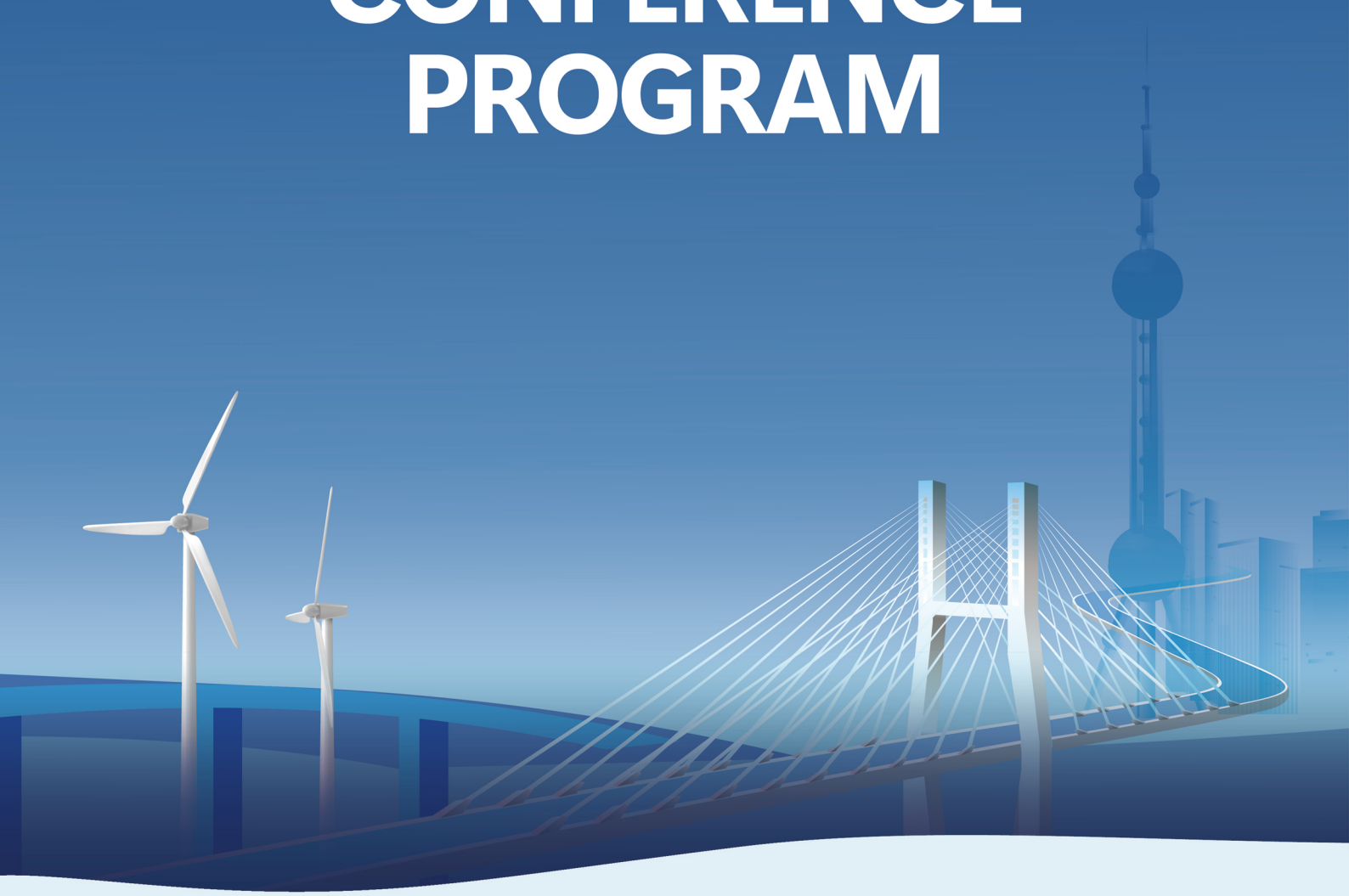
2024 IEEE IEECSC SHANGHAI

IEEE INTERNATIONAL CONFERENCE ON
ELECTRICAL ENERGY CONVERSION SYSTEMS AND CONTROL

Shanghai, China ⚡ NOV. 8-10, 2024

CONFERENCE PROGRAM



Contents

Conference Committee

Honorary Chairs

Renyuan Tang, Academician of Chinese Academy of Engineering, China

Guobiao Gu, Academician of Chinese Academy of Engineering, China

An Luo, Academician of Chinese Academy of Engineering, China

General Chairs

Xi Xiao, Tsinghua University, China

Qiang Gao, Shanghai Jiao Tong University, China

Technical Program Chair

Youtong Fang, Zhejiang University, China

International Steering Committee Chairs

Ion Boldea, University Politehnica of Timisoara, Romania

Zi-Qiang Zhu, University of Sheffield, UK

Fred Wang, University of Tennessee– Knoxville, USA

Fang Z. Peng, Florida State University, USA

Jian Sun, Rensselaer Polytechnic Institute, USA

Jian Guo (Joe) Zhu, The University of Sydney, Australia

Jose Rodriguez, Universidad San Sebastian, Spain

Ayman EI-Refaie, Marquette University, USA

Pat Wheeler, University of Nottingham, UK

Faz Rahman, University of New South Wales, Australia

Vladimir Terzija, Newcastle University, UK

Huai Wang, Aalborg University, Denmark

Liangzhong Yao, Wuhan University, China

Fushuan Wen, Zhejiang University, China

Qinghua Wu, South China University of Technology, China

Ming Cheng, Southeast University, China

Jinjun Liu, Xi'an Jiaotong University, China

Zhigang Liu, Southwest Jiaotong University, China

Zheng Xu, Zhejiang University, China

Chi K. Michael Tse, City University of Hong Kong, China

Ronghai Qu, Huazhong University of Science and Technology, China

Bo Zhang, South China University of Technology, China

Wei Xu, Institute of Electrical Engineering, Chinese Academy of Sciences, China

Don Tan, Northrop Grumman Aerospace Systems Redondo Beach CA, USA

Publication Committee Chair

Mengqi Zhou, Executive Vice Chairman of IEEE China Council, Vice Chairman of IEEE Beijing Section, Chairman of IEEE China Conference Committee, China

