



2026 IEEE IAS Industrial and Commercial Power System Asia

 Industry and Transportation Integrated Smart Energy System

CONFERENCE PROGRAM



Kunming, China | July 11-14, 2026

中国·昆明 | 2026年7月11—14日





TABLE OF CONTENTS

WELCOME TO IEEE I&CPS 2026	01
CONFERENCE COMMITTEE	02
CONFERENCE ORGANIZERS	06
CONFERENCE VENUE	07
CONFERENCE GUIDELINES	08
AGENDA OVERVIEW	09
KEYNOTE SPEAKER	12
YOUNG PROFESSIONAL POSTER SESSION	16
TECHNICAL SESSION	19
POSTER SESSION	44
MEMO	59





WELCOME TO IEEE I&CPS Asia 2026

Dear Colleagues and Friends,

It is our great honor and pleasure to welcome you to the 2026 IEEE IAS Industrial and Commercial Power System Asia (IEEE I&CPS Asia 2026). We are truly delighted to host this conference in Kunming, China — a city renowned as the "Spring City" for its pleasant climate, stunning landscapes, and rich cultural heritage.

Under the theme of "Industry and Transportation Integrated Smart Energy System," our conference addresses the accelerating integration of power systems with transportation electrification and the growing share of renewable energy. This timely theme provides a unique platform for researchers, engineers, and industry leaders to exchange ideas, explore novel solutions, and foster future collaborations.

We are proud to have attracted over 320 participants from 11 countries and regions, including China, Malaysia, Australia, Japan, Thailand, the United Arab Emirates, Bangladesh, Indonesia, Saudi Arabia, the United Kingdom, and Denmark. The technical program spans four days, from July 11 to 14, 2026, featuring four distinguished keynote speakers: Prof. Kashem Muttaqi (Australia), Prof. S. A. Saleh (Canada), Dr. Junyu Liang (China), and Prof. Peter Tamas Szemes (Hungary). The conference also includes 25 technical sessions covering AI in power systems, renewable energy integration, smart grids, microgrids, electric vehicles, energy storage, and low-carbon optimization, along with a Young Professional Poster Session dedicated to emerging scholars and engineers.

We extend our sincere gratitude to all sponsors, organizers, volunteers, reviewers, authors, and presenters for their dedication and valuable contributions.

Beyond the technical sessions, we encourage you to take time to explore Kunming — its breathtaking landscapes, diverse ethnic cultures, and renowned local cuisine. We hope this conference will be both academically rewarding and personally memorable.

Once again, welcome to Kunming! We wish you all a productive, enjoyable, and inspiring conference experience.

Thank you.

IEEE I&CPS Asia 2026 Conference Organizing Committee





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Litao Zheng, Chongqing University / The University of Tokyo, China / Japan

Special Session Chair(s)

SS01: Multi-agent Distributed Cooperative Control Technology for the Stable Operation of Microgrid Clusters Interconnected with the Power Grid

- Peng Lu, China Agricultural University, China

- Bo Liu, Tianjin University, China

SS02: Flexible Interaction and Efficient Management of Active Distribution Networks

- Fangyuan Si, Beijing Jiaotong University, China
- Fengzhang Luo, Tianjin University, China
- Hao Xiao, Chinese Academy of Sciences, China

SS03: Advanced Operation, Control, and Optimization of Renewable-Rich Microgrids and Energy Systems

- Guoqing Gao, Aalborg University, Denmark
- Leijiao Ge, Tianjin University, China
- Qi Wang, The Hong Kong Polytechnic University, China
- Zipeng Liang, The Hong Kong Polytechnic University, China
- Yuanxing Xia, Hohai University, China
- Yuji Zeng, City University of Hong Kong, China

SS04: Control Interaction and IBR-Induced Sub-Synchronous Oscillations in Modern Power Systems

- Shuailong Dai, National Energy System Operator, UK
- Yulin Liu, The Hong Kong Polytechnic University, China
- Zifan Lin, Curtin University, Australia
- Yixin Li, Ove Arup & Partners International Ltd., UK
- Xiang Zhang, State Grid Liaoning Electric Power Co., China
- Herbert Ho Ching Lu, University of Western Australia

SS05: Frontier Technologies and Applications of Intelligent Interaction Between Demand-Side Energy Resources and the Power Grid in Spot Market Environments

- Cun Zhang, Tianjin University, China
- Xi Zhang, China Electric Power Research Institute, China
- Wei Du, State Grid Electric Power Research Institute, China
- Xingyu Yan, Southeast University, China





- Changsen Feng, Tongji University, China
- Peng Bao, Zhengzhou University, China

SS06: AI-Enabled Reliability, Lifetime Prediction, and Fault Diagnosis of Power Electronic Converters

- Jianqiu Zhang, Hebei University of Water Resources and Electric Engineering, China
- Xiping Wang, Hebei University of Water Resources and Electric Engineering, China
- Xiangxiang Liu, Tianjin University of Commerce, China
- Qiaoxuan Zhang, Institute of Microelectronics, Chinese Academy of Sciences, China
- Sihang Wu, Tsinghua University, China

SS07: Market Mechanism Innovation and Governance Reform for New-Type Power Systems

- Haoyong Chen, South China University of Technology, China
- Xiaoping Zhang, University of Birmingham, UK
- Zhenjia Lin, The Hong Kong Polytechnic University, China
- Minglei Bao, Zhejiang University, China
- Yuxiang Huang, Guangzhou Development Group, China
- Bifei Tan, Wuyi University, China

SS08: Multi-timescale Modeling and Multi-objective Collaborative Planning of Distributed Energy Systems Based on Multi-element Energy Storage

- Xu Liu, Imperial College London, UK
- Di Wu, North China Electric Power University, China
- Yanyan Yin, Curtin University, Australia
- Yanqing Liu, Curtin University, Australia
- Qingwen Pang, Imperial College London, UK
- Meiheryai Mutailipu, Xinjiang University/Imperial College London, China / UK
- Yusan Turap, Xinjiang University, China
- Jianbin Wang, China Southern Power Grid, China

SS09: Grid-Forming Technologies for Stability and Resilience of Converter-Dominated Power Systems

- Haobo Zhang, Cardiff University, UK
- Suhan Zhang, University of Sheffield, UK
- Zening Li, Taiyuan University of Technology, China
- Chuanliang Xiao, Shandong University of Technology, China
- Gaoqi Liang, Harbin Institute of Technology, Shenzhen, China

SS10: Vehicle-Storage-Grid System Interaction Optimization and Control

- Muyao Wu, Hefei University of Technology, China
- Liang Feng, Shandong University of Technology, China
- Zhengfa Zhang, University of Tennessee, Knoxville, USA

SS11: AI-Enhanced Flexibility Provision from Demand Side Resources

- Ge Chen, Great Bay University, China
- Yi Su, Xiangtan University, China
- Xueshen Zhao, Shandong University of Technology, China
- Pengfei Su, Great Bay University, China

SS12: Low-Carbon Optimization and Coordinated Management of Electricity-Hydrogen Integrated Energy Systems

- Guofeng Wang, Zhejiang University of Technology, China
- Jiayu Han, Zhejiang University of Technology, China
- Hui Li, Dalian University of Technology, China
- Junyi Zhai, China University of Petroleum (East China), China
- Yi Yang, China Three Gorges University, China
- Tao Wu, Chongqing University, China

SS13: Coordinated Flexibility Provision in Highly Renewable Power Systems: Modelling, Control and Market Integration

- Ruiyang He, Cardiff University, UK





- Yuzhou Zhou, Xi'an Jiaotong University, China
- Yunqi Wang, RMIT University, Australia
- Xiaodong Zheng, South China University of Technology, China
- Liang Qian, Shanghai University of Electrical Power, China

SS14: Market Supported Operation of Low-Carbon Power Systems

- Yunyang Zou, Chongqing University, China
- Heling Yuan, Dalian University of Technology, China
- Sufan Jiang, Nanyang Technological University, Singapore
- Guangzheng Yu, Shanghai University of Electric Power, China
- Chuan He, Sichuan University, China

SS15: Flexible Interaction and Intelligent Management of Future Power Networks

- Ning Wang, Aalborg University, Denmark
- Chaochao Song, Aalborg University, Denmark
- Yuyang Wan, Tsinghua University, China
- Chao Deng, Nanjing University of Posts and Telecommunications, China
- Ping Lin, Dalian University of Technology, China

SS16: Dynamic Modeling, Control Strategy, and Multi-timescale Optimization of Electrolyzer Systems for Wind-PV Hydrogen Production

- Jin Tan, Shanghai University of Electric Power, China
- Qiang Xing, Nanjing University of Post and Telecommunications, China
- Junjie Zhong, Changsha University of Science & Technology, China
- Yafei Yang, Shaanxi University of Science and Technology, China
- Qilin Shuai, Beijing Normal University, China

SS17: Intelligent Control and Resilience of Integrated Maritime Energy Systems

- Daogui Tang, Wuhan University of Technology, China

- Yizhou Zhou, Hohai University, China
- Xinyu Wang, Yanshan University, China
- Dong Zhang, Dalian Maritime University, China
- Shuli Wen, Shanghai Jiao Tong University, China

SS18: AI-Enabled Optimization for Integrated Energy and Transportation Systems in Smart Cities

- Qisheng Huang, Harbin Institute of Technology, Shenzhen, China
- Tingting Dong, The Hong Kong University of Science and Technology, China
- Wenlong Liao, Southeast University, China
- Xiangxiang Wei, Xi'an University of Technology, China
- Yihong Zhou, University of Oxford, UK
- Yitong Shang, The Hong Kong University of Science and Technology, China

SS19: Advanced Power Electronics Technologies in High-Penetration Renewable Energy Grids

- Lihong Xie, Nanjing University of Aeronautics and Astronautics, China
- Bo Gao, East China Jiaotong University, China
- Kai Wang, China University of Mining and Technology, China
- Yu Wang, Guangdong University of Technology, China
- Chuan Sun, Macau University of Science and Technology, China
- Shanglong Li, East China Jiaotong University, China

SS20: Key Technologies for Optimal Operation and Control of Clean Energy Integration Systems via DC-Friendly Sending Systems

- Yiping Yuan, University of Electronic Science and Technology of China, China
- Haitao Zhang, Xi'an Jiaotong University, China





