ICPSET 2023

2023 2nd International Conference on Power System and Energy Technology

第二届电力系统与能源技术国际学术会议

CONFERENCE BROCHURE

August 19, 2023 Online Conference

Host: Hunan University

Conference Guideline

Online Conference(Zoom)

Zoom ID: 81996670301

Password: 230819

Download Links: https://zoom.us/download

Participate Links:

https://us06web.zoom.us/j/81996670301?pwd=WlorYWhQa0JJT1lnSHhuVTB4RGRqdz09

Click the links to join the conference. Available for Mobile Phone/Computer/Laptop. Best to use computer with wired networks.

Time Zone				
Beijing (GMT+8)	8:00	9:00	12:00	15:00
Tokyo (GMT+9)	9:00	10:00	13:00	16:00
Novosibirsk (GMT+7)	7:00	8:00	11:00	14:00

*Time in the technical program is written with local time in Beijing / China. Please confirm your local time.

About ICPSET 2023

2023 2nd International Conference on Power System and Energy Technology (ICPSET 2023) will be held on August 19, 2023 via online conerence. The conference is hosted by Hunan University and organized by Engineering Research Center of Ministry of Education, Academic Exchange Information Center. Supported by Changsha University of Science & Technology, Huazhong University of Science and Technology, Central South University, Hohai University, Southwest Jiaotong University, Hunan University of Technology, Xinjiang University, China Southern Power Grid Technology Co., Ltd..

The conference mainly focused on research fields such as power engineering and energy technology. The conference aims to provide a learning and exchange platform for experts, scholars, engineering technicians and technical researchers engaged in research in energy technology, power engineering and other fields to share scientific research achievements, explore cutting-edge technologies and expand research ideas, so as to promote the development of relevant fields. Experts, scholars, business people and other relevant personnel from universities, scientific research institutions at home and abroad are sincerely invited to participate in the conference to exchange contributions.

Scholars from home and abroad are warmly welcomed to contribute and participate in the conference.

Organizations

Host

Hunan University

Introduction

Hunan University (HNU) is situated in Changsha, a renowned historical and cultural city. It is adjacent to the rippling Xiangjiang River on its front and picturesque Yuelu Mountain at its back. It is reputed as an "Ancient Millenarian Academy and Famous Centennial University".

HNU has 27 colleges and schools. The professional disciplines cover eleven subject categories: philosophy, economics, law, education, literature, history, science, engineering, management, medicine, and arts. A system of academic disciplines with a solid foundation of sciences, strong engineering strength, featured humanistic and social science, emerging life and medical science, and active emerging interdisciplinary study has taken shape. HNU offers 78 undergraduate programs, 37 first-level disciplines authorized to confer master' s degrees, and 30 first-level disciplines to confer doctorates. Chemistry, mechanical engineering, and electric engineering are listed as "world-class disciplines" of the Ministry of Education.

Organizations

Organizers

Engineering Research Center of Ministry of Education

Introduction

Engineering Research Center of Ministry of Education
Is an important component of the scientific and technological innovation system in China's higher education institutions. It is an important base and platform for universities to strengthen resource sharing, promote discipline construction and development, organize engineering technology research and development, accelerate the transformation of scientific and technological achievements, cultivate and gather high-level scientific and technological innovation and management talents, and organize scientific and technological cooperation and exchange.

Academic Exchange Information Center

Introduction

Academic Exchange Information Center (AEIC): AEIC is a well known brand jointly established by a number of domestic and foreign universities, research institutes and enterprises. By gathering global professional academic power and with the academic support of many universities and research institutes, AEIC is committed to the dissemination of scientific and technological information, academic research exchanges, in-depth analysis of social hotspots, life science sharing and other academic-related communication activities. AEIC takes the philosophy of "being loyal to academics and serving scholars" and adheres to the academic service spirit of "professionalism, dedication and concentration" to make academic exchanges easier.

Organizations

Supporters

Changsha University of Science & Technology

Huazhong University of Science and Technology

Central South University

Hohai University

Southwest Jiaotong University

Hunan University of Technology

Xinjiang University

China Southern Power Grid Technology Co., Ltd.