Technical Program Committee

Shoudao Huang, Hunan University, China

Wenxiang Zhao, Nanjing Institute of Technology, China

Wensheng Song, Southwest Jiaotong University, China

Xiaohua Bao, Hefei University of Technology, China

Yongchang Zhang, North China Electric Power University, China

Lingzhi Yi, Xiangtan University, China

Hui Li, Chongqing University, China

Yunyue Ye, Zhejiang University, China

Hongbo Qin, Shanghai Energy Efficiency Center, China

Weinong Fu, SIAT of Chinese Academy of Sciences, China

Xiaojie Wu, China University of Mining and Technology, China

Lei Chen, Wuhan University, China

Shunle Tan, Xi'an Micromotor Research Institute, China

Xu Liu, Hebei University of Technology, China

Chaohui Zhao, Shanghai Dianji University, China

Liyi Li, Harbin Institute of Technology, China

Xi Zhang, Shanghai Jiao Tong University, China

Xiuhe Wang, Shandong University, China

Yanling Lyu, Harbin University of Science and Technology, China

Xuemei Zheng, Harbin Institute of Technology, China

Jing Ma, North China Electric Power University, China

Lei Wang, Harbin University of Science and Technology, China

Yigang He, Wuhan University, China

Qunjing Wang, Anhui University, China

Yongdong Li, Tsinghua University, China

Xu Cai, Shanghai Jiao Tong University, China

Jiwen Zhao, Hefei University of Technology, China

Aiyuan Wang, Shanghai Dianji University, China

Jian Luo, Shanghai University, China

Zheng Li, Hebei University of Science and Technology, China

Mengqi Zou, Shanghai Electrical Apparatus Research Institute, China

Weihua Chen, Shanghai Electrical Apparatus Research Institute, China

Yutian Sun, Harbin Institute of Large Electric Machinery, China

Qiming Cheng, Shanghai University of Electric Power, China

Hongfa Zhou, Shanghai Electrical Apparatus Research Institute, China

Lawu Zhou, Changsha University of Science and Technology, China

Shuying Yang, Hefei University of Technology, China

Shuangxia Niu, The Hong Kong Polytechnic University, China

Anwen Shen, Huazhong University of Science and Technology, China

Xiaoyuan Wang, Tianjin University, China

Gang Lu, Northwestern Polytechnical University, China

Haisen Zhao, North China Electric Power University, China

Zhuoran Zhang, Nanjing University of Aeronautics and Astronautics, China

Jianhui Wang, Shanghai Electrical Apparatus Research Institute, China

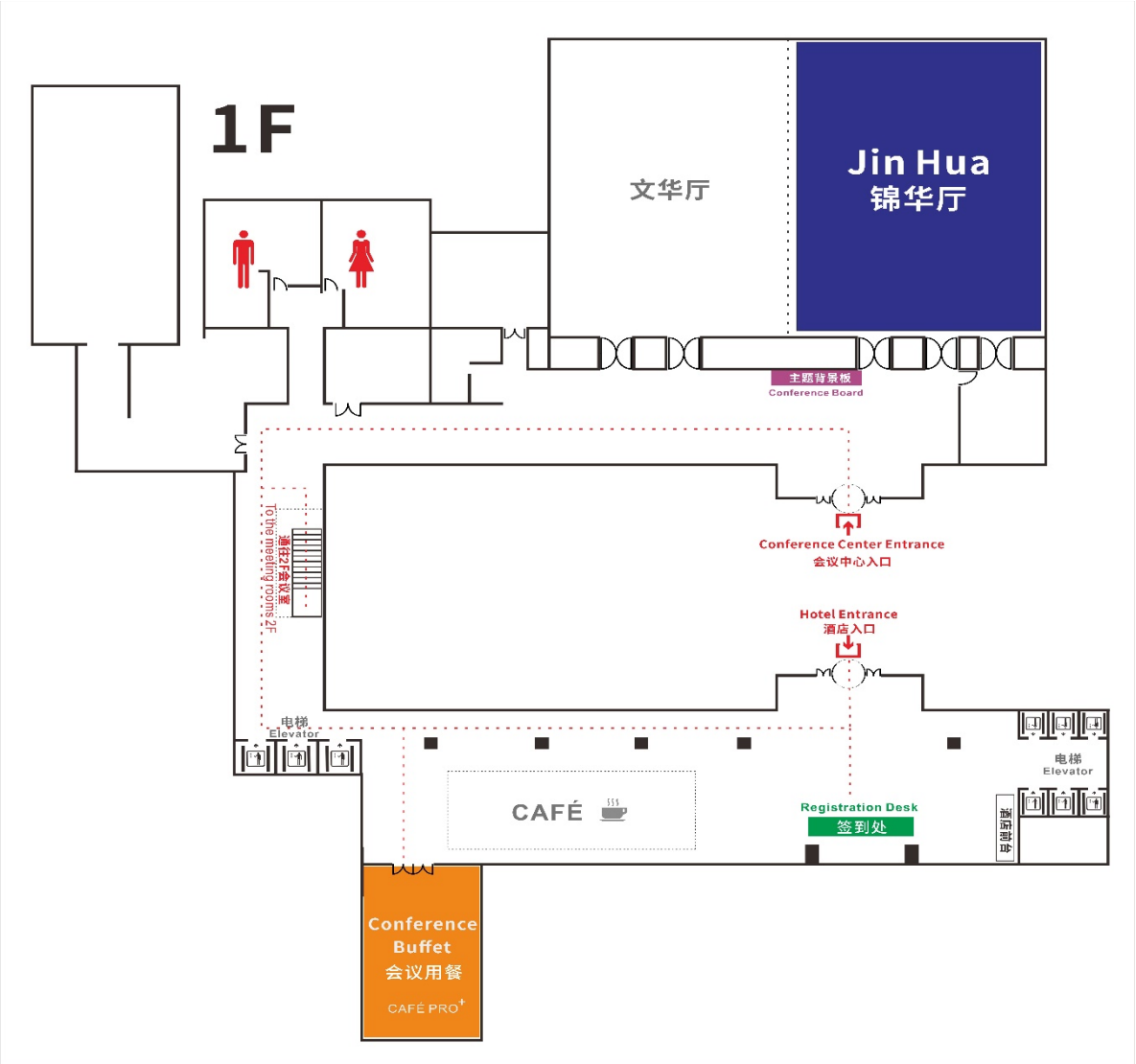
Xuxing Zhang, China Electric Institute, China

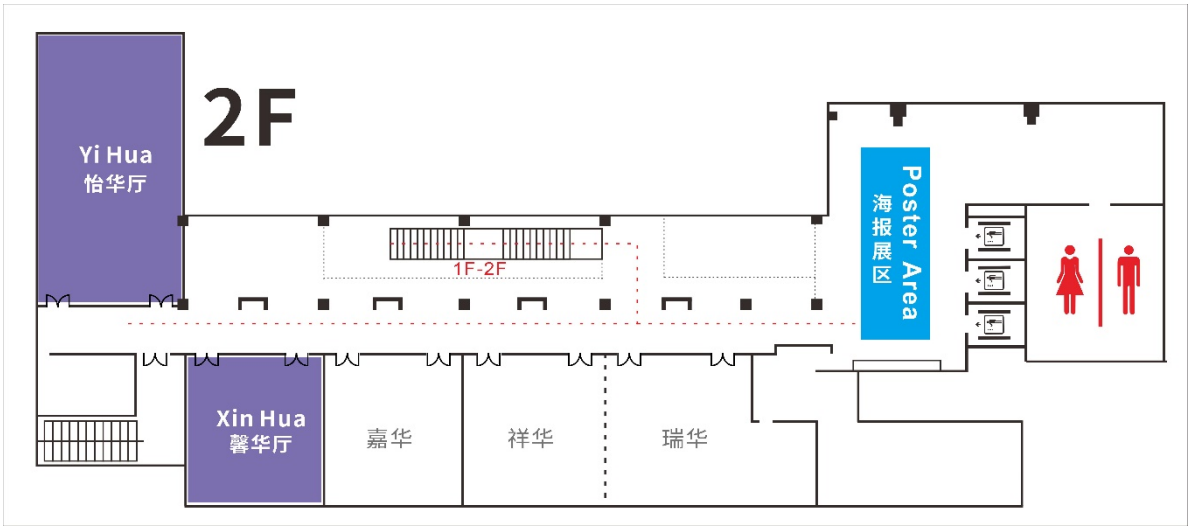
Weiwei Jin, Shanghai Electrical Apparatus Research Institute, China

Conference Venue

Holiday Inn Shanghai Hongqiao

Address: No.3555 QiXinRoad, MinhangDistrict, Shanghai, China





Agenda Overview

Nov. 08, 2024		
10:00-18:00	Sign-in & Conference Materials Collection	Lobby
18:00-20:00	Welcome Reception	CAFE PRO^{+}(1F)
Nov. 09, 2024		
	Opening Ceremony	
08:30-09:00	Host: **Qiang Gao**, Shanghai Jiao Tong University, China	Jin Hua (1F)
	Keynote Speech	
	Host: **Ronghai Qu**, Huazhong University of Science and Technology, China	
09:00-09:50	**Thomas Jahns** US National Academy of Engineering, IEEE Fellow, Grainger Emeritus Professor of Power Electronics and Electrical Machines University of Wisconsin-Madison, USA **Speech Title: Meeting the Challenges of Embedded Power Electronics in Tomorrow's Sustainable World**	Jin Hua (1F)
09:50-10:10	**Break**	Foyer
10:10-11:00	**Faz Rahman** Life-Fellow IEEE, Emeritus Professor, School of Electrical Engineering & Telecommunications, The University of New South Wales, Australia **Speech Title: Recent Development in IPM Synchronous Machines for Traction and other Emerging Applications**	Jin Hua (1F)
11:00-11:50	**Zhe Chen** IEEE Fellow and IET Fellow, Aalborg University, Denmark **Speech Title: Advancing Energy Technologies for Clean and Sustainable Energy Systems**	
11:50-14:00	**Lunch**	CAFE PRO^{+}(1F)
	Host: **Qiang Gao**, Shanghai Jiao Tong University, China	
14:00-14:50	**Wei Xu** IEEE Fellow and IET Fellow, Institute of Electrical Engineering, Chinese Academy of Sciences, China **Speech Title: Advances in Design and Control for Linear Induction Machines and Drives**	Jin Hua (1F)
14:50-15:40	**Li Qi** IEEE Fellow, Xi'an Jiaotong University, China **Speech Title: Recent Developments in LVDC and MVDC**	
15:40-16:00	**Break**	Foyer
16:00-16:50	**Jizhong Zhu** Foreign Academician of Academy of Sciences of Bologna Institute, Foreign IEEE Fellow, IET Fellow, CSEE Fellow, AAIA Fellow, AIIA Fellow, South China University of Technology, China **Speech Title: Application of Power Electronic Technology in Integrated Smart Energy System**	Jin Hua (1F)