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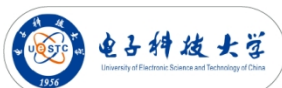
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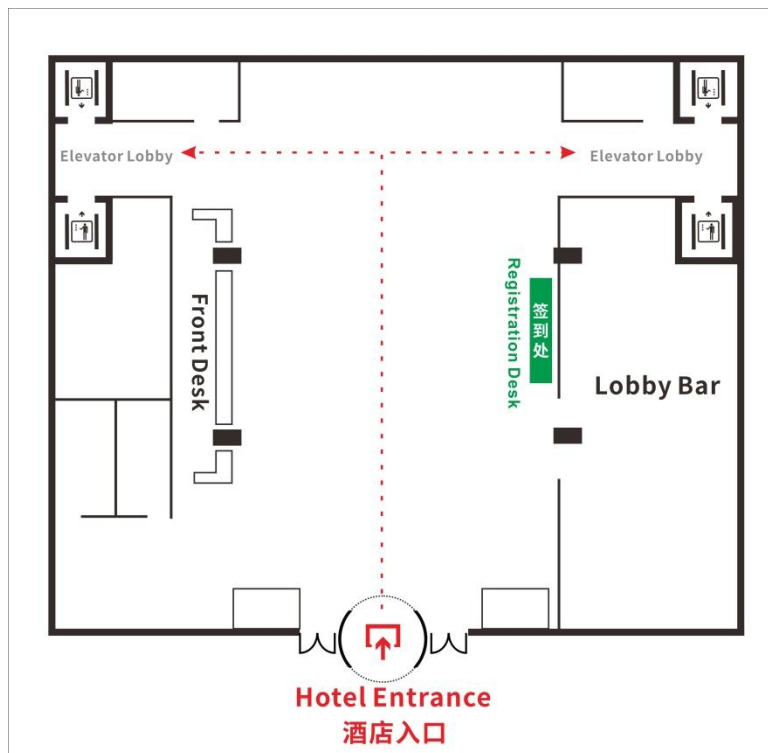
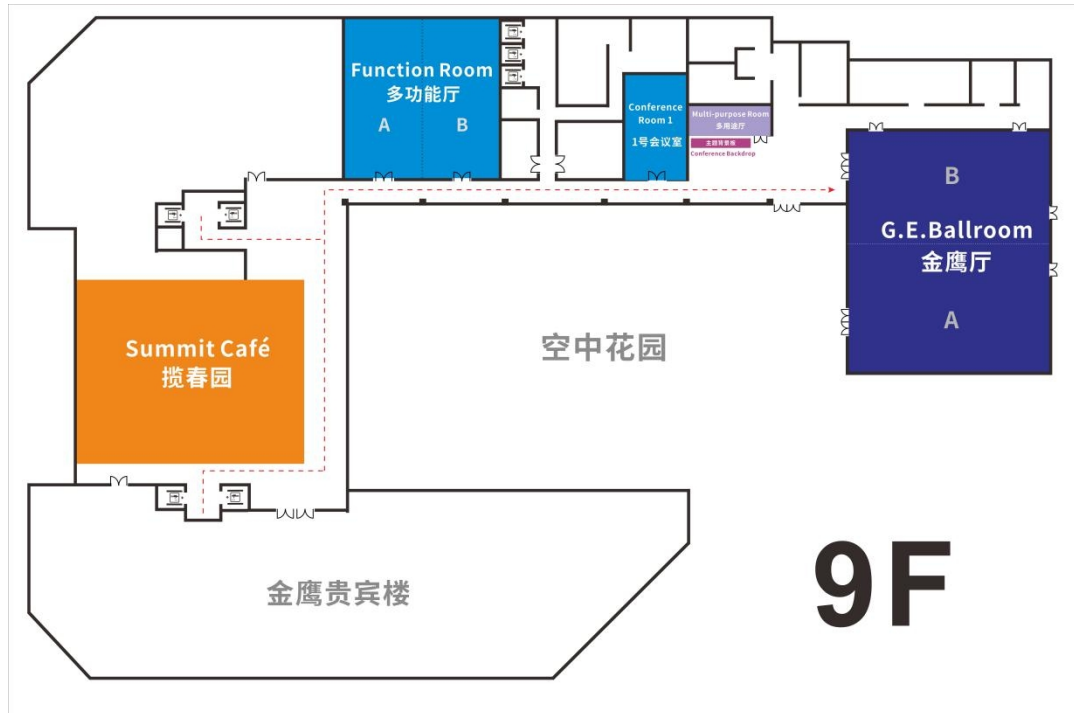


CONFERENCE VENUE

Kunming Golden Eagle Summit Hotel (昆明金鹰广场酒店)

Address: No.168, Weiyuan Road, Wuhua, Kunming, China

地址：云南省昆明市五华区威远街 168 号





CONFERENCE GUIDELINES

Oral Presentation

1. The duration of a presentation slot is **15** minutes. Please target your lecture for a duration of about 12 minutes for the presentation plus about 3 minutes for questions from the audience.
2. Your punctual arrival and active involvement in each session will be highly appreciated.
* Get your presentation PPT or PDF files prepared and backed up.
3. Laptops, projector & screen, laser sticks will be provided by the conference organizer.

Poster Presentation

It's expected that at least one author stands by the poster for (most of the time of) the duration of the poster session. This is essential both to present your work to anyone interest in it and to make sure that your presence is verified by committee.

Site Tour

Participants are requested to gather **15** minutes in advance at 1:45 PM in the lobby of Kunming Golden Eagle Summit Hotel.

Conference Rooms

G. E. Ballroom A&B: Main Conference Room

Function Room A&B, Conference Room 1: Technical Sessions

Multi-purpose Room can be used as a lounge / rest area, session / presentation preparation room, prayer room or other similar purposes.

Booking Rules:

- Participants can freely book time slots for using on the booking sheet in front of the Multi-purpose Room.
- Each booking may not exceed half an hour (30 minutes) per session.
- One person may book multiple time slots.

Opening Hours:

- July 12: 13:30-18:00
- July 13: 09:00-18:00
- July 14: 09:00-12:00

Catering for the conference

*The Summit Cafe and G. E. Ballroom are both on the **9th** floor.

July 11	Welcome Reception	18:00-20:00 @Summit Cafe
July 12	Lunch	12:10-13:30 @Summit Cafe
	Banquet	18:50-20:30 @G. E. Ballroom
July 13	Lunch	12:00-13:30 @Summit Cafe
	Dinner	18:00-19:30 @Summit Cafe
July 14	Lunch	12:00-13:30 @Summit Cafe





AGENDA OVERVIEW

Registration & Conference Materials Collection	July 11, 10:00-18:00
	July 12-13, 08:00-18:00
	July 14, 08:00-12:00
	@Lobby of Kunming Golden Eagle Summit Hotel

July 11, 2026		
Time	Activity	Venue
14:00-16:00	Site Tour: Kunming Old Street Historic District	
19:00-21:00	Young Professional Poster Session	Function Room-9F
18:00-19:30 / Welcome Reception @Summit Cafe		

July 12, 2026		
Opening Ceremony & Keynote Speech		
		📍 G. E. Ballroom-9F
08:45-09:10	Conference Opening & Welcome Remarks	
09:10-09:50	Keynote Speech: Enhancing Grid Flexibility and Capacity for Large-Scale Renewable Energy Integration Kashem Muttaqi , University of Wollongong, Australia	
09:50-10:30	Keynote Speech: Grounding System Designs from a Single Wire to a Three-Phase AC-DC Power Converter S. A. Saleh , University of New Brunswick, Canada	
10:30-10:50 / Break & Group Photo		
10:50-11:30	Keynote Speech: Advanced Load Management-Load-Side Adjustable Dynamic Resource Pool (DRP) Junyu Liang , CSG Electric Power Research Institute, China	
11:30-12:10	Keynote Speech: Challenges in System Modelling for Vehicle Charging Augmented Industrial Microgrids from Education to Practice Peter Tamas Szemes , University of Debrecen, Hungary	
12:10-13:30 / Lunch @Summit Cafe		
Time	Activity	Venue
13:30-15:30	Technical Session-01: Flexible Interaction and Efficient Management of Active Distribution Networks	G. E. Ballroom A-9F





13:30-15:30	Technical Session-02: AI-Empowered Demand-Side Flexibility for Next-Generation Smart Grids	G. E. Ballroom B-9F
13:30-15:30	Technical Session-03: Smart Grid-Demand-Side Market Interaction	Function Room A-9F
13:30-15:30	Technical Session-04: Power Systems-Sub-Synchronous Oscillation and Grid Stability	Function Room B-9F
13:30-15:30	Technical Session-05: Key Technologies for Power System Resilience Enhancement and Intelligent Emergency Support in Modern Power Grids	Conference Room 1-9F
15:30-16:00 / Break		
Time	Activity	Venue
16:00-17:30	Technical Session-06: Low-Carbon Optimization and Coordinated Management of Electricity-Hydrogen Integrated Energy Systems	G. E. Ballroom A-9F
16:00-17:30	Technical Session-07: Energy Systems	G. E. Ballroom B-9F
16:00-18:00	Technical Session-08: Carbon Neutrality-Market-Supported Low-Carbon Operations	Function Room A-9F
16:00-18:15	Technical Session-09: Renewable Energy Integration-1	Function Room B-9F
16:00-18:00	Technical Session-10: Electric Vehicles Applications	Conference Room 1-9F
18:50-20:30 / Banquet & Award Ceremony @G. E. Ballroom		

July 13, 2026		
Time	Activity	Venue
09:00-12:00	Workshop: Optimal Operation and Control of Clean Energy Integration Systems via DC-Friendly Sending Systems	G. E. Ballroom A-9F
09:00-10:15	Technical Session-11: Microgrid and Microgrid Cluster-Advanced Operation, Control, and Coordination	Function Room A-9F
09:00-10:00	Technical Session-12: Smart Grid-1	Function Room B-9F
09:00-10:15	Technical Session-13: AI in Power and Energy Systems-1	Conference Room 1-9F
10:15-10:45 / Break		
10:45-12:00	Technical Session-14: AI in Power and Energy Systems-AI-Enabled Reliability and Fault Diagnosis	Function Room A-9F
10:45-12:00	Technical Session-15: Electric Vehicles Applications-Vehicle-Storage-Grid Interaction	Function Room B-9F
10:45-12:00	Technical Session-16: AI in Power and Energy Systems-2	Conference Room 1-9F
12:00-13:30 / Lunch @Summit Cafe		





