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01 Panel Session

Coordinated Dispatch and Market Trading Strategies for New Type Power Distribution and Utilization Systems

Introduction and topics

Significant initiatives have been taken from the governments around the world towards deep decarbonization on the power distribution and utilization systems, through wide integration of renewable energy sources and significant electrification around the transport and heat sectors. Challenges and opportunities emerge at the same time alongside these initiatives. On the one hand, critical techno-economic challenges to distribution systems' operation since distribute renewable energy sources are characterized by high variability and limited controllability while electric transport and heat loads are expected to aggravate the variability of the demand side and increase demand peaks. On the other hand, significant flexibility resided in massive number of distributed energy resources owned by heterogenous energy prosumers could contributed significantly towards social welfare maximization at the distribution and local level, as well as delivering a variety of ancillary services to both distribution and transmission systems. This penal session is dedicated to effective coordinated dispatch and market mechanism designs for the new type power distribution and utilization systems which could unravel the significant techno-economic benefits of the distributed energy resources, and thereby facilitating the construction of new type power systems and the overall decarbonization target at the globe level.

Panelists:

- Dr. Jiajia Yang, James Cook University
- Dr. Sijie Chen, Shanghai Jiao Tong University
- Prof. Yingying Zheng, China Agricultural University
- Dr. Chenye Wu, Chinese University of Hong Kong (Shenzhen)
- Dr. Meng Song, Southeast University
- Dr. Dawei Qiu, Imperial College London

Panel Session Chairs

Yujian Ye
Southeast University

Yujian Ye is a Professor with Young Endowed Chair Honor with the School of Electrical Engineering at Southeast University and an Honorary Lecturer at Imperial College London. He received the M.Sc. degree with Distinction in Control Systems and the Ph.D. degree from Imperial College London, London, U.K., in 2013 and 2017, respectively. He performed Postdoctoral research also with Imperial College London, London, U.K. from 2016 to 2020, and then joined Southeast University, Nanjing, China in 2021. He serves as a Subject Editor for IET Smart Gird and an Associate Editor for IEEE Transactions on Smart Grid, IEEE Transactions on Industrial Informatics, etc and a Young Editorial Board Member for Applied Energy.

Yu Wang
Chongqing University

Yu Wang received Ph.D. degree from Nanyang Technological University in Singapore and Bachelor's degree from Wuhan University in China. He is a professor at Chongqing University, with the School of Electrical Engineering, and the State Key Laboratory of Power Transmission Equipment & System Security and New Technology. Before joining CQU, He was a Marie Curie Individual Fellow at Control and Power (CAP) Research Group, Imperial College London, United Kingdom. He also worked as a research scientist at the Rolls Royce@NTU Corporate Lab at Nanyang Technological University, Singapore. He was the recipient of the Distinguished Young Scholars of the National Natural Science Foundation of China 2021 and the European Commission Marie Skłodowska-Curie Actions Postdoctoral Fellowship 2020.

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