IEEE IEECSC 2025 Introduction		
16:50-17:00	**Hui Li** Chongqing University, China	Jin Hua (1F)
17:00-18:00	**Poster Session**	Foyer (2F)
18:30-20:30	**Banquet**	Jin Hua (1F)
Nov. 10, 2024		
09:00-10:30	**Technical Session 1：Electrical Machines and Drives-I** *Papers: #8647, #1402, #9055, #1828, #5744, #5203*	Yi Hua (2F)
	Technical Session 2：Power-I *Papers: #1366, #4097, #4125, #5891, #4617*	Xin Hua (2F)
10:30-10:50	**Break**	Foyer
10:50-12:20	**Technical Session 3: Controls** *Papers: #2733, #4489, #4253, #2857, #2816, #369*	Yi Hua (2F)
	Technical Session 4: Electrical Machines and Drives-II *Papers: #5538, #4015, #2826, #5573, #3427, #4980*	Xin Hua (2F)
12:20-13:30	**Lunch**	CAFE PRO^{+}(1F)
13:30-15:15	**Technical Session 5: Power-II** *Papers: #9497, #9774, #8956, #5252, #4460*	Yi Hua (2F)
	Technical Session 6: Energy *Papers: #8454, #1551, #4698, #5487, #7777, #1365, #4226*	Xin Hua (2F)
15:15-15:35	**Break**	Foyer
15:35-17:05	**Technical Session 7: Electrical Machines and Drives-III** *Papers: #2566, #351, #8957, #3584, #5767, #1692*	Yi Hua (2F)

Keynote Speech

09:00-09:50, Nov.09, 2024 Jin Hua

Thomas M. Jahns

US National Academy of Engineering
IEEE Fellow
Grainger Emeritus Professor of Power Electronics and Electrical Machines
University of Wisconsin – Madison, USA

Bio.: Dr. Thomas Jahns received his PhD in electrical engineering from the Massachusetts Institute of Technology (USA) in 1978.

In 1998, Dr. Jahns joined the Department of Electrical and Computer Engineering at the University of Wisconsin-Madison as a Grainger Professor of Power Electronics and Electric Machines, where he served as a Director/Co-Director of the Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC) for 14 years from 2007 to 2021. Prior to joining UW, he worked at GE Corporate Research and Development in Niskayuna, NY, for 15 years. Since his retirement from the active faculty in 2021, Dr. Jahns is continuing to pursue research as a Grainger Emeritus Professor on high-performance permanent magnet machine drives using wide-bandgap switches, including integrated motor drives.

Dr. Jahns received the 2005 IEEE Nikola Tesla Technical Field Award and the William Newell Award from the IEEE Power Electronics Society (PELS) in 1999. He has served both PELS and the IEEE Industry Applications Society (IAS) as a Distinguished Lecturer. Dr. Jahns is a PELS Past President and served two years as Division II Director on the IEEE Board of Directors (2001-2002). He was elected as a member of the US National Academy of Engineering in 2015 and received the IEEE Medal in Power Engineering in 2022.

Speech Title: Meeting the Challenges of Embedded Power Electronics in Tomorrow's Sustainable World

Abstract: Power electronics engineers are facing the challenge of finding more effective techniques for embedding power electronics in an ever-expanding constellation of consumer, residential, industrial, and transportation equipment. Many of the most appealing candidates for embedded power electronics require power levels that are many orders of magnitude higher than our hand-held devices, and they live in environments that are far more hostile in terms of their thermal, vibrational, and corrosive operating conditions. Despite these daunting challenges, incredible progress has already been made during the past 70 years, and extraordinary new developments in wide-bandgap switches, materials, and manufacturing processes are beckoning us to push well beyond the limits of today's embedded power electronics technology. By looking both backward and forward in time, this presentation will issue a call to all power electronics engineers and our professional colleagues in adjacent fields to engage in this exciting but daunting multi-disciplinary quest to more completely fulfill the destiny of embedded power electronics. We can only succeed by working together, and future generations will thank us for our efforts.

Keynote Speech

10:10-11:00, Nov.09, 2024 Jin Hua

Faz Rahman

Life-Fellow IEEE
Emeritus Professor, School of Electrical Engineering & Telecommunications
The University of New South Wales, Australia

Bio.: Faz Rahman graduated in in 1972 from Bangladesh University of Engineering and Technology. He obtained his M.Sc. and Ph.D. degrees in 1975 and 1978 from University of Manchester Institute of Science and Technology, UK. He joined the General Electric Co, in UK as a Systems Design Engineer in September 1978 for developing automation software for electrical drives in the steel and aluminum rolling mills. He joined the National University of Singapore in 1980 as a lecturer, after two years at the GEC. He joined the University of New South Wales, Australia in 1988 as a Senior Lecturer, from where he retired as a full Professor in Energy Systems in December 2020. He has authored 4 books, 24 invited chapters in books, 128 journal and more than 384 conference papers. He is a Life-Fellow of the IEEE. His significant contributions are in the research in the high-performance control techniques, design of compact IPM machines with wide field-weakening range, model predictive and sensorless control. He has 16774 Citations and h-index of 58 in Google Scholar.

Speech Title: Recent Development in IPM Synchronous Machines for Traction and other Emerging Applications

Abstract: The interior permanent-magnet synchronous machines have now become the mainstay of electric vehicles up to a few hundred kilowatts capacity. The wide constant-power speed range, high efficiency and compact size are the reasons for its wide adoption in the traction industry. The availability, cost and supply issues of the PM materials notwithstanding. This keynote traces the developments over the recent past that led to this and discusses future developments of the IPM motor and its controls that are in the horizon. One of the emerging applications of compact and hence light-weight motors will be in the future aviation industry with vertical take-off aircrafts and drones for personal and commercial transport. These applications are expected to employ multitudes of high-speed machines far beyond the calls of land-based electric vehicles. Another emerging application is for compressors in the air-conditioning industry, especially in data-storage centers, where high speed of operation increases the efficiency of compressors. The trend towards reduced usage of PM materials in machines, with elimination of PM materials in rotor excited machines will also be described.

Keynote Speech

11:00-11:50, Nov.09, 2024 Jin Hua

Zhe Chen

IEEE Fellow and IET Fellow
Aalborg University, Denmark

Bio.: Dr Chen is a Professor with the Department of Energy Technology, Aalborg University, Denmark. Professor Chen's main current research interests are wind energy, power electronics, power system and modern energy systems and AI applications in energy system. In these areas, he has led many international and national research projects and has supervised many PhD, Postdoctoral researchers and visiting PhDs/scholars, he has more than 1000 technical publications.

Dr Chen is a member of editorial boards for many international journals. He is a Fellow of IET, a Chartered Engineer in the U.K., a Fellow of IEEE, a member of the Danish Academy of Technical Sciences and a member of European Academy of Sciences and Arts.

Speech Title: Advancing Energy Technologies for Clean and Sustainable Energy Systems

Abstract: The global energy landscape is undergoing a profound transition toward cleaner, sustainable systems driven by renewable energy and technological innovation. Electrification is to play a pivotal role in future energy systems, while hydrogen is emerging as a significant energy carrier. Traditional fossil-fuel-based technologies are being phased out in favour of clean energy solutions like wind turbines, photovoltaic (PV) panels, power-to-hydrogen systems, and carbon capture technologies. These advancements are reshaping the structure and characteristics of modern energy systems while introducing new challenges.

This speech will provide a brief overview of the current state of clean energy solutions, describe the potential infrastructures and the evolving feature, outline the challenges of future energy systems. It will also explore some research and technological developments that contribute to sustainable energy solutions.

Keynote Speech

14:00-14:50, Nov.09, 2024 Jin Hua

Wei Xu

IEEE Fellow and IET Fellow
Institute of Electrical Engineering, Chinese Academy of Sciences, China

Bio.: Prof. Wei Xu has mainly focused on design and control for linear machines and drives since 2005. He received the double B.E. degree from Tianjin University (TJU), China, in June 2002, and M.E. degree from TJU in February 2005, and the Ph.D. degree from Institute of Electrical Engineering, Chinese Academy of Sciences (IEECAS), in July 2008, respectively, all in electrical engineering. From 2008 to 2012, he made Postdoctoral Fellow with University of Technology Sydney, Vice Chancellor Research Fellow with Royal Melbourne Institute of Technology, Japan Science Promotion Society Invitation Fellow with Meiji University, respectively. From October 2013 to December 2023, he was Professor with Huazhong University of Science and Technology, China. Since January 2024, he has been Professor and Director for Key Laboratory with IEECAS. Prof. Xu has been one IEEE Fellow since 2024, and one IET Fellow since 2018. Prof. Xu is the General Chair for 2021 International Symposium on Linear Drives for Industry Applications (LDIA 2021) and 2023 IEEE International Conference on Predictive Control of Electrical Drives and Power Electronics (PRECEDE 2023). He is the funding chair for Wuhan Chapter in IEEE Industrial Electronics Society, and one International Steering Committee member for LDIA. He has been (associate) editor for 10 IEEE Journals, including IEEE Transactions on Industrial Electronics, IEEE Transactions on Power Electronics, and so on. Till May 2024, Prof. Xu has published over 170 journal papers in IEEE Series, and 11 books, and been granted for over 150 Invention Patents, which has been cited by over 9800 times with H-index 48 based on Google Scholar.