Committee

Conference Chairs

Prof. Yijia Cao, Changsha University of Science and Technology, China

Prof. Yong Li, Hunan University, China

Organizing Committee Chair

Prof. Wenxuan Yao, Hunan University, China

Local Organizing Committee Chair

Prof. Jiazhu Xu, Hunan University, China

Organizing Committee Members

Prof. Bin Zhou, Hunan University, China

Prof. Yunfeng Wen, Hunan University, China

Prof. Yujia Zhai, Hunan University, China

Prof. Sheng Huang, Hunan University, China

Assoc. Prof. Yi Tan, Hunan University, China

Assoc. Prof. Sijia Hu, Hunan University, China

Asst. Prof. Jiayan Liu, Hunan University, China

Technical Program Committee Chair

Prof. Wei Yao, Huazhong University of Science and Technology, China

Committee

Technical Program Committee Members

Prof. Feng Wu, Hohai University, China

Prof. Yonghui Sun, Hohai University, China

Prof. Haitao Hu, Southwest Jiaotong University, China

Assoc. Prof. Ye Cai, Changsha University of Science and Technology, China

Assoc. Prof. Chun Chen, Changsha University of Science and Technology, China

Assoc. Prof. Dechang Yang, China Agricultural University, China

Assoc. Prof. Jinhui Zeng, Hunan University of Technology, China

Assoc. Prof. Junru Chen, Xinjiang University, China

Publication Chairs

Prof. Fang Liu, Central South University, China

Lecturer, Qianyi Liu, Central South University, China

Agenda

August 19, 2023	
Zoom ID: 81996670301 **Password:** 230819	
09:00-09:10	**Opening Speech**
09:10-09:45	**Keynote Specch 1** **Prof. Jianbo Bai, Hohai University** **Speech Title:** Development and Application of Digital Technology for Distributed PV Power Stations Under Full Life Cycle
09:45-09:50	**Group Photo**
09:50-10:25	**Keynote Specch 2** **Prof. Yicheng Zhou, Waseda University** **Speech Title:** Grid Forming Inverters: Current Status and Some Challenges Issues for the Future
10:25-11:00	**Keynote Specch 3** **Prof. Denis Sidorov, Siberian Branch of Russian Academy of Sciences and The Skolkovo Institute of Science and Technology** **Speech Title:** Crisp and Fuzzy Models for Net-zero Communities' Development
11:00-11:35	**Keynote Specch 4** **Prof. Yong Li, Hunan University** **Speech Title:** Autonomous Operation and Energy Management of Multi-Energy Microgrid
11:35-11:45	**Oral Presentation 1** **Zhengchen Tao, Shandong University**
11:45-11:55	**Oral Presentation 2** **Qiwei Cao, Southeast University**
11:55-12:05	**Oral Presentation 3** **Hanfei Yu, Southeast University**
12:05	**End of the conference**

Keynote Speaker

Prof. Jianbo Bai

Hohai University, China

Biography:

Prof. Jianbo Bai has served as vice dean of the College of Mechanical and Electrical Engineering at Hohai University since 2016. His current research interests include comprehensive and highly efficient use of solar energy, simulation and optimizing of PV power stations, etc. He has hosted a project supported by National Natural Science Foundation of China,a sub-topic of National Key R&D Program supported by Ministry of Science and Technology and two projects supported by National Natural Science Foundation of Jiangsu Province in China. Prof. Bai has published a book named "Modeling, Simulation and Optimizing of Solar PV Systems" in Chinese in 2014. His research team has developed a software for design and simulation of grid-connected PV systems named "Hohai Anneng SolarPV", which has been adopted by some universities and PV companies in China. Currently,Prof. Bai's team is providing professional PV design and simulation algorithms for HUAWEI Technologies Co., Ltd.

Keynote Speaker

Prof. Jianbo Bai

Hohai University, China

Speech Title: Development and Application of Digital Technology for Distributed PV Power Stations Under Full Life Cycle

Abstract: This project proposes a digital solution for distributed PV power plants based on the whole life cycle and develops a corresponding SAAS-based integrated platform. The platform has the following functions:1) support roof resource assessment of distributed PV power plants;2) support reproduction of building PV roofs or other scenes, drone picture import;3) support 3D layout design, electrical design, power generation prediction and economic analysis of PV power plants;4) support online power plant performance assessment and fault diagnosis of PV power plants. The project implementation forms organically a whole for planning, current survey, design, simulation, operation and maintenance of distributed PV power plants, solving the key problem that the original PV power plant digital solutions are separate.