13:30-15:30	Technical Session-17: Power Systems-1	Function Room A-9F
13:30-15:30	Technical Session-18: Renewable Energy Integration-2	Function Room B-9F
13:30-15:30	Technical Session-19: Smart Grid-2	Conference Room 1-9F
14:00-15:00	Poster Session I: System Modeling Stability and Physical Mechanism Analysis	G. E. Ballroom B-9F
<i>15:30-16:00 / Break</i>		
16:00-17:45	Technical Session-20: Power Systems-2	Function Room A-9F
16:00-18:00	Technical Session-21: Key Technologies for Optimal Operation and Control of Clean Energy Integration Systems via DC-Friendly Sending Systems	Function Room B-9F
16:00-18:15	Technical Session-22: Energy Storage Technologies-Wind-PV Hydrogen Production and Electrolyzer Systems	Conference Room 1-9F
17:00-18:00	Poster Session II: Optimization Dispatch Control Strategy and Market Economic Mechanisms	G. E. Ballroom B-9F
<i>18:00-19:30 / Dinner @Summit Cafe</i>		

July 14, 2026		
Time	Activity	Venue
09:00-10:15	Technical Session-23: AI in Power and Energy Systems-3	Function Room A-9F
09:00-10:00	Technical Session-24: Renewable Energy Integration-3	Function Room B-9F
<i>10:15-10:45 / Break</i>		
10:45-12:15	Technical Session-25: AI in Power and Energy Systems-4	Function Room A-9F
<i>12:00-13:30 / Lunch @Summit Cafe</i>		





KEYNOTE SPEAKER

Time 09:10-09:50, July 12

Venue G. E. Ballroom-9F



Kashem Muttaqi
University of Wollongong, Australia

Biography: Professor Kashem Muttaqi is the Director of the Australian Research Council Industrial Transformation Training Centre in Energy Technologies for Future Grids in Australia. He is also the Director of the Australian Power and Energy Research Institute (APERI) at the University of Wollongong, Australia. He is a Distinguished Professor and Discipline Leader – Electrical Engineering at the School of Engineering, University of Wollongong.

Professor Muttaqi received the B.Sc. degree in electrical and electronic engineering from Bangladesh University of Engineering and Technology in 1993, the M.Eng.Sc. degree in electrical engineering from the University of Malaya, Malaysia in 1996 and the Ph.D. degree in Electrical Engineering from the Multimedia University, Malaysia in 2001. Professor Muttaqi has 30 years of academic experience and authored or co-authored more than 600 papers in international journals and conference proceedings. He has supervised around 35 higher-degree research students to completion. He has attracted more than \$60 million research fundings.

Professor Muttaqi is the Editor-in-Chief of the IEEE Transactions on Industry Applications. He was an Executive Board Member of the IEEE Industry Applications Society (IAS). He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), USA. He is a Fellow of the Institution of Engineering and Technology (IET), UK. He is also a Fellow of the Institution of Engineers Australia.

Keynote Speech: Enhancing Grid Flexibility and Capacity for Large-Scale Renewable Energy Integration

Abstract: The rapid growth of renewable energy is transforming modern power systems into highly dynamic, converter-dominated networks with increasing operational complexity. Although substantial infrastructure already exists within today's power grids, much of its operational flexibility and transfer capability remains underutilised due to conservative operating practices, limited real-time visibility, and ageing system architectures. This presentation will examine emerging approaches for improving the flexibility, controllability, and operational efficiency of existing electricity networks to support higher renewable energy penetration without extensive infrastructure expansion. The talk will discuss the role of advanced power electronic technologies, grid-forming converters, energy storage systems, digital substations, and intelligent monitoring platforms in enabling adaptive and resilient grid operation. In addition, advanced optimisation, coordinated control, and market-responsive operational strategies for dynamic power flow management, voltage regulation, and system stability enhancement will be explored. The presentation will provide perspectives on how future power grids can evolve into intelligent, highly flexible, and renewable-ready energy infrastructures capable of supporting secure, reliable, and low-carbon electricity systems.





KEYNOTE SPEAKER

Time 09:50-10:30, July 12

Venue G. E. Ballroom-9F



S. A. Saleh

University of New Brunswick, Canada

Biography: S. A. Saleh (IEEE Fellow) received the B.Sc. degree in electrical engineering from Bir Ziet University, West Bank, Palestine, in 1996, and the M.Eng. and Ph.D. degrees in electrical engineering from the Memorial University of Newfoundland, St. John's, NL, Canada, in 2003 and 2007, respectively, with a scholarship from the Natural Sciences and Engineering Research Council of Canada (NSERC). In 2007, he joined Memorial University of Newfoundland until 2011. Currently, he is a Professor with the Department of Electrical and Computer Engineering, University of New Brunswick, Fredericton, New Brunswick, Canada. His research interests include power system operation, control, and protection, digital protection of energy conversion systems, power electronic converter design, analysis, operation, and control, renewable energy systems, motor drives, and digital signal processing applications in power systems, power electronic converters and motor drives. He is a registered Professional Engineer in Canada. Dr. Saleh is a recipient of several national and international awards.

Keynote Speech: Grounding System Designs from a Single Wire to a Three-Phase AC-DC Power Converter

Abstract: The design and selection of a grounding system are of a critical importance for the stability and functionality of power systems, including industrial and commercial power systems. These key aspects of grounding systems are subject of various standards, industrial codes, and recommended practices. In this presentation, a review of conventional grounding system designs is provided, along with the major limitations and challenges facing these grounding systems. The presentation will also provide insights into new designs of grounding systems that are developed to overcome the limitations of conventional grounding systems. The frequency-selective and solid-state grounding systems will be presented with potential applications in power systems. The presentation will provide test case results, together with an outlook for future trends of new grounding system designs.



KEYNOTE SPEAKER

Time 10:50-11:30, July 12

Venue G. E. Ballroom-9F



Junyu Liang

CSG Electric Power Research Institute, China

Biography: Liang Junyu, PhD, Professorate Senior Engineer, Level-3 Leading Professional and Technical Expert He has long been engaged in the research of simulation and control testing in the field of automation. As a core member, he has undertaken three major research projects, including energy conservation and supply-demand interaction of high-energy-consuming industries, and multi-agent game theory of virtual power plants. He has realized flexible control of industrial loads and aggregated control of virtual power plants, and made research achievements in the identification of industrial flexible regulation boundaries and regulation capacity, as well as the autonomous control of distributed photovoltaic power.

He has won 2 Provincial and Ministerial Second Prizes, 1 Grid-level First Prize and 2 Company-level Awards. He has participated in the compilation of 1 national standard, 2 enterprise standards and 2 association standards. He holds more than 30 authorized invention patents and has published over 10 SCI/EI indexed papers. He currently serves as a member of the Standardization Working Group on Demand Side and Power Trading of China Southern Power Grid, and has been selected into the Young Top-notch Talent Program of Yunnan High-level Talent Plan.

Keynote Speech: Advanced Load Management-Load-Side Adjustable Dynamic Resource Pool (DRP)

Abstract: This presentation systematically elaborates a technical framework for the dispatch of load-side flexible resources in new power systems with high shares of renewable energy. The core research revolves around three directions:

First, the development and adaptive evolution of digital twins for multi-type loads via a physics-data hybrid-driven approach. This enables hierarchical aggregation across multiple voltage levels—from industrial production lines and commercial buildings to residential users—establishing cross-spatiotemporal dynamic reconfiguration linkages. The result is a precise measurement of adjustability and dynamic resource pool management adaptable to multiple market scenarios, including electricity spot markets, ancillary services, and demand response.

Second, emergency load control for extreme contingency scenarios. This involves constructing classification profiles of emergency load resources covering users listed in the over-plan and emergency curtailment priority tables, developing boundary assessment methodologies for dispatch constraints, and establishing a group-control closed-loop execution mechanism. By integrating adjustable loads into the power grid's "four lines of defense" security framework, the system achieves precise emergency control through coordinated dispatch and demand-side load control.

Third, the large-scale integration of new-energy heavy-duty trucks in Yunnan Province. Addressing the distribution network hosting capacity constraints posed by MW-level charging surges, the research proposes load profiling methodologies for heavy-duty truck charging station clusters, alongside flexible dispatch and market mechanisms encompassing capacity verification, coordinated charging, PV-storage-charging-swapping integration, and VPP aggregation and trading.

The presentation delivers a comprehensive technical pathway spanning resource cognition, boundary assessment, strategy generation, and engineering deployment, providing a systematic solution to render load-side resources manageable, controllable, deployable, and verifiable in new power systems.



KEYNOTE SPEAKER

Time 11:30-12:10, July 12

Venue G. E. Ballroom-9F



Peter Tamas Szemes
University of Debrecen, Hungary

Biography: Peter Tamas Szemes, PhD, is a researcher at the University of Debrecen, Hungary. He received his MSc degree in Mechanical Engineering, specializing in mechatronics and applied mathematics, from the Budapest University of Technology and Economics in 2000, and his PhD degree in Robotics from the University of Tokyo in 2005.

His research focuses on electric vehicle modeling and design, real-time traction performance monitoring, electrical machines and drives, industrial automation, embedded systems, and automotive battery systems. He is a nationally certified expert in automotive high-voltage and battery systems and a BMW-certified Level 3 High Voltage Expert.

He has authored or co-authored 165 scientific publications, including 64 journal articles, with 640 citations and an h-index of 14. His work has been published in leading journals, including IEEE Transactions on Instrumentation and Measurement, Energy Conversion and Management: X, IEEE Access, Energies, and Results in Engineering.

Keynote Speech: Challenges in System Modelling for Vehicle Charging Augmented Industrial Microgrids from Education to Practice

Abstract: Modelling is fundamental and often the initial step for microgrid system design. The topics of model complexity, computation resources, uncertainties, and performance validation methods generate contradictory conditions.

The topics should be introduced in the early stage of engineering undergraduate education because the sustainable future requires engineers to create and operate adaptive, reliable, and ecologically viable microgrid solutions. Different modelling methodologies and tools could be required for undergraduate, graduate and PhD level for quality human resource output. New research facility, Vehicle Research Laboratory, has been established at University of Debrecen to address the challenges for education. The facility can be operated as a microgrid, and students can have a hands-on experiment for quality and industrial oriented education.

In this presentation the theoretical and practical main challenges will be identified and solutions will be suggested.