Speech Title: Advances in Design and Control for Linear Induction Machines and Drives

Abstract: Starting from a brief structural description of single-sided linear induction machines (LIMs), their main applications will be exposed with specific reference to transportation (such as linear metro, light railway, MAGLEV), launchers, actuators for industry, etc. As a first step, the main differences between rotating and linear induction motors will be highlighted, focusing on the aspects end effects in details. Design criteria of LIMs will be specifically discussed, emphasizing the main differences with the classic rotating induction motor design, caused by end effects, large air-gaps, half-filled slots, high leakage inductances, etc. Afterwards, in order to improve the working efficiency, it will share advancements in the accurate modelling, loss minimization control strategy, multi-objective optimization technique, etc., for LIMs and drives. Researchers and engineers from electrical, mechanical and information fields may find this speech very useful when dealing with transportation motor and drive related design, control, system integration, which can be extended to other industrial applications.

Keynote Speech

14:50-15:40, Nov.09, 2024 Jin Hua

Li Qi

IEEE Fellow
Xi'an Jiaotong University, China

Bio.: Prof. Li "Lisa" Qi received her B.E. degree from Xi'an Jiaotong University (XJTU), China, in 1994, and M.E. degree from Zhejiang University (ZJU) in 1997, and the Ph.D. degree from Texas A&M University, in 2004, respectively. All in electrical engineering. From 2004 to 2009, Dr. Qi was a research faculty at Florida State University, USA. In 2009, Dr. Qi joined ABB Research Center in Raleigh, NC, USA. From 2017 to 2024, she was a Senior Principal Scientist at ABB. Being an industrial researcher, Dr. Qi worked on various types of AC and DC commercial and industrial systems, DC distribution protection, and integration of renewables. In April 2024, Dr. Qi joined XJTU as a professor in College of Electrical Engineering.

Dr. Qi became IEEE Fellow in 2024 for contributions to DC distribution protection and architectures of DC shipboard power systems. Dr. Qi is the Co-Chair of technical committee of 2021 and 2024 IEEE International Conferences on DC Microgrid (ICDCM). She has been (associate) editors for several IEEE Journals, including IEEE Transactions on Power Delivery. Dr. Qi has 20 granted international patents and published >80 journal and conference papers.

Speech Title: Recent Developments in LVDC and MVDC

Abstract: With increasing implementations of renewables and battery energy storages, LVDC and MVDC resurge in recent years for their competitive solutions to AC counterparts. This keynote speech traces recent trends in LVDC and MVDC applications and development of key technologies. Three key technologies in successful operation of LVDC and MVDC systems include: 1) multi-port converters and energy routers for controllable integration and power flow, 2) converter control and hierarchical control architecture for safe operations and interoperability, and 3) reliable and economical DC protection devices and methods.

Keynote Speech

16:00-16:50, Nov.09, 2024 Jin Hua

Jizhong Zhu

Foreign Academician of Academy of Sciences of Bologna Institute
Foreign IEEE Fellow, IET Fellow, CSEE Fellow, AAIA Fellow, AIIA Fellow
South China University of Technology, China

Bio.: Jizhong Zhu is a Professor of South China University of Technology, National Distinguished Expert, and Foreign Academician of Academy of Sciences of Bologna Institute, Italy. He is an IEEE Fellow, IET Fellow, CSEE Fellow, AAIA Fellow, AIIA Fellow, Chair of IEEE PES Smart Building, Loads, Customer Systems Technical Committee (China), Chair of IEEE Standard P2781 - Load Modeling and Simulation, Chair of IEEE Standard P2783 – Quick Response System, Chair of IEEE Standard P3436 – EV Charging Load Prediction, IEEE SMC Technical Committee member on Intelligent Power and Energy Systems. He is also an Expert of International Electrotechnical Commission WGs IEC SEG6, IEC TC22 AHG1, IEC TC22 AHG2, respectively. Dr. Zhu has worked at ALSTOM Grid Inc. in Washington State, Howard University in Washington, D.C., the National University of Singapore, Brunel University in England, Chongqing University in China, and China Southern Power Grid. He was a Fellow with ALSTOM Grid Inc., and an honorable advisory professor of Chongqing University. He has hosted and participated in more than 20 international large-scale power engineering projects, as well as led and participated in the compilation and formulation of 6 IEC and IEEE international standards. He has published six books, as well as over three hundred papers in the international journals and conferences. He has authorized more than 20 national patents and won more than 10 international and domestic academic awards. His research interest is in the analysis, operation, planning and control of power systems, integrated energy systems, smart grid, power markets as well as applications of renewable energy.

Speech Title: Application of Power Electronic Technology in Integrated Smart Energy System

Abstract: Integrated Smart Energy System (ISES) is a complex multi-network system based on the power system, the Internet and other cutting-edge information technologies. The primary energy of ISES is renewable energy and ISES coupled with other systems tightly such as natural gas networks and transportation networks. Power electronic technology provides a good technology platform for contemporary power production and supply. It also supports the integrated smart energy system. Power electronic technology is an important supporting technology for the rapid development of the national economy, which can efficiently convert various energy sources into high-quality electric energy. Facing such a huge demand for manufacturing and energy needs of China, we must not only follow the world's advanced level in power electronic technology, but also need to carry out innovative development combine with domestic actual needs, so that technology can be better applied in the integrated smart energy system.

Technical Sessions

Technical Session 1. Electrical Machines and Drives-I

Nov.10, 2024 Yi Hua

Session Chair: **Jianhui Wang**,
Shanghai Motor System Energy Saving Engineering Technology Research Center Co., Ltd.

Time	Paper Detail
09:00-09:15	**8647** **Paper Title: Control Strategy of Transmission Mechanism Based on Load Torque Feedforward Strategy** Author(s): Hang Xu, Xi Xiao, Zhe Song and Zhongming Liu Presenter: **Hang Xu**, Tsinghua University
09:15-09:30	**1402** **Paper Title: Design of Variable Speed Three-phase PMSM Series IE6 Efficiency Class** Author(s): Jianhui Wang, Haidong Cao and Pengcheng Xie Presenter: **Jianhui Wang**, Shanghai Motor System Energy Saving Engineering Technology Research Center Co., Ltd.
09:30-09:45	**9055** **Paper Title: Fault Diagnosis Method for Power Converter of SRG System** Author(s): Wei Cheng, Yige Wang, Zheng Jia, Ying Han, Dongsheng Yu and Guoqiang Han Presenter: **Guoqiang Han**, China University of Mining and Technology
09:45-10:00	**1828** **Paper Title: Analysis on Harmonic Inductance in Modular Dual-Permanent Magnet-Excited Vernier Motor by Field Modulation Theory** Author(s): Chen Jia, Wenxiang Zhao, Zhijian Ling, Kaiwei He, Ming Chen and Sheng Bao Presenter: **Chen Jia**, Jiangsu University
10:00-10:15	**5744** **Paper Title: Analytical Calculation and Reduction of Circulating Current Losses in SPM Motors Based on Conductor Turn Division Strategy** Author(s): Kaiwei He, Wenxiang Zhao, Xiaoyan Diao, Chen Jia, Ming Chen and Sheng Bao Presenter: **Kaiwei He**, Jiangsu University
10:15-10:30	**5203** **Paper Title: Speed Ripple Minimization of Open-Winding Permanent Magnet Synchronous Machine Under Demagnetization** Author(s): Abdur Rahman, Rukmi Dutta, Guoyu Chu, Minghao Gao, Dan Xiao and Muhammed Fazlur Rahman Presenter: **Muhammed Fazlur Rahman**, University of New South Wales