Keynote Speaker

Prof. Yicheng Zhou

Waseda University, Japan

Biography:

Yicheng Zhou (Senior Member, IEEE) received the degrees of B.S. in civil engineering, M.S. in Mechanical Engineering from Hunan University, China, in 1982, and 1986 respectively, and Ph.D. in electrical engineering from Tokyo Metropolitan University, in 1995. After working in TEPCO SYSTEMS and FUJITSU LIMITED, now, he is a visiting professor at Waseda University and a chief researcher of EETRI. His fields of interest include planning, operation, control, and optimization of electrical power systems. He is a Senior Member of IEEE, IEEJ, and project leader of ISO 37153.

Keynote Speaker

Prof. Yicheng Zhou

Waseda University, Japan

Speech Title: Grid Forming Inverters: Current Status and Some Challenges Issues for the Future

Abstract: Grid Forming Inverter is a new technology that utilizes distributed power sources such as renewable energy generation and storage batteries to control the operation of power systems connected to power networks. It is critical to improving the stability and reliability of power systems. GFM is a promising solution to support future low-inertia power system grid frequencies and voltages, but there are several practical issues and challenges. This presentation will discuss recent trends and predictions for future trends, focusing on some of the following issues to be challenged. Stability and synchronization; coping with load variations; Countermeasures against reverse currents; Integrated control with the smart grid; Technology and Policy Regulation Regulations including Grid Code and standardization.

Keynote Speaker

Prof. Denis Sidorov

Siberian Branch of Russian Academy of Sciences and The Skolkovo Institute of Science and Technology, Russia

Biography:

Denis Sidorov (Senior Member, IEEE) was born in Irkutsk, Russia, in 1974. He received the Ph.D. and Dr. Habil. degrees in applied mathematics from Irkutsk State University, Irkutsk, Russia, in 2000 and 2014, respectively. He was elected Professor of RAS in 2018. He gained his experience in leading research centers including Trinity College Dublin, CNRS, QUB. He is currently a Leading Researcher with Melentiev Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Irkutsk, Russia, and a Professor with Irkutsk National Research Technical University, Irkutsk, Russia. His research interests include integral and differential equations, machine learning, wind energy, and inverse problems.

Keynote Speaker

Prof. Denis Sidorov

Siberian Branch of Russian Academy of Sciences and The Skolkovo Institute of Science and Technology, Russia

Speech Title: Crisp and Fuzzy Models for Net-zero Communities' Development

Abstract: The concept of net zero community [1] employs system approach to address the various stages including the production, storage, transmission, distribution and consumption of electricity; application of the state of the art telecom technologies; new EPS control methods based on machine learning [1,2] and advanced computational methods [3,4]; the efficient use of both crisp and fuzzy control devices that ensure the active behavior of prosumers in managing their own power consumption. The present talk presents crisp and fuzzy models for the development and optimal management of community microgrids making in possible for the community members to exchange energy and services inside net zero community which include various renewable energy sources and storage devices.

Keynote Speaker

Prof. Yong Li

Hunan University, China

Biography:

Yong Li is a professor and doctoral supervisor of Hunan University, Vice Dean of College of Electrical and Information Engineering, Hunan University. He is the Director of Engineering Research Center of Ministry of Education for New Power Transmission and Transformation Technology, Deputy Director of International Joint Research Center for Smart Grid Optimization and Control Technology of Ministry of Science and Technology, and Deputy Director of Youth Engineering Committee of Chinese Electrotechnical Society. He is also a member of the Youth Engineering Committee of the Chinese Society of Electrotechnology. He is a National Specially Appointed Young Expert, an innovative talent of the "High-level Talent Gathering Project" of Hunan Province, a Yuelu Scholar of Hunan University, and a Young Scholar of Donghua Software. He has been awarded the Newton Senior Scholar Program of the Royal Society, the New Century Excellent Talent Support Program of the Ministry of Education, and the Hunan Young Talent Support Program.

Keynote Speaker

Prof. Yong Li

Hunan University, China

Speech Title: Autonomous Operation and Energy Management of Multi-Energy Microgrid

Abstract: Multi-energy systems integrate and coordinate multiple energy resources, allowing for the exploration of synergy and complementary benefits, energy cascade utilization, improved energy efficiency, reduced energy supply costs, and reduced fossil energy consumption and carbon emissions. With large-scale renewable energy integration, power systems exhibit "double-sided randomness" and "double-peaks and double-heights" characteristics. Multi-energy systems can effectively improve renewable energy absorption through flexible and coordinated operation of renewable energy, power systems, and thermal systems. This presentation will discuss the autonomous operation and energy management of multi-energy microgrid, focusing on some of the following challenges: Combined load forecasting; Energy coordinated scheduling; Energy autonomous community; Multi-energy micro-grid demonstration.

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Contact us

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