YOUNG PROFESSIONAL POSTER SESSION

Time 19:00-21:00, July 11**Venue** Function Room-9F

Order		Details
01	9727	Adaptive Energy Compensation Control for High-Frequency Oscillation Suppression of Grid-Forming Converter Under Varying Operating Conditions Yutong Liu , Shandong University
02	6065	Sending-End Power Grid Planning Method Considering Dynamic Topology Adjustment Hongbin Zhang , North China Electric Power University
03	7110	Multi-objective Active Power Optimization Interaction Strategy for Vehicle-Charging Station Grid Considering Power Flow Optimization and Pricing Mechanism Yixin Yang , Zhejiang University
04	9025	Optimal Scheduling of Combined Heat and Power System Considering Renewable Energy Uncertainty: An Improved A3C Algorithm Yuanbao Wu , China Agricultural University
05	6909	Research on Reactive Power Optimization Method for Distribution Network Vehicle-Pile System Based on Data-Enabled Predictive Control Yixin Yang , Zhejiang University
06	8485	Coordinated Scheduling of Internet Data Center Under Renewable Energy Uncertainty: A Flexibility Aggregation Model Considering Task Dependencies Yunfei Shao , The Hong Kong Polytechnic University
07	8843	Forecast-Enhanced PPO for Carbon-Aware VPP Dispatch with Battery Carbon-State Tracking Qixin Liu , Xi'an Jiaotong-Liverpool University
08	3825	A Novel Single-Ended Protection Based on the Difference of Current Mode Component for DC Lines in MMC-MTDC System Yang Dai , North China Electric Power University
09	2329	Bi-Level Optimal Control Strategy for V2G Electric Vehicle Aggregations Considering Nodal Voltage Regulation and Battery Degradation Binrong Zhang , Jinan Power Supply Company, State Grid Shandong Electric Power Company
10	3849	Small-Signal Stability Constrained Logistics-Energy Coordinated Scheduling for Renewable-Integrated Seaports Tao Wang , Shanghai Jiao Tong University
11	3716	Ultra-Short-Term Wind Power Prediction Model Based on Heterogeneous Transformer Expert Pool and Grey Relational Embedding Hanzhi Sun , University of Jinan
12	9873	Transient Parameter Identification of Synchronous Generator Using



		State-Feedback-Compensated PINN Jiafan Gao , Tsinghua university
13	8631	An Online Identification Method for Charging Load Based on the Mean Teacher-student Network Yutong Wu , Tianjin University
14	4645	Disturbance-Adaptive Monte Carlo Tree Search for Real-Time Dispatch in Active Distribution Networks under Time-Varying Forecast Uncertainty Gongbo Fan , North China Electric Power University
15	4566	Reduced-Order Multi-Physics Modeling and Active Power Derating for Preventing Voltage Collapse Under Constant-Power Loads Yuwei Zhou , Anhui University
16	8658	Agent-Based Strategy Analysis for Energy Storage in the Intraday Market Zhenxin Zhang , Shandong University
17	1475	Multi-Band Coordinated Impedance Reshaping for Heterogeneous Converters Based on Spatial Distribution of Nodal Grid Strength Yan Chen , Zhejiang University
18	1419	Continuous-Time Robust Distributed Scheduling of Integrated Energy Systems With Wind Power Uncertainty Shuhan Yang , Guangxi University
19	1339	Load-Normalized Transient Features for Bipolar DC Line Fault Diagnosis Zhiqiang Cao , University of Electronic Science and Technology of China
20	4417	Residual GRU-Based Junction Temperature Prediction for IGBTs Under PMSM Load Conditions Zhengwei Du , Zhejiang University
21	9419	Robust Trading Decision-Making in Electricity Markets Considering Multiple Uncertainties Peiheng Qi , Shandong University
22	0850	Multi-Objective Energy Dispatch for Shipboard Integrated Energy Systems Using an Improved Non-Dominated Sorting Dung Beetle Optimizer Bo Li , Yanshan University
23	8672	Ultra-Short-Term Photovoltaic Power Forecasting Based on the Moirai Time Series Foundation Model Yuyan Sun , Shandong University
24	9914	YOLOv8-Based Visual Defect Detection for Substation Intelligent Inspection Jiaxing Jiang , University of Electronic Science and Technology of China
25	2709	Multi-agent Collaborative Optimal Scheduling of Integrated Energy Systems Considering Carbon Trading and Demand Response in the Market Environment Binglin Yang , Shandong University
26	2715	Dynamic-Consistency-Residual-Based Fault Detection Method for DC Ring-Bus Microgrids



		Mengjie Cheng , University of Electronic Science and Technology of China
27	0340	A Spatio-temporal Contribution Analysis Based Identification of Key Meteorological Features for PV Power Generation Yuxuan Tian , North China Electric Power University
28	0953	Stackelberg Game Optimal Scheduling of Integrated Energy System in Market Environment Considering EV Aggregation Participating in Real-time Electricity Price Mechanism Ruiyi Yao , Shandong University
29	0137	Comprehensive Evaluation on DC Interconnection System with Multi-Port DC-DC Baichuan Teng , Shanghai Jiao tong university
30	1040	A Security-Constrained Optimization Model with Coordinated Frequency Support from Renewable Energy and Energy Storage Peishuang Shi , Shandong University
31	6543	Capacity optimization configuration of photovoltaic-storage-hydrogen system based on GA-SCSO Hanzhi Sun , University of Jinan
32	6635	Photovoltaic Power Forecasting Based on Temporal Improved Deep Embedded Clustering and Dual State Control Soft Mixture of Experts Hanzhi Sun , University of Jinan



TECHNICAL SESSION

Technical Session 01

Flexible Interaction and Efficient Management of Active Distribution Networks

Time	13:30-15:30, July 12	Venue	G. E. Ballroom A-9F
Chair(s)	Fangyuan Si, Beijing Jiaotong University Wei Huang, China Southern Power Grid Lancang-Mekong International Co., Ltd.		

Time	Paper ID	Details
13:30-13:45	7070	A New Multifunctional Online Ice-melting Device with Reactive Power Compensation Capability in Distribution Networks Cheng Luo , Hunan University
13:45-14:00	9829	Two-Stage Capacity Sizing Optimization for Microgrids Based on Time-Series Interaction and Rolling Validation Wenzhe Rui , Beijing Jiaotong University
14:00-14:15	8915	Evaluation mechanism and method of fault location scheme for medium voltage distribution network Yongliang Liang , Shandong University
14:15-14:30	4744	Two-Stage Stochastic Capacity Configuration of Integrated Energy Production Unit Considering Ladder-Type Carbon Trading Pengpeng Wang , Northeastern University at Qinhuangdao
14:30-14:45	4605	TSOR-Constrained Coordinated Voltage Control for Active Distribution Networks Considering Transformer Aging Under Bidirectional Power Flow Songlin Wu , Chongqing University of Posts and Telecommunications
14:45-15:00	3707	Ultra-Short-Term Wind Power Prediction via Adaptive Feature Enhancement and Attention-Assisted Hybrid Residual Network Jianan Zhao , Beijing Jiaotong University
15:00-15:15	6166	Coordinated Optimization Scheduling of Geo-distributed Multiple Data Centers Based on Nonlinear Cooling Model Guisen Ye , University of Jinan
15:15-15:30	5313	Transformer Aging-Aware Predictive Coordinated Control for Active Distribution Networks with High Renewable Penetration Zhaoxi Chen , Chongqing University of Posts and Telecommunications

Technical Session 02

AI-Empowered Demand-Side Flexibility for Next-Generation Smart Grids

Time 13:30-15:30, July 12

Venue G. E. Ballroom B-9F

Chair(s)

 Pengfei Su, Great Bay University
 Shuang Gao, Tianjin University

Time	Paper ID	Details
13:30-13:45	1131	Reliability Assessment of Renewable-Integrated Power Systems with Dynamic Thermal Rating and Vehicle-to-Grid Flexibility Lijie Sun , Universiti Sains Malaysia
13:45-14:00	3712	Assessment Mthod of Supply and Demand Mismatch of Complex Regional Integrated Energy System Considering Source and Load Weather Dependence Wenqian Yin , Nanjing TECH University
14:00-14:15	8621	Inference Tasks in Intelligent Computing Centers Modeling and Migration Method for Flexible Regulation Zhigang Du , China Electric Power Research Institute
14:15-14:30	1464	An Interactive AI-Copilot Platform for Power System Resilience Enhancement Ankang Deng , State Key Laboratory of Internet of Things for Smart City, University of Macau, Macao, China
14:30-14:45	0987	Consensus-Based Distributed Secondary Cooperative Control Strategy for Islanded Microgrids Jiachang Tian , Shandong University
14:45-15:00	3771	Chance-Constrained Bi-Level Look-Ahead Dispatch Model Considering Photovoltaic Uncertainty Qizhao Zhang , State Grid Beijing Yizhuang Electric Power Supply Company
15:00-15:15	1896	Distributionally Robust Chance-Constrained Coordination of Distribution Network and Microgrids with Reserve Allocation Yiwen Xie , Zhejiang University
15:15-15:30	3323	Spatiotemporal Workload Scheduling for Geographically Distributed Data Centers Based on Multi-Agent Reinforcement Learning Aoqian Wang , North China Electric Power University



Technical Session 03

Smart Grid - Demand-Side Market Interaction

Time 13:30-15:15, July 12**Venue** Function Room A-9F**Chair(s)** Cun Zhang, Tianjin University
Peng Bao, Zhengzhou University

Time	Paper ID	Details
13:30-13:45	4067	Multi-Agent Reinforcement Learning for Coordinated Bidding in Coupled Demand Response and Energy Deviation Settlement Mechanisms Mingqian Xu , Xi'an Jiaotong University
13:45-14:00	0099	Bi-Level Distributed Aggregation and Optimization Strategy for Virtual Power Plants Considering User Decision Autonomy Chengye Lu , Southeast University
14:00-14:15	1698	A Wide-Area Rural Renewable Energy Accommodation Strategy Accounting for Spatiotemporal Flexibility of Urban-Rural Transportation Zhiqiang Zhou , Hohai University
14:15-14:30	2424	Multi-Spatiotemporal Collaborative Control and Hybrid Mechanism-Data Driven State Reconstruction for Active Distribution Networks Hao Yang , ShanDong University
14:30-14:45	2541	Large-Language-Model-Assisted Decision-making and Validation for Regional Power Grids Dispatch Under Transmission Power Constraints Zedong Zhang , Tsinghua University
14:45-15:00	0761	Coordinated Management of PV-Storage-Charging Resources and Heterogeneous Loads in Industrial Parks Considering Grid Constraints Yongjie Ma , Kunming University of Science and Technology
15:00-15:15	6429	Vision-Guided UAV Inspection and Repair Crew Dispatch for Post-Disaster Distribution Grid Restoration Yuhang Han , Southeast University