Technical Session 2. Power-I

Nov.10, 2024 Xin Hua

Session Chair: **Yu Zhang**, Shanghai Jiao Tong University

Time	Paper Detail
09:00-09:15	**1366** **Paper Title: Parallel Fault Diagnosis Algorithm of Circuit Breaker Based on Arc Power Loss** Author(s): Feng Xue，Yingxiong Leng, Rijing Lai, Qingbo Zhang and Guote Liu Presenter: **Feng Xue**, Dongguan Power Supply Bureau Information Center
09:15-09:30	**4097** **Paper Title: Grid-forming Control of VSC-HVDC System with Offshore Wind Farm Integration and Direct-mounted Battery Energy Storage System** Author(s): Li Liu, Tianyuan Duan, Renxin Yang, Zhekai Li and Xu Cai Presenter: **Renxin Yang**, Shanghai Jiao Tong University
09:30-09:45	**4125** **Paper Title: Stability Research on Back-to-Back Electric Spring Based on Impedance Analysis** Author(s): Xi Zhang, Xing Zhang, Ming Li, XiangYu Deng, Xiao Zhang and Lei Du Presenter: **Xi Zhang**, Hefei University of Technology
09:45-10:00	**5891** **Paper Title: Deep Reinforcement Learning Control and Wave Tank Testing of Wave Energy Converters** Author(s): Yifei Han, Xuanrui Huang, Zechuan Lin, Kemeng Chen and Xi Xiao Presenter: **Han Yifei**, Tsinghua University
10:00-10:15	**4617** **Paper Title: Transient Stability Analysis and Judgment Based on Virtual Synchronous Generator Control** Author(s): Cheng Mei, Zhenyu Lv, Bingnan Zhou and Qi Li Presenter: **Cheng Mei**, Nanjing Normal University

Technical Session 3. Controls

Nov.10, 2024 Yi Hua

Session Chair: **Xuemei Zheng**, Harbin Institute of Technology

Time	Paper Detail
10:50-11:05	**2733** **Paper Title: Design of a Standalone EV Charger with Enhanced Control and a Wide Output Voltage Range** Author(s): Ricky Tinotenda Abel Mutsvairo, Qiang Gao and Cyril S Staines Presenter: **Ricky Tinotenda Abel Mutsvairo**, Shanghai Jiao Tong University
11:05-11:20	**4489** **Paper Title: Based on Novel High-Order Logarithmic SMO and STPLL PMSM Position Sensorless Control** Author(s): Ying Chen, Weizhi Yu and Shuhao Zhang Presenter: **Weizhi Yu**, Nanchang University
11:20-11:35	**4253** **Paper Title: Study of Circuit Breaker Operational State Based on CNN and Kurtogram Parallel Acceleration** Author(s): Feng Xue, Yingxiong Leng, Haobo Liang, Xiaoji Guo, Caihong Dong and Guote Liu Presenter: **Feng Xue**, Information Center of Dongguan Power Supply Bureau
11:35-11:50	**2857** **Paper Title: Enhancing Bus Stability through LADRC Strategies for Energy Storage in Wave Energy Systems** Author(s): Wang Jie, Huang Xuanrui, Guo Yougui and Xiao Xi Presenter: **Wang Jie**, Xiangtan University
11:50-12:05	**2816** **Paper Title: Adaptive Fuzzy Sliding Mode for Sensorless Control with Performance Enhancement in PMSM** Author(s): Sai Zhang, Anwen Shen, Xin Luo and Qipeng Tang Presenter: **Sai Zhang**, Huazhong University of Science and Technology
12:05-12:20	**369** **Paper Title: Synchronization Stability Analysis of Fractional-Order Virtual Synchronous Converter** Author(s): Bingnan Zhou, Zhenyu Lv, Qi Li and Cheng Mei Presenter: **Bingnan Zhou**, Nanjing Normal University

Technical Session 4. Electrical Machines and Drives-II

Nov.10, 2024 Xin Hua

Session Chair: **Qiang Gao**, Shanghai Jiao Tong University

Time	Paper Detail
10:50-11:05	**5538** **Paper Title: Analysis of Loss of an Unevenly Distributed Rotor Induction Motor with Double-slot Sinusoidal Modulation** Author(s): Xu Zhang, Xiaohua Bao and Wei Hu Presenter: **Xu Zhang**, Hefei University of Technology
11:05-11:20	**4015** **Paper Title: Research on Smooth Switching Strategy of Two-Level SVPWM and SHEPWM Hybrid Modulation** Author(s): Qishuai Wang, Shuying Yang, Lingjun Meng and Zhanpeng Cai Presenter: **Qishuai Wang**, Hefei University of Technology
11:20-11:35	**2826** **Paper Title: A Flux Estimator Based on Third-Order Generalized Integrators and Improved Frequency-Locked Loop for Sensorless Drive of PMSMs** Author(s): Nan Yao, Shuying Yang, Lingjun Meng, Zhanpeng Cai, Yinlong Ren and XiaoHui Jiang Presenter: **Nan Yao**, Hefei University of Technology
11:35-11:50	**5573** **Paper Title: Improve the MTPA Performance of a Sensorless IPMSM Drive Based on On-line Inductance Estimation** Author(s): Yue Liu, Bin Tang, Qiang Gao, Yong Li and Fei E Presenter: **Yue Liu**, Shanghai Jiao Tong University
11:50-12:05	**3427** **Paper Title: Research on Loss Optimization of AC-Excitation Synchronous Condenser Under Multi-Condition Constraints** Author(s): Yinping Liu, Kexun Yu, Jiabing Hu, Xiao Chen, Xi Chen and Xianfei Xie Presenter: **Yinping Liu**, Huazhong University of Science and Technology
12:05-12:20	**4980** **Paper Title: A Natural Fault-Tolerant Control for a Dual Three-Phase Permanent Magnet Synchronous Motor with Single-Phase Open Fault** Author(s): Tao Huang, Bing Tian, Cong Guo and Qiang Tan Presenter: **Tao Huang**, Nanjing University of Aeronautics and Astronautics

Technical Session 5. Power-II

Nov.10, 2024 Xin Hua

Session Chair: **Jianqiao Zhou**, Shanghai Jiao Tong University

Time	Paper Detail
13:30-13:45	**9497** **Paper Title: Stability Analysis and Improvement of Symmetric PLL-Based VSC in Weak Grids** Author(s): Xiaohui Jiang, Shuying Yang, Zhanpeng Cai and Nan Yao Presenter: **Xiaohui Jiang**, Hefei University of Technology
13:45-14:00	**9774** **Paper Title: Fault Protection Scheme for Multiport Transformer-less Unified Power Flow Controller** Author(s): Xinming Fan, Di Dong, Wanjing Tu, Jianqiao Zhou, Linpeng Yao, Gang Shi and Xingda Xia Presenter: **Xingda Xia**, Shanghai Jiao Tong University
14:00-14:15	**8956** **Paper Title: A DC Fault Clearance Device for Long-distance Offshore Wind Power DC transmission System** Author(s): Shuxin Luo, Feng Li, Yanfeng Wang, Shibo Tian, Yu Tong and Linpeng Yao Presenter: **Yu Tong**, Shanghai Jiao Tong University
14:15-14:30	**5252** **Paper Title: A Novel DC Transformer Based 3RSC for DC Wind Turbine** Author(s): Feng Li, Shuxin Luo, Hao Yu, Shibo Tian and Linpeng Yao Presenter: **Shibo Tian**, Shanghai Jiao Tong University
14:30-14:45	**4460** **Paper Title: Fault Ride-Through Strategy for Multiport Transformer-less Unified Power Flow Controller** Author(s): Linlin Chu, Yue Yi, Ming Zong, Jianqiao Zhou, Linpeng Yao, Gang Shi and Yulu Jiang Presenter: **Yulu Jiang**, Shanghai Jiao Tong University

