

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:

- Xu WANG, Shanghai Jiao Tong University, China
- Zhiyi LI, Zhejiang University, China

Invited Session on:

04 Security Constrained or Stability Constrained (SC²) Optimal Operation for Power Systems with High Integration of Renewable Energies

The growing integration of renewable energy sources, such as wind and solar, into power systems presents significant operational challenges due to their inherent variability and uncertainty. The Security Constrained or Stability Constrained (SC²) Optimal Operation framework addresses these challenges by optimizing the power system's operation while considering security or stability constraints. Security constraints focus on ensuring the system can withstand contingencies like line failures or generator outages, while stability constraints ensure the system's dynamic behavior remains stable under various disturbances or failures, such as sudden fluctuations in renewable generation. This framework is critical for maintaining the reliability, resilience, and efficiency of power systems in an era of increasing renewable energy penetration. By incorporating advanced optimization techniques and real-time stability assessments, the SC² approach facilitates the seamless and secure integration of renewables, contributing to the decarbonization of the energy sector while ensuring system stability and operational security.

Session Chair: Xu WANG, Shanghai Jiao Tong University, China

Chair's Bio:

Dr. Xu Wang received the B.S. degree in electrical engineering from Southeast University, China, in 2010 and the Ph.D. degree in electrical engineering from Shanghai Jiao Tong University, China, in 2016. He was a Postdoctoral Associate at in the Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology (IIT), Chicago, USA, from 2016-2018. Currently, he is an Associate Professor with the School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, China. His research interests include resilient distribution system, power system economics and optimization. Email: wangxu1989@sjtu.edu.cn

Invited Keynote Talk in this session by Gong Kai, Zhejiang University, China

Speaker's bio:

Dr Kai Gong received the Ph.D. degree from Shanghai Jiao Tong University, Shanghai, China, in 2022. He is currently a postdoc in Control Science and Engineering with Zhejiang University, a member of National Engineering Research Center of Industrial Automation and State Key Laboratory of Industrial Control Technology, the co-head of Advanced AI and Optimization Control Laboratory. His research interests include the resilient power system operation, optimization and control technology in large complex systems.

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 be 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)