Technical Session 04

Power Systems-Sub-Synchronous Oscillation and Grid Stability

Time 13:30-15:30, July 12

Venue Function Room B-9F

Chair(s) Yulin Liu, University of Western Australia
Zifan Lin, Curtin University

Time	Paper ID	Details
13:30-13:45	3211	A Novel RBFNN-Based Online Learning Control Method for PEMFCs in DC Microgrids Yulin Liu , The Hong Kong Polytechnic University
13:45-14:00	1881	Design of a Data-Driven WADC for VSG in Inverter-Dominated Power System Jiajie Feng , The University of Queensland
14:00-14:15	5083	Energy Saving Analysis of Fractional-Slot Electric Machine Based on Phase-Belt-Harmonic-Free Method Boqi Song , Shenyang University of Technology
14:15-14:30	8334	Resilience-Oriented Economic Dispatch of Mountain Microgrids Considering Weak-Link Identification Meng Wang , State Grid Shizhu Electric Power Supply Branch
14:30-14:45	1801	Coordinated Control Strategy of Hybrid Inverter-Based Resources for Enhancing Transient Rotor Angle Stability of Synchronous Generator Xiaotong Wang , North China Electric Power University
14:45-15:00	0594	Impedance Modeling and Stability Assessment of Magnet Power Supplies in Fusion Devices Under Weak Grid Nan Liu , Hefei Institutes of Physical Science, Chinese Academy of Sciences
15:00-15:15	5998	Reliability Assessment of Power Systems with Dynamic Thermal Rating and Energy Storage System in Low-Inertia Grids Simeng Zheng , Universiti Sains Malaysia (USM)
15:15-15:30	3825	A Novel Single-Ended Protection Based on the Difference of Current Mode Component for DC Lines in MMC-MTDC System Yang Dai , North China Electric Power University



Technical Session 05

Key Technologies for Power System Resilience Enhancement and Intelligent Emergency Support in Modern

Time 13:30-15:30, July 12**Venue** Conference Room 1-9F**Chair(s)** Jun Xie, Hohai University
Xu Wang, Shanghai Jiao Tong University

Time	Paper ID	Details
13:30-13:45	0764	Coordinated Control Strategy for Distributed PV Integrated into Continuous Co-phase Traction Power Supply System Yuqiang Xu , Southwest Jiaotong University
13:45-14:00	2869	Air-Ground Coordinated Delivery Optimization for Emergency Power Repair Supplies in Plateau Mountainous Areas Considering Flexible Landing Liuyang Lu , Kunming University of Science and Technology
14:00-14:15	3867	Research on a MOSFET-Based Fully Controlled DC Circuit Breaker and Smooth Commutation Strategy Hao Yin , Hefei Institutes of Physical Science, Chinese Academy of Sciences
14:15-14:30	6050	Research on Photovoltaic Access Traction Power Supply System Based on Single-Phase to Three-Phase Topology You Peng , Southwest Jiaotong University
14:30-14:45	9605	Terminal Execution Optimization of Heavy-Lift UAVs for Emergency Power Supply Delivery Under Low-Altitude Turbulence and Complex Terrain Constraints Yujie Huang , Kunming University of Science and Technology
14:45-15:00	9226	GIC-Blocking Devices Based on Real-Time Reactive Power Monitoring of Transformers under Geomagnetic Disturbances Wenkai Xin , Dalian Jiaotong University
15:00-15:15	2860	Design Optimization and Experimental Validation of PCB-Winding PM Linear Motor for 3D-Printer Applications Ramirez Carrasco Jorge Ulises , Kyoto University of Advanced Science
15:15-15:30	9373	Spatio-Temporal Dispatch of Mobile Energy Storage Systems for Resilient Off-Grid Microgrids Yingqi Liang , Guangdong University of Technology





Technical Session 06

Low-Carbon Optimization and Coordinated Management of Electricity-Hydrogen Integrated Energy Systems

Time 16:00-17:30, July 12**Venue** G. E. Ballroom A-9F**Chair(s)** Guofeng Wang, Zhejiang University of Technology

Time	Paper ID	Details
16:00-16:15	6338	Deep Reinforcement Learning Based Low-Carbon Optimal Scheduling for Integrated Energy Systems Xinyan Wen , Zhejiang University of Technology
16:15-16:30	9325	Capacity Optimization of Shared Energy Storage in Industrial Parks Considering Extreme Weather Conditions: A Bi-level Approach Wenqian Yin , Nanjing Tech University
16:30-16:45	5997	Chance-Constrained Multistage Volt/VAR Control with Topology-Switching SOPs and Hydrogen Storage in Active Distribution Networks Binjie Wang , Hefei University of Technology
16:45-17:00	7919	Policy-Guided Retrieval-Augmented Generation for Low-Carbon Dispatch of Park-Level Source–Grid–Load–Storage Integrated Regions Luxin Fang , Zhejiang University of Technology
17:00-17:15	0371	Coordinated Planning of HVDC and P2X Systems for Flexible Supply of Electricity, Hydrogen, and Ammonia Chenxi Song , South China University of Technology
17:15-17:30	8680	Carbon-Accountable Peer-to-Peer Energy Trading for Interconnected Multi-Microgrids Under Incomplete Information and Privacy Constraints Jinxin Zhu , Zhejiang University of Technology





Technical Session 07

Energy Systems

Time 16:00-17:15, July 12

Venue G. E. Ballroom B-9F

Chair(s) Mingtao Liu, Chongqing University

Time	Paper ID	Details
16:00-16:15	9635	Challenges and Technological Development Prospects for the Environmental Adaptability of Industrial and Commercial Power Systems in Plateau Regions Yuling Zhou , Kunming Electrical Apparatus Research Institute
16:15-16:30	6559	Robust Computing-Power Coordinated Scheduling for a Multi-Data-Center Aggregator via Hierarchical DRL With State-Adversarial Training Yahan Dong , Shanghai Jiao Tong University
16:30-16:45	8601	Adversarial Attack and Robust Defense for DRL-Driven Integrated Energy Systems Zuowei Zhang , Universiti Sains Malaysia (USM)
16:45-17:00	7227	Energy-efficient Magnetic Lifting System Using Pulse-driven Low Coercive Force Magnet Yu Than , Kyoto University of Advanced Science
17:00-17:15	9021	Communication-Efficient Parallel Solution of Power System Network Equations Based on Graph Signal Processing Haoyuan Zhang , Tsinghua University





Technical Session 08

Carbon Neutrality-Market-Supported Low-Carbon Operations

Time 16:00-18:00, July 12**Venue** Function Room A-9F**Chair(s)** Luhao Wang, University of Jinan
Guisen Ye, University of Jinan

Time	Paper ID	Details
16:00-16:15	3382	Explainable Multi-Domain Dispatch Strategy for Hydrogen Fuel Cell and Electric Vehicles in Power-Traffic Coupled Systems Simin Zhang , Hohai University
16:15-16:30	7138	Two-Stage Low-Carbon Optimal Operation for Distribution-Microgrid Systems Considering Flexible Microgrid Grouping Kewen Wang , Shandong University
16:30-16:45	5161	Data-Driven Green Electricity Traceability and Day-Ahead Energy Storage Optimal Dispatching Method Pengbo Zhao , Kunming University of Science and Technology
16:45-17:00	1175	Assessment of Dynamic Carbon Emission Factors in Power Grids Based on Source-Load Forecasting and Carbon Flow Calculation Guibin Zhao , Shandong University
17:00-17:15	4076	Reducing Energy Consumption and GHG Emissions in Electrical Enclosures Heater Using Weather-Based Control Najim Alshahrani , Aramco
17:15-17:30	6414	A Two-Stage Region-of-Attraction Determination Method for Grid-Forming Heterogeneous Systems Using a Path-Independent Lyapunov Function Yifan Liu , Shanghai Jiao Tong University
17:30-17:45	2691	Multi-Timescale Optimal Scheduling Strategy for Energy Storage Based on Dual-Signal of Carbon Intensity and Electricity Price Hanwen Lei , Kunming University of Science and Technology
17:45-18:00	1716	Research on Multi-objective Collaborative Optimal Configuration Method of Wind-PV-ES for Continuous Co-phase Traction Power Supply System (CCTPSS) of Electrified Railway Weilan Li , Southwest Jiaotong University



Technical Session 09

Renewable Energy Integration-1

Time 16:00-17:45, July 12

Venue Function Room B-9F

Chair(s) Yingqi Liang, Guangdong University of Technology
Jiajie Feng, The University of Queensland

Time	Paper ID	Details
16:00-16:15	8365	Short-Term Forecasting Method of Photovoltaic Cluster Power Based on Local Weather Pattern Expansion and a Dynamic Graph Attention Network Jiabao Xu , North China Electric Power University
16:15-16:30	2098	Capacity Planning of a Wind-PV-Battery-Hydrogen Supplementary Backup System for Long-Duration LOOP Support in Nuclear Power Plants Yuning Wei , Shanghai Jiao Tong University , Shanghai Nuclear Engineering Research & Design Institute Co., Ltd
16:30-16:45	4531	Multi-semantic Graph Modeling Based Ultra-short-term Power Forecasting for Distributed PV Clusters Chen Huang , North China Electric Power University
16:45-17:00	3231	Energy Shaping and Damping Control based on Hamiltonian Control Law of Hydrogen Fuel Cell/Supercapacitor/Battery Hybrid Source for DC Microgrid Stability Orathai Lueyos , Rajamangala University of Technology Lanna
17:00-17:15	0340	A Spatio-temporal Contribution Analysis-Based Identification of Key Meteorological Factors in Multi-Variable and Location for PV Power Generation Yuxuan Tian , North China Electric Power University
17:15-17:30	5518	Optimal Capacity Configuration of Off-Grid ALK-PEM Hydrogen Systems Considering Fluctuation Features and Lifespan Degradation Haodong Si , Shandong University
17:30-17:45	5234	Safe Preference-Conditioned Deep Reinforcement Learning for Resilient Auxiliary Power Transfer in 500-kV Converter Stations Zhaolei He , Metering Center, Yunnan Power Grid Co., Ltd.