Technical Session 6. Energy

Nov.10, 2024 Yi Hua

Session Chair: **Fei Gao**, Shanghai Jiao Tong University

Time	Paper Detail
13:30-13:45	**8454** **Paper Title: Sensitivity Analysis on Efficiency Influence Factors of Transmission Chain Slope Gravity Energy Storage System Based on Sobol Method** Author(s): Tian Gao, Youkang Zhang, Linlin Dong, Zufan Wang, Haisen Zhao, Yongzhang Huang, Yuxuan Wang and Gaoyun Wu Presenter: **Tian Gao**, North China Electric Power University
13:45-14:00	**1551** **Paper Title: Lithium-ion Battery Pack State of Charge Balance Based on Reconfigurable Topology** Author(s): Lingzhi Yi, Fuyou Chen, Yahui Wang, Bote Luo, Lv Fan and Xiaoxue Luo Presenter: **Lingzhi Yi**, Xiangtan University
14:00-14:15	**4698** **Paper Title: Circulating Current Suppression in Parallel Inverter System with Small Shared Inductance** Author(s): Yinlong Ren, Shuying Yang, Jinggang Zheng and Nan Yao Presenter: **Yinlong Ren**, Hefei University of Technology
14:15-14:30	**5487** **Paper Title: Black Start Scheme for Grid-Forming Doubly Fed Wind Turbines with Improved Virtual Synchronous Control Based on Virtual Stator Electromotive Force** Author(s): Wanqing Yang, Tengkai Yu, Jifeng Liang, Guanghui Sun, Zeming Gao, Jun Yang and Xiaotao Peng Presenter: **Wanqing Yang**, Wuhan University
14:30-14:45	**7777** **Paper Title: A Power Shock Mitigation Method of Gravity Energy Storage System Based on Sliding Mode Control** Author(s): Youkang Zhang, Tian Gao, Shuyang Fang, Zufan Wang, Xian Wang, Yongzhang Huang, Liancheng Zhang and Haisen Zhao Presenter: **Tian Gao**, North China Electric Power University
14:45-15:00	**1365** **Paper Title: Gradient-Based Black-Box Modeling and Parameter Tuning for Stability Margin Improvement of Multi-Inverter System** Author(s): Jiayu Fang, Shuying Yang, Zhen Xie, Xing Zhang and Liuchen Chang Presenter: **Jiayu Fang**, Hefei University of Technology
15:00-15:15	**4226** **Paper Title: Power Smoothing Control Strategy of Gravity Energy Storage System Based on Mechanical Flywheel** Author(s): Linlin Dong, Shuyang Fang, Tian Gao, Youkang Zhang, Xun Yu, Zufan Wang, Yang Zhan and Haisen Zhao Presenter: **Tian Gao**, North China Electric Power University

Technical Session 7. Electrical Machines and Drives-III

Nov.10, 2024 Xin Hua

Session Chair: **Qing Li**, IEEE Area Manager, APAC

Time	Paper Detail
15:35-15:50	**2566** **Paper Title: Harmonic Analysis and Numerical Calculation of Stator Core Loss and Temperature Field for Permanent Magnet Synchronous Motor** Author(s): Yuqiang Li, Songlin Dong, Xianzhuang Xu, Zehai Huang and Lei Wang Presenter: **Songlin Dong**, Harbin University of Science and Technology
15:50-16:05	**351** **Paper Title: Novel Radial-Type Permanent Magnet Generators with Mechanical Flux-Weakening Design for VSCAV Control in Wind Power Generation** Author(s): Zixu Dong, Mingyuan Jiang and Shuangxia Niu Presenter: **Mingyuan Jiang**, The Hong Kong Polytechnic University
16:05-16:20	**8957** **Paper Title: Ring Topology Drive for Seven-Phase Switched Reluctance Motor** Author(s): Dongshan Fu, Shengren Wang, Xiaojie Wu, Zhiyuan Lv, Xiangrui Wang, Bo Xiang and Zhan Wang Presenter: **Shengren Wang**, China University of Mining and Technology
16:20-16:35	**3584** **Paper Title: Improved MFAC-based Re-flight Control Method for Power Inspection Flying Wall-climbing Robot** Author(s): Kunpeng Liu, Jien Ma, Yunian Shen, Bowen Xu and Youtong Fang Presenter: **Kunpeng Liu**, Zhejiang University
16:35-16:50	**5767** **Paper Title: Robustness Sensorless Control Strategy for PMSM Based on MPC with Multi-parameter Estimation** Author(s): Xingke An, Qilin Yao, Shaohua Wang and Qian Chen Presenter: **Xingke An**, Jiangsu University
16:50-17:05	**1692** **Paper Title: Investigation of Losses in the Integrated Charger by Using Variable Flux Reluctance Machine** Author(s): Libin Zang, Weijie Hou, Yuehua Li, Jingze Du and Xu Liu Presenter: **Xu Liu**, Hebei University of Techonology

Poster Session

Nov.09, 2024

Foyer (2F)

Poster No.	Paper ID	Paper Detail
01	8581	**Optimal Design and Analysis of Homopolar Doubly Salient Permanet Magnet Motor** Author(s): Yimin Fei and Lei Mei
02	3450	**The Study of Phase Change Thermal Management Schemes for Motors under Frequent Overloads** Author(s): Haotian Zhang, Shuheng Qiu, Junzhou Wang, Jinhua Chen, Xianbei Sun and Chi Zhang
03	3021	**Feedback Type Flux-Weakening Control Using Re-Prediction of Current for Model Predictive Current Control System of PMSM** Author(s): Atsushi Matsumoto
04	8647	**Control Strategy of Transmission Mechanism Based on Load Torque Feedforward Strategy** Author(s): Hang Xu, Xi Xiao, Zhe Song and Zhongming Liu
05	2566	**Harmonic Analysis and Numerical Calculation of Stator Core Loss and Temperature Field for Permanent Magnet Synchronous Motor** Author(s): Yuqiang Li, Songlin Dong, Xianzhuang Xu, Zehai Huang and Lei Wang
06	9930	**PMSM Inter-Turn Short Circuit Fault Diagnosis Based on WOA-VMD** Author(s): Jinyong Zhang, Dingguo Shao and Yitong Wei
07	2033	**Effect of Stator Auxiliary Groove on the Vibration and Noise of Permanent Magnet Synchronous Motor** Author(s): Jin Ding and Wengang Jiang
08	5937	**High-Precision Position Control of Ultrasonic Motor Based on Transient Response** Author(s): Huajie Qu, Zhongpu Wen, Mengdi Shi, Jianjun Qu
09	2184	**Research on the Optimization Control Strategy of the Four-Quadrant Rectifiers for High-Speed EMUs** Author(s): Rui Shi, Xiaopeng Lin and Guangtian Shi
10	5943	**Study on the Weakening of Cogging Torque by Stator Structure Optimization of Permanent Magnet Synchronous Motor** Author(s): Tao Hua, Aiyuan Wang, Yijie Jiang and Libo GU
11	3856	**Energy Consumption Model of Position Servo PMSM Based on Finite Element and Loss Mapping Function** Author(s): Bin Yuan, Hui Li, Xuewei Xiang and Hao Zhang
12	351	**Novel Radial-Type Permanent Magnet Generators with Mechanical Flux-Weakening Design for VSCAV Control in Wind Power Generation** Author(s): Zixu Dong, Mingyuan Jiang and Shuangxia Niu

Poster Session

Nov.09, 2024 Foyer (2F)

Poster No.	Paper ID	Paper Detail
13	4980	**A Natural Fault-Tolerant Control for a Dual Three-Phase Permanent Magnet Synchronous Motor with Single-Phase Open Fault** Author(s): Tao Huang, Bing Tian, Cong Guo and Qiang Tan
14	8957	**Ring Topology Drive for Seven-Phase Switched Reluctance Motor** Author(s): Dongshan Fu, Shengren Wang, Xiaojie Wu, Zhiyuan Lv, Xiangrui Wang, Bo Xiang and Zhan Wang
15	3584	**Improved MFAC-based Re-flight Control Method for Power Inspection Flying Wall-climbing Robot** Author(s): Kunpeng Liu, Jien Ma, Yunian Shen, Bowen Xu and Youtong Fang
16	2245	**Analysis of Axial-Radial Hybrid Ventilation Dynamics in the Rotor of High-Power Asynchronous Electric Motors** Author(s): Jianfeng Mao, Binbin Chen and Rongsheng Jia
17	5767	**Robustness Sensorless Control Strategy for PMSM Based on MPC with Multi-parameter Estimation** Author(s): Xingke An, Qilin Yao, Shaohua Wang and Qian Chen
18	1692	**Investigation of Losses in the Integrated Charger by Using Variable Flux Reluctance Machine** Author(s): Libin Zang, Weijie Hou, Yuehua Li, Jingze Du and Xu Liu
19	1402	**Design of Variable Speed Three-phase PMSM Series IE6 Efficiency Class** Author(s): Jianhui Wang, Haidong Cao and Pengcheng Xie
20	5538	**Analysis of Loss of an Unevenly Distributed Rotor Induction Motor with Double-slot Sinusoidal Modulation** Author(s): Xu Zhang, Xiaohua Bao and Wei Hu
21	6066	**A Virtual Vector Modulation Strategy to Suppress the Third Harmonic of Common-mode Voltage for Three-level Inverters** Author(s): Yulei Zhang, Shuying Yang and Jinggang Zheng
22	4015	**Research on Smooth Switching Strategy of Two-Level SVPWM and SHEPWM Hybrid Modulation** Author(s): Qishuai Wang, Shuying Yang, Lingjun Meng and Zhanpeng Cai
23	3167	**Research on Control Strategy of PMSM Based on Duty Cycle Tracking SHEPWM** Author(s): Zhanpeng Cai, Shuying Yang, Qishuai Wang, Xiaohui Jiang, Nan Yao and Lingjun Meng
24	9055	**Fault Diagnosis Method for Power Converter of SRG System** Author(s): Wei Cheng, Yige Wang, Zheng Jia, Ying Han, Dongsheng Yu and Guoqiang Han
25	2826	**A Flux Estimator Based on Third-Order Generalized Integrators and Improved Frequency-Locked Loop for Sensorless Drive of PMSMs** Author(s): Nan Yao, Shuying Yang, Lingjun Meng, Zhanpeng Cai, Yinlong Ren and XiaoHui Jiang

