITED25** during registration
- Accepted paper will be published in the RPG 2025 conference proceeding
- Accepted paper will paper published on **IET Digital Library** and indexed by **IET Inspec, Scopus, IEEE Xplore and Ei Compendex**
- Around 30 papers from the conference will be awarded the Best Conference Paper prize and will be invited to submit an extended version to IET renewable Power Generation Journal (open access journal, APC fee applies)

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