

Preface

Great honor for your participations in the 2021 International Conference on Power Grid System and Green Energy (PGSGE 2021). We would like to show high respect to experts worldwide who spare time from their busy schedule to give presentations, express sincere greetings to the participants from relevant fields, and extend a warm welcome to all participants in this academic conference.

Under the general environment of normalized epidemic situation, we strictly implement responsibility for epidemic prevention and control, and we are most likely to provide a safe and efficient academic exchange platform for all participants. PGSGE 2021 was rescheduled to be conducted via Zoom on March 26 to 28, 2021.

The conference mainly focuses on topics such as "Power System Control and Protection", "Energy and Power Engineering", "Motor and Transformer", "Energy Efficiency and Management", and aims to provide a platform for scientific research scholars, technicians and related personnel engaged in power grid system, energy engineering and green energy to share scientific research achievements and cutting-edge technologies, understand academic development trends, broaden research ideas, strengthen academic research and discussion, and promote industrial cooperation of academic achievements. Experts, scholars, business people and other relevant personnel from universities and research institutions at home and abroad are cordially invited to attend and exchange.

PGSGE 2021 online meeting mainly cover oral presentations, keynote speeches, and online Q&A discussion. In keynote speeches part, we invited four professors as our keynote speakers. Prof. Ersan KABALCI, from Nevsehir University, Faculty of Engineering and Architecture, Electrical and Electronics Engineering, performed a speech: *Solar Inverter Topologies and Control Methods in Residential PV Power Conversion*. His speech presented a detailed review on single-phase grid-connected solar inverters in terms of their improvements in circuit topologies and control methods. And then we had Assoc. Prof. Mostafa Kheshti, from School of Electrical Engineering, Shandong University, Jinan, China. He delivered a speech: *Inertial Response of Wind Turbines in Grid Frequency Control*. This presentation showed that how a wind turbine can participate in grid frequency control with the help of artificial intelligence-based methods. Assoc. Prof. GHAMGEEN IZAT RASHED, from School of Electrical Engineering and Automation, Wuhan University, China. He presented a wonderful speech: *Is the Smart Grid Really a Smart Idea?* The last keynote speaker, Assoc. Prof. Wei Liu, from School of Chemical Engineering and Technology, Sun Yat-sen University, China. He delivered a speech: *Developing functional inorganic-organic hybrid materials based on I-VII semiconductors for rare-earth free phosphors*. Their insightful speeches had triggered heated discussion in the third session of the conference. Every participant praised this conference for disseminating useful and insightful knowledge.

The proceedings are a compilation of the accepted papers and represent an interesting outcome of the conference. Topics include but are not limited to the following areas: Application of Artificial Intelligence in Power System, Industrial automation and control, Electric power engineering, Power system reliability and other related topics. All the papers have been through rigorous review and process to meet the requirements of International publication standard.

We would like to acknowledge all of those who supported PGSGE 2021. The help and contribution of each individual and institution was instrumental in the success of the conference. In particular, we would like to thank the organizing committee for its valuable inputs in shaping the conference program and reviewing the submitted papers.

We sincerely hope that the PGSGE 2021 turned out to be a forum for excellent discussions that enabled new ideas to come about, promoting collaborative research. We are sure that the proceedings will serve as an important research source of references and knowledge, which will lead to not only scientific and engineering findings but also new products and technologies.

Committee member

Conference Chair

Assoc. Prof. Mostafa Kheshti, Shandong University, China

Assoc. Prof. GHAMGEEN IZAT RASHED, Wuhan University, China

Program Committees

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Prof. Yandong Chen, Hunan University, China

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Prof. Alexander Trubin, National Technical University of Ukraine, Ukraine

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Prof. Te-Hua Fang, National Kaohsiung University of Applied Sciences, Taiwan, China

Prof. Lei Wang, College of Electrical and Information Engineering of Hunan University, China

Senior Engineer. Xuefei Yang, China Southern Power Grid EHV Power Transmission Company, China

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Dr. Vikneswaran Munikanan, National Defense University of Malaysia, Malaysia