Technical Session 10

Electric Vehicles Applications

Time 16:00-18:00, July 12

Venue Conference Room 1-9F

Chair(s) Shunlin Zheng, North China Electric Power University

Time	Paper ID	Details
16:00-16:15	9244	Data-Driven Load Profile Inference and Grid Integration Planning for New Users at Electric Heavy-Duty Truck Charging Stations Siwei Pan , Kunming University of Science and Technology
16:15-16:30	4765	Study on the Cyclic Aging Characteristics of Lithium-ion Battery Under Vibration Condition Junqi Bai , Chongqing University
16:30-16:45	9001	A Multi-Scenario Collaborative Scheduling Method for EV Charging Infrastructure Operation and Maintenance Wei Li , Kunming University of Science and Technology
16:45-17:00	9460	Real-Time Temperature Estimation of a PMSM Using ANN-Assisted Transient Low-Order LPTN Model Rohan Derek Mendonca , Kyoto University of Advanced Science
17:00-17:15	6250	Charging Pile Fault Diagnosis Method Based on Environment Decoupled Dual-Scale Temporal Network and Causal Explanation Yongjun Fu , Kunming University of Science and Technology
17:15-17:30	7795	Stage-Based OPF-DTLR-RL Framework for Wind Curtailment Mitigation Using Shared Autonomous EVs Zuowei Zhang , Universiti Sains Malaysia (USM)
17:30-17:45	6038	Fault Evolution in Coupled Distribution and Transportation Networks Fuzhang Wu , Wuhan University
17:45-18:00	3900	A Multi-agent Optimization Framework for EV Flexibility: A Self-scheduling Charging Control for EV Participation in Coupled Spot and Regulation Markets Zijian Zhu , Tianjin University



Technical Session 11

Microgrid and Microgrid Cluster-Advanced Operation, Control, and Coordination

Time 09:00-10:15, July 13**Venue** Function Room A-9F**Chair(s)** Junyu Liang, CSG Electric Power Research Institute

Time	Paper ID	Details
09:00-09:15	0638	A Multi-Time-Scale Guaranteed-Cost Coordination Strategy for Integrated Energy Systems Under Directed Switching Topologies Chao Qin , China University of Petroleum
09:15-09:30	3971	Energy Management Optimization of HIES for Industry Park Considering Active Hydrogen Storage Xuerui Wang , Shandong University
09:30-09:45	2742	Multi-Flow Cross-Seasonal Optimal Scheduling of Coal Mine Integrated Energy System Under Carbon Constraints Jingyao Tan , China University of Mining and Technology
09:45-10:00	6982	A Fully Distributed Cooperative Control Strategy for AC Microgrid Clusters in Peer-to-Peer based Flexible Multi-terminal DC Interconnection Xuanang Jiang , Hefei University of Technology
10:00-10:15	5111	Bi-level Low-carbon Optimal Scheduling for Distribution Networks Integrated with Distributed Generators Weihan Zhang , Shandong University





Technical Session 12

Smart Grid-1

Time 09:00-10:00, July 13

Venue Function Room B-9F

Chair(s) Haoyang Fan, Xihua Univeristy

Time	Paper ID	Details
09:00-09:15	7911	Physical Traceability of Multi-Source Green Electricity in Industrial Parks Based on Power Metering Automation System 3.0 Jiangchuan Kuai , Kunming University of Science and Technology
09:15-09:30	9834	Active-Reactive Power Coordinated Voltage Control Strategy Based on Hysteresis Buffering for Grid-Connected Photovoltaic Systems Yaohui Li , Kunming University of Science and Technology
09:30-09:45	0310	Optimization Method of Electric Vehicle Charging Service Fee Considering Time-of-Use Guidance Potential Jingyu Zhang , North China Electric Power University
09:45-10:00	4651	Optimal Design and Experimental Research on Broadband Transmission Characteristics of 220kV New Harmonic Voltage Transformer Cong Lin , Chongqing University





Technical Session 13

AI in Power and Energy Systems-1

Time 09:00-10:15, July 13, 2026

Venue Conference Room 1-9F

Chair(s)

Junyan Shao, Aalborg University

Maoquan Huang, Metering Center of Yunnan Power Grid Co., Ltd.

Time	Paper ID	Details
09:00-09:15	3135	Decompose to Aggregate: A Novel End-to-End Time Series Model for Multiple Wind Turbine Power Forecasting Shusheng Jin , Macau University of Science and Technology
09:15-09:30	8082	Data-Driven Embedded Learning Observer for Model-Free Control of a Multi-Phase Interleaved Step-Down Fuel Cell Converter Orathai Lueyos , Rajamangala University of Technology Lanna
09:30-09:45	3727	Low-Complexity Acoustic Denoising for High-Voltage Shunt Reactors via Efficient Generative Adversarial Networks Ziwei Wang , Southwest Jiaotong University
09:45-10:00	1065	Aggregation-Conditioned Multi-Scale Diffusion for Fine-Grained Load Profile Reconstruction in Data Centers Peizhe Li , China Electric Power Research Institute
10:00-10:15	4998	Distance Adaptive Cascaded XGBoost Method for Series Arc Fault Detection in Photovoltaic Systems Xiaotian Yu , Shanghai Jiao Tong University Ningbo Artificial Intelligence Research Institute





Technical Session 14

AI in Power and Energy Systems-AI-Enabled Reliability and Fault Diagnosis

Time 10:45-12:00, July 13, 2026**Venue** Function Room A-9F**Chair(s)** Yongliang Liang, Shandong University
Tao Li, Hunan University of Technology

Time	Paper ID	Details
10:45-11:00	0576	Causal Regularization AMLSTM Based Remaining Useful Lifetime Prediction Model for IGBT Modules in Maglev Train Levitation Choppers Daxuan Lin , Tongji University
11:00-11:15	4417	Residual GRU-Based Junction Temperature Prediction for IGBTs Under PMSM Load Conditions Zhengwei Du , Zhengjiang University
11:15-11:30	8182	Dynamic Reconfiguration for Distribution Network Based on Reinforcement Learning Considering Branch Load Balancing Zhuoyang Li , Shandong University
11:30-11:45	6758	Probabilistic Price Forecasting for Robust Model Predictive Control of Grid-Connected Solar-Storage Systems in the Australian National Electricity Market Xinglin Heng , Xihua University
11:45-12:00	4847	Cluster-Based Coordinated Voltage Control of Active Distribution Networks Using Tabu Search and Multi-Agent Reinforcement Learning Zheng Li , Shandong University





Technical Session 15

Electric Vehicles Applications-Vehicle-Storage-Grid Interaction

Time 10:45-12:00, July 13

Venue Function Room B-9F

Chair(s) Bo Wang, Hohai University

Time	Paper ID	Details
10:45-11:00	9027	Coordinated Scheduling Model for eVTOL-UAV System Serving Post-Disaster Reconnaissance Jian Li , Northeast Forestry University
11:00-11:15	6542	Collaborative Capacity Planning and Flexible Support Control of Distribution Network Integrated With Photovoltaic-Storage-Charging Microgrid for High-Power Heavy-Duty Trucks Jiafeng Lai , Kunming University of Science and Technology
11:15-11:30	2128	A Novel Frequency Regulation Strategy for Aggregated Electric Vehicles Considering AGC Signal Uncertainty Haonan Wu , Institute of Technology for Carbon Neutrality Shenzhen Institutes of Advanced Technology Chinese Academy of Sciences
11:30-11:45	3616	Electrification Pathways for Heavy Equipment in Thermal Power Plant Operations Rachmat Hermawan , PT PLN (Persero)
11:45-12:00	3093	Bi-level Optimization of Heavy Truck Charging Station Pile Number Configuration and Time-of-Use Operation Considering Orderly Charging Xinyue Zheng , Kunming University of Science and Technology





Technical Session 16

AI in Power and Energy Systems-2

Time 10:45-12:00, July 13

Venue Conference Room 1-9F

Chair(s) Guisen Ye, University of Jinan

Time	Paper ID	Details
10:45-11:00	6897	Grouped Multi-Agent Deep Reinforcement Learning for Cooperative Charging and Discharging Scheduling in Large-Scale Battery Swapping Stations Heyang Cao , North China Electric Power University (Baoding)
11:00-11:15	5311	Tail-Risk Tracing of Coupled Disruptions in Power and Transportation Systems under Extreme Weather Conditions via Graph Neural Networks Peixiao Fan , Hong Kong Polytechnic University
11:15-11:30	6096	A Multilayer Perceptron-Based Method for Predicting the Maximum Temperature of IGBTs Under Small-Sample Conditions Zekai Bi , Zhejiang University
11:30-11:45	3023	Dynamic Sequential Reconfiguration of Distribution Networks Based on Sequence Masking and SAC Zhikang Zan , Hohai University
11:45-12:00	5226	Retrieval-Based Deep Learning Model for Geo-Temporal Risk Ranking of Theft in Power Distribution Assets Ansu Mathew , Dubai Electricity and Water Authority (DEWA)



Technical Session 17

Power Systems-1

Time 13:30-15:30, July 13

Venue Function Room A-9F

Chair(s) Pengyin Liu, Shandong University

Time	Paper ID	Details
13:30-13:45	1496	Research on Multi-energy Complementation Collaborative Optimization and Stability Improvement Technology for Mountainous Area Microgrids Meng Wang , State Grid Shizhu Electric Power Supply Branch
13:45-14:00	0677	Coordinated Scheduling for Data Centers with Shared Energy Storage and P2P Energy Trading Hao Ding , North China Electric Power University
14:00-14:15	7179	A Grid-Port Bilevel Game for Shore-Power Pricing with Port Alliances Kaiyue Chen , Chongqing University
14:15-14:30	1592	Capacity Planning Method Considering the Aggregated Regulation Potential of Flexible Resources in Distribution Networks Liang Zhu , Economic and Technical Research Institute State Grid Anhui Electric Power
14:30-14:45	0690	A Revenue-Optimal Framework for Quantifying Crossing Energy in Multi-Source Co-Bus Renewable Power Systems Maoquan Huang , Metering Center of Yunnan Power Grid Co., Ltd.
14:45-15:00	0423	Optimal Dispatch of Mountainous Microgrids Considering Flexible Loads and Electric Agricultural Machinery Meng Wang , State Grid Shizhu Electric Power Supply Branch
15:00-15:15	2315	Enhancing Power System Scheduling through Security-Constrained Unit Commitment with Dynamic Thermal Rating Ye Fang , Universiti Sains Malaysia (USM)
15:15-15:30	8258	Low-Pressure Measurability Boundary and Linear Correction of Closed-Cup Flash Points for Power Oils Using Multi-Level Reference Materials Qingbo Wang , Yunnan Power Grid Co., Ltd. Kunming Power Supply Bureau