Poster Session

Nov.09, 2024 Foyer (2F)

Poster No.	Paper ID	Paper Detail
26	1828	**Analysis on Harmonic Inductance in Modular Dual-Permanent Magnet-Excited Vernier Motor by Field Modulation Theory** Author(s): Chen Jia, Wenxiang Zhao, Zhijian Ling, Kaiwei He, Ming Chen and Sheng Bao
27	5744	**Analytical Calculation and Reduction of Circulating Current Losses in SPM Motors Based on Conductor Turn Division Strategy** Author(s): Kaiwei He, Wenxiang Zhao, Xiaoyan Diao, Chen Jia, Ming Chen and Sheng Bao
28	5573	**Improve the MTPA Performance of a Sensorless IPMSM Drive Based on On-line Inductance Estimation** Author(s): Yue Liu, Bin Tang, Qiang Gao, Yong Li and Fei E
29	5203	**Speed Ripple Minimization of Open-Winding Permanent Magnet Synchronous Machine Under Demagnetization** Author(s): Abdur Rahman, Rukmi Dutta, Guoyu Chu, Minghao Gao, Dan Xiao and Muhammed Fazlur Rahman
30	3427	**Research on Loss Optimization of AC-Excitation Synchronous Condenser Under Multi-Condition Constraints** Author(s): Yinping Liu, Kexun Yu, Jiabing Hu, Xiao Chen, Xi Chen and Xianfei Xie
31	1366	**Parallel Fault Diagnosis Algorithm of Circuit Breaker Based on Arc Power Loss** Author(s): Feng Xue, Yingxiong Leng, Rijing Lai, Qingbo Zhang and Guote Liu
32	602	**Parameter Identified for Energy Storage Based on Terminal Sliding Mode Control** Author(s): Xuemei Zheng, Li qien, Hao Shuanghui, Sun Xianglong and Yang junxian
33	7253	**Research on Multi-Objective Optimization of Transformer Sequential Maintenance Strategy Considering Component Health Status** Author(s): Qi Shi, Zhoufei Yao, Chunjie Gu, Xinwen Wang and Yunpeng Zhang
34	3664	**Review of Frequency Response Analysis of Power Electronics-Dominated Power Systems** Author(s): Xiongguang Zhao, Xu Ling, Weigang Jin, Ying Wang, Xiaodong Yu, Lei Chen, Xiaoyan You and Hongkun Chen
35	4097	**Grid-forming Control of VSC-HVDC System with Offshore Wind Farm Integration and Direct-mounted Battery Energy Storage System** Author(s): Li Liu, Tianyuan Duan, Renxin Yang, Zhekai Li and Xu Cai
36	4125	**Stability Research on Back-to-Back Electric Spring Based on Impedance Analysis** Author(s): Xi Zhang, Xing Zhang, Ming Li, Xiang Yu Deng, Xiao Zhang and Lei Du
37	5891	**Deep Reinforcement Learning Control and Wave Tank Testing of Wave Energy Converters** Author(s): Yifei Han, Xuanrui Huang, Zechuan Lin, Kemeng Chen and Xi Xiao

Poster Session

Nov.09, 2024 Foyer (2F)

Poster No.	Paper ID	Paper Detail
38	1453	**Dq-axis Current Based Protection Principle for Modular Multilevel Converters** Author(s): Chenkai Zhang, Yiqing Liu, Di Yan, Qingxiu Du, Yuanjian Wei and Qichao Xu
39	9680	**Multi-physics Field Coupling Simulation of Vibration and Noise in the Three-dimensional Wound Core Reactors** Author(s): Xinqian Xia, Li Zhu, Zixi Zhang, Chan Shan, Zixuan Zhu, Mengwei Wang and Yizhu Cai
40	7650	**Indirect Carbon Emission Decomposition Technology of Industrial Load Electricity Based on Non-intrusive Load Monitoring** Author(s): Jiadong Wang, Angang Zheng, Xingqi Liu and Yue Han
41	9497	**Stability Analysis and Improvement of Symmetric PLL-Based VSC in Weak Grids** Author(s): Xiaohui Jiang, Shuying Yang, Zhanpeng Cai and Nan Yao
42	8810	**Economic and Reliability Optimization of Transformer Maintenance Strategies for Substation Asset Management** Author(s): Qi Shi, Zhoufei Yao, Chunjie Gu, Xinwen Wang and Yunpeng Zhang
43	9900	**User Identification in Low-Voltage Distribution Networks Using Support Vector Machine and Random Forest** Author(s): Zhoufei Yao, Xinwen Wang, Amanuel Assefa Endeshaw and Yunpeng Zhang
44	9774	**Fault Protection Scheme for Multiport Transformer-less Unified Power Flow Controller** Author(s): Xinming Fan, Di Dong, Wanjing Tu, Jianqiao Zhou, Linpeng Yao, Gang Shi and Xingda Xia
45	8956	**A DC Fault Clearance Device for Long-distance Offshore Wind Power DC transmission System** Author(s): Shuxin Luo, Feng Li, Yanfeng Wang, Shibo Tian, Yu Tong and Linpeng Yao
46	5252	**A Novel DC Transformer Based 3RSC for DC Wind Turbine** Author(s): Feng Li, Shuxin Luo, Hao Yu, Shibo Tian and Linpeng Yao
47	4460	**Fault Ride-Through Strategy for Multiport Transformer-less Unified Power Flow Controller** Author(s): Linlin Chu, Yue Yi, Ming Zong, Jianqiao Zhou, Linpeng Yao, Gang Shi and Yulu Jiang
48	4617	**Transient Stability Analysis and Judgment Based on Virtual Synchronous Generator Control** Author(s): Cheng Mei, Zhenyu Lv, Bingnan Zhou and Qi Li
49	4405	**Research on the Joint Planning of Flexible Interconnection and Energy Storage Devices in Low-Voltage Flexible Distribution Networks** Author(s): Qi Li, Zhenyu Lv, Cheng Mei and Bingnan Zhou

Poster Session

Nov.09, 2024 Foyer (2F)

Poster No.	Paper ID	Paper Detail
50	4013	**DC Arc Fault Detection Method Based on Lightweight Neural Networks** Author(s): Xuxin Ge, Xinran Li, Yaojie Sun and Yu Wang
51	1551	**Lithium-ion Battery Pack State of Charge Balance based on Reconfigurable Topology** Author(s): Lingzhi Yi, Fuyou Chen, Yahui Wang, Bote Luo, Lv Fan and Xiaoxue Luo
52	8454	**Sensitivity Analysis on Efficiency Influence Factors of Transmission Chain Slope Gravity Energy Storage System Based on Sobol Method** Author(s): Tian Gao, Youkang Zhang, Linlin Dong, Zufan Wang, Haisen Zhao, Yongzhang Huang, Yuxuan Wang and Gaoyun Wu
53	7777	**A Power Shock Mitigation Method of Gravity Energy Storage System Based on Sliding Mode Control** Author(s): Youkang Zhang, Tian Gao, Shuyang Fang, Zufan Wang, Xian Wang, Yongzhang Huang, Liancheng Zhang and Haisen Zhao
54	4226	**Power Smoothing Control Strategy of Gravity Energy Storage System Based on Mechanical Flywheel** Author(s): Linlin Dong, Shuyang Fang, Tian Gao, Youkang Zhang, Xun Yu, Zufan Wang, Yang Zhan and Haisen Zhao
55	2450	**Analysis of Energy Efficiency Characteristics of Gravity Energy Storage System** Author(s): Yuxuan Wang, Yilong Wang, Tian Gao, Linlin Dong, Liancheng Zhang, Xudong Ma, Zufan Wang and Haisen Zhao
56	7050	**Coordinated Operation Methods of MGP for Stability Ability Improvement of Microgrids** Author(s): Jiansheng Hou, Keqin Ji, Yingcong Wang, Yongpan Fei, Tongyu Guan and Tian Gao
57	923	**Optimal Cnfiguration Model of Distributed Energy Storage Location and Capacity for Distribution Station Area** Author(s): Jiansheng Hou, Yingcong Wang, Jianfeng Jin, Qiang Zong, Xin Cui and Tian Gao
58	5487	**Black Start Scheme for Grid-Forming Doubly Fed Wind Turbines with Improved Virtual Synchronous Control Based on Virtual Stator Electromotive Force** Author(s): Wanqing Yang, Tengkai Yu, Jifeng Liang, Guanghui Sun, Zeming Gao, Jun Yang and Xiaotao Peng
59	4698	**Circulating Current Suppression in Parallel Inverter System with Small Shared Inductance** Author(s): Yinlong Ren, Shuying Yang, Jinggang Zheng and Nan Yao
60	1365	**Gradient-Based Black-Box Modeling and Parameter Tuning for Stability Margin Improvement of Multi-Inverter System** Author(s): Jiayu Fang, Shuying Yang, Zhen Xie, Xing Zhang and Liuchen Chang

Poster Session

Nov.09, 2024 Foyer (2F)

Poster No.	Paper ID	Paper Detail
61	9153	**Design of Liquid Cooling System for Pouch Lithium-ion Batteries Based on Computational Fluid Dynamics Analysis** Author(s): Yihan Guo, Meng Yuan, Shiyi Fu, Ziyu Zhu, Yu Wang, Yaojie Sun
62	4484	**Dynamic Equivalence Study of Direct-drive Wind Farm** Author(s): Xiaodan Cui, Yanpin Wang, Jialong Wu, Shilu Wang, Jiaqi Feng and Kui Deng
63	5448	**A Low-carbon Microgrid Evaluation Index System Adapted to the New Power System** Author(s): Dongyue Kan, TianXin Jin, Rui Zao and Shenjun Yin
64	6951	**Research on a Novel Electromechanical Booster Brake** Author(s): Jian Kang, Huan Li, Jiarui Zhao and Shuanghui Hao
65	4253	**Study of Circuit Breaker Operational State Based on CNN and Kurtogram Parallel Acceleration** Author(s): Feng Xue, Yingxiong Leng, Haobo Liang, Xiaoji Guo, Caihong Dong and Guote Liu
66	2857	**Enhancing Bus Stability through LADRC Strategies for Energy Storage in Wave Energy Systems** Author(s): Wang Jie, Huang Xuanrui, Guo Yougui and Xiao Xi
67	3181	**Stability Analysis of Flux Controllable Reactor Access System** Author(s): Jinfeng Wang, Tiantian Cao,Zhengyang Ye, Xiaorong Wan and Dayi Li
68	4489	**Based on Novel High-Order Logarithmic SMO and STPLL PMSM Position Sensorless Control** Author(s): Ying Chen, Weizhi Yu and Shuhao Zhang
69	7582	**Optimized Model Predictive Control Using Machine Learning for HVDC Modular Multilevel Converters** Author(s): Amanuel Assefa Endeshaw, Xuecheng Sun, Haftamu Lemlem Nirea and Yunpeng Zhang
70	535	**Autonomous Vehicle Path Tracking Control Considering Yaw Stability** Author(s): Noraishikin Zulkarnain, Nurul Husna Fuad, Hairi Zamzuri, Dong Wenpeng, Muhammad Syahmi Mohd Shamshul and Nur Farah Adila Mohamad
71	2816	**Adaptive Fuzzy Sliding Mode for Sensorless Control with Performance Enhancement in PMSM** Author(s): Sai Zhang, Anwen Shen, Xin Luo and Qipeng Tang
72	369	**Synchronization Stability Analysis of Fractional-Order Virtual Synchronous Converter** Author(s): Bingnan Zhou, Zhenyu Lv, Qi Li and Cheng Mei
73	2733	**Design of a Standalone EV Charger with Enhanced Control and a Wide Output Voltage Range** Author(s): Ricky Tinotenda Abel Mutsvairo, Qiang Gao and Cyril S Staines

Memo

Memo

Memo

Sponsored by

清華大學 Tsinghua University

上海交通大學 SHANGHAI JIAO TONG UNIVERSITY

IEEE

Organized by

SEARI 上電科

DIANJI YU KONGZHI YINGYONG 电机与控制应用 Electric Machines & Control Application

中国电工技术学会 China Electrotechnical Society 中小型电机专委会

SMEMS 中小型电机

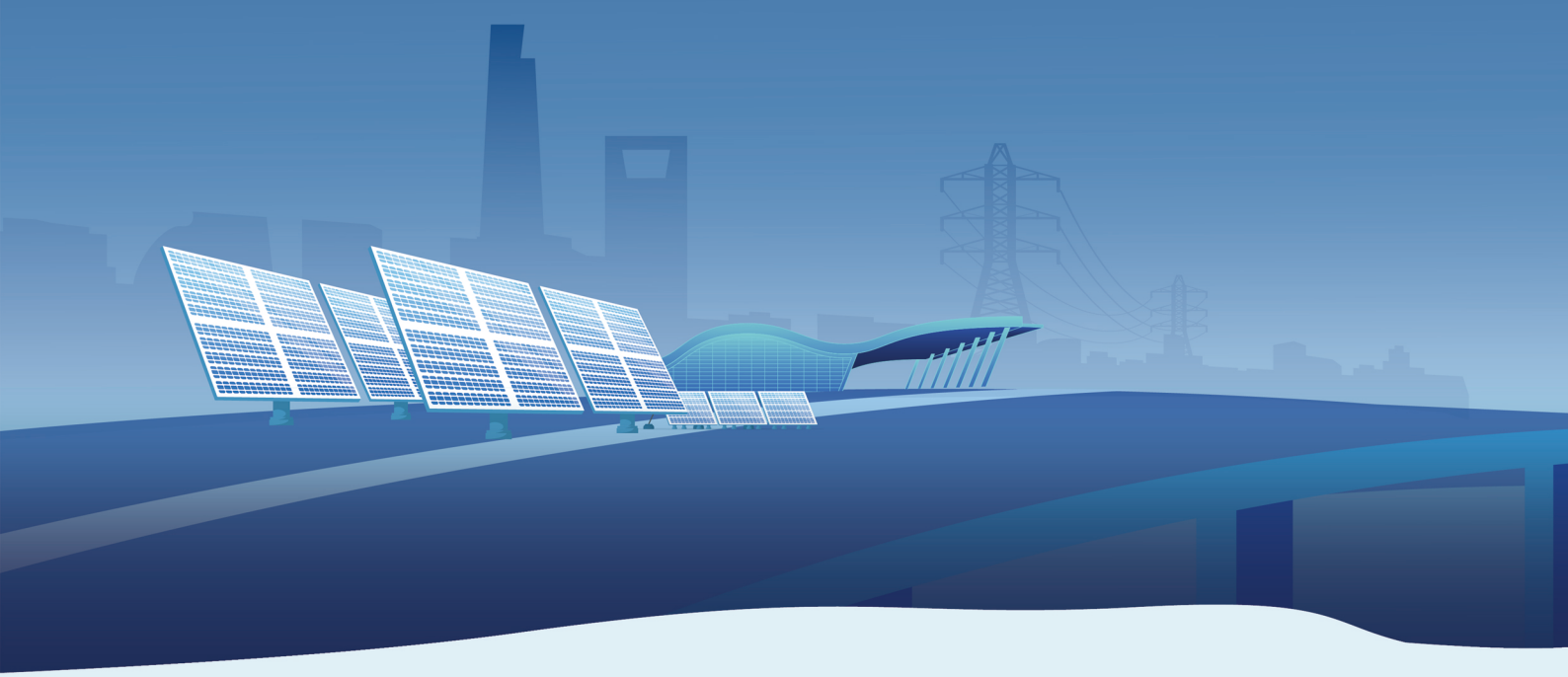
上海市电机工程学会 SEE

Co-organized by

哈电集团 HARBIN ELECTRIC CORPORATION

佳木斯电机股份有限公司

汽潮



Media Partners

DIANJI YU KONGZHI YINGYONG 电机与控制应用 Electric Machines & Control Application

电机领航者 Electric Machine Navigator

PCMP Protection and Control of Modern Power Systems 现代电力系统保护与控制

电力系统保护与控制 Power System Protection and Control

EPC 电力建设

ECE 能源转换与经济 (英文) Energy Conversion and Economics

电工技术学报

Chinese Journal of Electrical Engineering

机械制造 MACHINERY

电工技术学报 TRANSACTIONS OF CHINA ELECTROTECHNICAL SOCIETY

电气技术

防爆电机 FANG BAO DIAN JI