Technical Session 18

Renewable Energy Integration-2

Time 13:30-15:30, July 13

Venue Function Room B-9F

Chair(s) Yicheng Zhou, Wenzhou University of Technology

Time	Paper ID	Details
13:30-13:45	5905	Ultra-Short-Term Wind Speed Forecasting Integrating Multi-Scale Temporal Modeling and Wake-Effect Physical Constraints Yuxuan Tian , North China Electric Power University
13:45-14:00	2224	Low-Frequency Oscillation Evaluation of Photovoltaic Integrated Cophase Traction Power Supply System Fan Zhong , Southwest Jiaotong University
14:00-14:15	6261	Beyond Tilt: Albedo as the Critical Design Lever for Tropical Bifacial Photovoltaic Systems Phurachaya Wiratsiri , Rajamangala University of Technology Lanna (RMUTL)
14:15-14:30	3723	A Targeted Correction Method for NWP Irradiance Considering Local Cloud Motion and Meteorological Spatial Correlations Chen Huang , North China Electric Power University
14:30-14:45	6625	Voltage Margin Calibration for Wind Power Hosting Capacity Risk Boundary Assessment under Source–Load Coupling Weifeng Peng , Zhejiang University
14:45-15:00	0668	Physical-Prior Reliability-Gated Ultra-Short-Term Photovoltaic Power Forecasting under Complex Weather Conditions Yuxuan Tian , North China Electric Power University
15:00-15:15	6706	Dynamic Flood Limited Water Level Control For Hydropower-New Energy Complementarity Shuai Zhang , State Grid of Sichuan Economic Research Institute
15:15-15:30	3395	Integration of Satellite Remote Sensing and Topographic Features for Solar Irradiance Estimation Chen Huang , North China Electric Power University

Technical Session 19

Smart Grid-2

Time 13:30-15:15, July 13

Venue Conference Room 1-9F

Chair(s)

Yunfei Shao, The Hong Kong Polytechnic University

Pingping Wen, China Electric Power Research Institute (CEPRI)

Time	Paper ID	Details
13:30-13:45	5568	Dynamic Spatiotemporal Dispatch of Active Distribution Networks via Multi-Head Graph Attention Reinforcement Learning Aoqian Wang , North China Electric Power University
13:45-14:00	1340	Multi-Objective Optimization of MMC Controller Parameters Using Hybrid Osprey-PSO Algorithm Wenzhen Yang , Kunming University of Science and Technology
14:00-14:15	1616	Short-Term Load Forecasting for Data Centers Based on Wavelet Decoupling and W-LSTM-TCN Jiabao Xu , North China Electric Power University
14:15-14:30	6733	Optimal Economic Scheduling for Industrial Park Integrated Energy Systems Incorporating Electric Vehicles and Flexible Loads Yaohui Li , Kunming University of Science and Technology
14:30-14:45	8485	Coordinated Scheduling of Internet Data Center Under Renewable Energy Uncertainty: A Flexibility Aggregation Model Considering Task Dependencies Yunfei Shao , The Hong Kong Polytechnic University
14:45-15:00	6020	A Copula-Based Approach for Power Consumption Uncertainty Modeling of Data Centers with Distributed PV Aoqian Wang , North China Electric Power University
15:00-15:15	7275	Islanding Support Method under Emergency Conditions by Mobile Energy Storage with Grid-Forming Control Hongru Lin , Hunan University



Technical Session 20

Power Systems-2

Time 16:00-17:30, July 13**Venue** Function Room A-9F**Chair(s)** Hongru Wang, Hohai University

Time	Paper ID	Details
16:00-16:15	9697	A Two-Stage Coordinated Bidding Study for Virtual Power Plant Spot Markets Accounting for Source Load Uncertainty Ke Xu , North China Electric Power University
16:15-16:30	4355	Development and Field Implementation of Transient Torsional Torque Protection for Turbine Generators Pengyin Liu , Shandong University
16:30-16:45	9066	Three-Stage Stochastic Market-Boundary Optimization for Transmission System Minghao Li , Xi'an Jiaotong University
16:45-17:00	0753	Design of a Live-Working Robot for Transmission Line Maintenance and Defect Elimination at 500 kV and Below Jinzhao Zheng , North China Electric Power University
17:00-17:15	1225	Economy–Reliability Co-Optimization for Distributed Generation Capacity Planning Considering Regional Islanded Supply: An Explicit Formulation for Reliability Assessment Yihan Zhang , Shandong University
17:15-17:30	8231	Harmonic-Voltage-Aided Opening Method for Preserving Fault Isolation and Service Restoration in Voltage-Time Feeder Automation with IIDGs Kun Luan , North China Electric Power University





Technical Session 21

Key Technologies for Optimal Operation and Control of Clean Energy Integration Systems via DC-Friendly Sending Systems

Time 16:00-17:30, July 13**Venue** Function Room B-9F**Chair(s)**Yiping Yuan, University of Electronic Science and Technology of China
Haitao Zhang, Xi'an Jiaotong University

Time	Paper ID	Details
16:00-16:15	1508	Fatigue-Aware Reliability Assessment of Offshore Wind Farms Considering Weather-Restricted Maintenance Accessibility Constraints Jialin Liu , University of Electronic Science and Technology of China
16:15-16:30	4483	Hybrid AC/DC Admittance Modeling of MMC and Stability Analysis of Grid-Tied System Siyue Lin , Xi'an Jiaotong University
16:30-16:45	0871	Active Power-Voltage Coupling Mechanism of MMC-HVDC System at Sending End and Quantification of its Power Regulation Capacity Heyang Sun , Northeast Electric Power University
16:45-17:00	2339	Active Distribution Network Congestion Alleviation via Thermodynamic-Aware Data Center Dispatch Chenyao Pang , University of Electronic Science And Technology of China
17:00-17:15	2075	Distributed Carbon-Aware Dispatch of Multi-Industrial Park Microgrids Considering Data-Power-Carbon Collaboration Shuchen Kang , University of Electronic Science and Technology of China
17:15-17:30	8160	Charging Guidance Strategy for Electric Vehicle Considering User Heterogeneity and Load Balancing Shunan Yao , Wuhan University of Technology
17:30-17:45	6155	Physics-Enhanced Residual TimesNet for PV Power Forecasting Considering Irradiance-Module Temperature Coupling Rongping Xu , University of Electronic Science and Technology of China
17:45-18:00	4207	Distributed Dispatch Model for Multi-Microgrid Systems Considering Data Center Workload Balancing Jing Zhu , University of Electronic Science and Technology of China



Technical Session 22

Energy Storage Technologies-Wind-PV Hydrogen Production and Electrolyzer Systems

Time 16:00-18:15, July 13

Venue Conference Room 1-9F

Chair(s) Litao Zheng, Chongqing University

Time	Paper ID	Details
16:00-16:15	4402	Chance-Constrained Multi-Timescale Voltage Control in Active Distribution Networks Using DNN-Enhanced Surrogate Control Qixuan Weng , Hunan University
16:15-16:30	5701	LCOH Modeling for Green Hydrogen from Curtailed Renewables Feilong Fan , Shanghai Jiao Tong University
16:30-16:45	1607	Hardware-Constrained Pulsed-Current Operation of PEM Water Electrolyzers: A Bubble-Coupled Modeling and Experimental Study Nattawat Panlawan , Rajamangala University of Technology Lanna (RMUTL)
16:45-17:00	0236	Three-Parameter Weibull-Based Lifetime Evaluation of Battery Systems Under Small-Sample Data Yicheng Zhou , Wenzhou University of Technology
17:00-17:15	8463	Optimal Capacity Configuration of Electricity-Hydrogen Microgrids Considering Extreme-Week Off-Grid Reliability Validation Yaxuan Zhai , Shandong University
17:15-17:30	1270	Degradation Mechanisms of Lithium-ion Batteries under Wide-Frequency Grid Fluctuation Conditions Mingtao Liu , Chongqing University
17:30-17:45	2841	A Fractional-Order Model for Lithium-Ion Batteries Based on Multi-Source Data Fusion Wei Liu , Cangzhou Normal University
17:45-18:00	5959	A Hybrid Modeling Learning Method for Lithium-Ion Battery Based on Fractional-Order and Gaussian Process Regression Simeng Zheng , Universiti Sains Malaysia (USM)
18:00-18:15	9140	Wind-PV-Storage-Grid Synchronous Configuration Calculation Module: A Two-Tier Optimization Approach Jingcheng Zhang , Hong Kong Baptist University



Technical Session 23

AI in Power and Energy Systems-3

Time 09:00-10:15, July 14

Venue Function Room A-9F

Chair(s) Bowen Zheng, China Electric Power Research Institute

Time	Paper ID	Details
09:00-09:15	3422	Wind Power Forecasting Based on Multi-Source Data Fusion and Progressive Fine-Tuning Strategy Hongying He , Hunan University
09:15-09:30	9104	Large Language Model Based Precision-Oriented Knowledge Question Answering Method for Power Secondary Operation Xinlei Cai , Power Dispatching and Control Center of Guangdong Power Grid Co., Ltd.
09:30-09:45	2900	LSTM-Reinforcement Learning Framework for Real-Time Sustainable Energy Optimization in Smart Grids Najim Alshahrani , Aramco
09:45-10:00	8520	A Dynamic Fine-Tuning Framework with Unbounded Data Augmentation for Probabilistic Net-Load Forecasting Under Extreme Weather Tianyu Xu , Zhejiang University
10:00-10:15	8843	Forecast-Enhanced PPO for Carbon-Aware VPP Economic Dispatch with Battery Carbon-State Tracking Qixin Liu , Xi'an Jiaotong-Liverpool University





Technical Session 24

Renewable Energy Integration-3

Time 09:00-10:00, July 14

Venue Function Room B-9F

Chair(s) Bo Pang, Southwest Jiaotong University
Hang Wan, Hubei University of Technology

Time	Paper ID	Details
09:00-09:15	0137	A New Branch of Isolated Multi-Port DC-DC Topology for DC Distribution System Baichuan Teng , Shanghai Jiao Tong University
09:15-09:30	5682	Day-Ahead Cluster-Level PV Power Forecasting Based on Local-Global Collaborative Modeling and Constrained Residual Correction Jiabao Xu , North China Electric Power University
09:30-09:45	3478	Expansion of Controllable Power Range of GFM Under Small-Signal Stability Constraints Jingjing Huang , Southwest Jiaotong University
09:45-10:00	8150	Planning and Optimization of PV-Storage-Charging Integrated Energy Systems for Zero-Carbon Park Retrofitting Hang Wan , Hubei University of Technology





Technical Session 25

AI in Power and Energy Systems-4

Time 10:45-12:15, July 14**Venue** Function Room A-9F**Chair(s)**

Hongying He, Hunan University

Shi Yin, Kunming University of Science and Technology

Time	Paper ID	Details
10:45-11:00	7095	Policy-Based Deep Reinforcement Learning for Optimal Scheduling of Coupled Multi-Energy Systems Xinghang Lyu , China Agricultural University
11:00-11:15	2680	Policy Space Response Oracles for Approximating Day-Ahead Electricity Market Equilibrium Under Renewable Energy Uncertainty Aoxiang Zhang , The Hong Kong Polytechnic University
11:15-11:30	9301	Agentic Search of TTC under Static and Dynamic Security Constraints based on LLM and BO Clement Jason , Tsinghua University
11:30-11:45	8450	Periodicity-Aware AI Data Center IT Load Forecasting Across Heterogeneous Cluster Scenarios Mingyang Zong , Wuhan University
11:45-12:00	2914	Transmission Line Icing Prediction Based on Autoregressive Inference of Large Language Models Hongying He , Hunan University
12:00-12:15	0418	TD3-based logistics distribution and charge-discharge strategies for eVTOL aircraft in dynamic environments Yubin Bu , Kunming University of Science and Technology





Workshop

Optimal Operation and Control of Clean Energy Integration Systems via DC-Friendly Sending Systems

Time 09:00-12:00, July 13

Venue G. E. Ballroom A-9F

Chair(s) Yiping Yuan, University of Electronic Science and Technology of China

Presenter	Affiliation	Title
Shouqi Jiang	Northeast Electric Power University	Frequency Support Contribution and Coordinated Control Technology for VSC-HVDC Export Systems of Renewable Energy Bases
Xibei Zhao	North China Electric Power University	Active Response Power Support and Fast DC Fault Ride-Through Technology for HVDC Direct-Connected Energy Storage
Yiping Yuan	University of Electronic Science and Technology of China	Frequency Constrained Unit Commitment in Low inertia Grid Considering Complex Uncertain Variability Disturbance Features
Peng Wang	University of Electronic Science and Technology of China	Dynamic Equivalent Modeling of Power Systems with Large-Scale Renewable Energy



POSTER SESSION I

Time 14:00-15:00, July 13

Venue G. E. Ballroom B-9F

Order		Details
01	4123	Mechanism Analysis of Cross-Time-Scale Oscillations in Grid-Forming Converters Based on Interaction Energy Elements Qingxian Luo , North China Electric Power University
02	0559	Analysis of Control Coupling in Virtual Synchronous Generators Based on Damping Torque Theory Junjie Sun , Electric Power Research Institute, State Grid Liaoning Electric Power Co., Ltd.
03	4231	Small-Signal Modeling and Analysis of Grid-Connected Hybrid Grid-Following/Grid-Forming Converter Systems Min Zhang , North China Electric Power University
04	7903	Stability Margin Quantification and Optimal Configuration of Hybrid GFL and GFM DFIG Systems Xiaoju Lv , Hohai University
05	6058	Analysis of Low-Frequency Oscillations in Renewable-Energy Systems with HVDC Transmission Based on P/ ω Impedance Modeling Chao Wang , Electric Power Research Institute, State Grid Liaoning Electric Power Co., Ltd.
06	7857	Effect of Flow Channel Structure on Flow Field Uniformity and Electrolytic Efficiency in Alkaline Water Electrolyzers: A Three-Dimensional Multiphysics Study Yuan Xue , Beijing Normal University
07	5232	Large-Signal Stability Analysis of Off-Grid PV-Storage DC Microgrids Based on Mixed Potential Theory Jialun Zuo , Chongqing University
08	0693	Time-Sequential Risk Assessment of Cascading Failure Paths Considering Multi-State Transitions of Power-Electronics-Based Devices Jialiang Yao , North China Electric Power University
09	3928	Analysis of Transient Voltage Characteristics in Grid-Following and Grid-Forming Hybrid Stations Yujun Zhou , Shandong University
10	4109	Geometric Characterization of Equilibrium Manifolds and Stability Boundaries in Heterogeneous GFL/GFM/SG Power Systems Shuguo Yao , North China Electric Power University
11	9873	Transient Parameter Identification of Synchronous Generator Using State-Feedback-Compensated PINN Jiafan Gao , Tsinghua University

12	7063	Overvoltage Mechanism and Suppression Method for LCC-HVDC Rectifier Station Caused by Sending-End AC Faults Considering Grid-Forming Converters Shirui Liu , North China Electric Power University
13	1902	Electrical-Thermal-Gas Feature-Based Safety Situation Awareness for Energy Storage Power Stations Junqi Bai , Chongqing University
14	5356	Station-Area Protection for Heterogeneous Renewable Energy Stations Based on Directional-Logic Information Fusion Xuetong Li , North China Electric Power University
15	7881	Community Detection and Benefit Allocation Method for Integrated Energy Systems Based on Game Theory Yuyao Jin , University of Jinan
16	3945	Research on Energy Management Strategy for Hybrid Electric Ships Based on Adaptive Neuro-Fuzzy Inference System Ailong Fan , Wuhan University of Technology
17	9727	Adaptive Energy Compensation Control for High-Frequency Oscillation Suppression of Grid-Forming Converter Under Varying Operating Conditions Yutong Liu , Shandong University
18	8999	Research on Fault Ride-Through of Flexible DC System at the Receiving End Based on DC-Side Hybrid Energy Storage Kaiyue Chen , Chongqing University
19	9086	Accommodation Region of Renewable Energy Under Static Voltage Security and Stability Constraints Hongshuai Sun , Shandong University of Technology
20	3871	Thermal Modeling and Insulation Optimization for Autonomous Detection Systems in Extreme Cold Environments Haohui Ding , Southeast University
21	5734	Ambient-Parameter-Free Dynamic Line Rating for Overhead Transmission Lines Congzhi Zhang, Shandong University of Technology
22	7377	Multi-Scenario Modeling of a Micro-grid Dominated by High-Altitude Wind Power Generation Yitong Wang , Beihang University
23	8660	Damping Analysis of Ultra-Low Frequency Oscillation in Hydropower-Dominated Complementary Systems with Wind Power and Energy Storage Integration Congzhi Zhou , Southwest Jiaotong University
24	1475	Multi-Band Coordinated Impedance Reshaping for Heterogeneous Converters Based on Spatial Distribution of Nodal Grid Strength Yan Chen , Zhejiang University
25	3862	Probability Assessment of Voltage Violations and Bidirectional Overloads in Distribution



		Networks with Large-scale DGs Integration Mingwu Huang , North China Electric Power University
26	7443	ARAS: Round-Level Availability for Unattended Antarctic LoRa Monitoring Zihan Yang , Southeast University
27	1890	Topology Selection and Control Analysis of a PPC-SDAB Converter Using Hybrid PWM Plus Phase-Shift Control Xiaohan Luo , Macau University of Science and Technology
28	9682	Seasonal-Reserve-Aware Hierarchical Task Energy Management for Photovoltaic-Storage Unattended Monitoring Platforms in Cold Regions Haohui Ding , Southeast University
29	4566	Reduced-Order Multi-Physics Modeling and Active Power Derating for Preventing Voltage Collapse Under Constant-Power Loads Yuwei Zhou , Anhui University
30	2239	Energy-Storage-Resistor Coordinated DC Energy Dissipation Device for Receiving-End AC Fault Ride-Through Chen Su , Southeast University
31	6661	Targeted Current Conditioning for Transmission-Level Vacuum Interrupters Chaozheng Peng , Xi'an Jiaotong University
32	7739	Simulation of Aging Damage Evolution in Solder Layer of IGBT Power Module Based on Fatigue Phase-Field Method Peng Yang , Chongqing University
33	2702	Investigation on Flow Characteristics of Oil Injection at End Winding of Hairpin Winding Motors Haigui Gong , Harbin University of Science and Technology
34	1201	Research on Rotational Misalignment Stability of Multi-transmitter Wireless Power Transfer System Based on Distributed Curved Coil Yun Wang , Hohai University
35	4457	Deterministic Supervisory Control Framework for Hybrid-Electric Aircraft Propulsion Systems Yikun Wu , Xi'an Jiaotong University
36	7332	Junction Temperature Distribution Reconstruction of IGBT Devices Based on POD Xin Chen , Chongqing University
37	3461	Calculation of Line Loss in Distribution Network Transformer Areas Based on Improved XGBoost Haoran Yu , Shandong University
38	2540	Fast Transient Stability Margin Assessment Method for Power Systems Adapted to Anomalous Data Jiaxun Li , North China Electric Power University





39	2395	A Semantic-Aware Single-Ended Protection Strategy Based on SNN Wenhan Hu , Wuhan University
40	7412	Data-Driven Model-Free Control for Three-Phase Vienna Rectifiers Zifan Lin , Curtin University
41	9898	Quantum Optimal Scheduling for Seaport Power Systems Using a QUBO Model Yizhou Zhou , Hohai University
42	9641	Model-Free Adaptive Control of a Three-Leg Interleaved Buck Converter Zifan Lin , Curtin University
43	1371	An End-to-End Framework for Optimal Wind Power Bidding with Incomplete Market Information Zichuan Shi , Longyuan (Beijing) New Energy Engineering Technology Co., Ltd
44	0850	Multi-Objective Energy Dispatch for Shipboard Integrated Energy Systems Using an Improved Non-Dominated Sorting Dung Beetle Optimizer Bo Li , Yanshan University
45	5043	Three-phase Isolated Matrix Rectifier Based on Asymmetric Fault-tolerant Structure for High-reliability Energy Storage Systems Huacong Jian , Dongguan University of Technology
46	8247	Hybrid Genetic Algorithm and Neural Network Based PI Control for Dual-Active-Bridge Series-Resonant DC-DC Converter Xiaohan Luo , Macau University of Science and Technology
47	5318	Enhanced Transformer-Driven Probabilistic Inertia Forecasting for Renewable Power System Wei Wei , Zhejiang University
48	4151	A Distribution Network Black Start Incentive Mechanism Considering External and User Behavior Uncertainties Fengqi Lyu , Tianjin University
49	8626	A Stage-Adaptive Evaluation and Screening Method for Technical Solutions in New-Type Power Systems Fan Lu , Shanghai Jiao Tong University
50	5805	A Privacy-Preserving Linearization Method for Power Flow Equations via Multi-State-Space Transformations Zhexin Fan , The University of Hong Kong
51	5372	Super-Twisting Sliding Mode Control Based Split-Phase Power Regulation of the Three-Phase Voltage Source Converter Shaoyan Jiang , Zhongshan Power Supply Bureau of Guangdong Power Grid Co.
52	3275	Robust Damping Compensation Strategy for Ultra-Low Frequency Oscillation Suppression in Hydropower Units Jian Sun , Southwest Jiaotong University





53	9745	Minimalist Test Circuit and Control Strategy for HVDC MMC Valve Sections Pingping Wen , China Electric Power Research Institute
54	2581	Power System Operational Mode Analysis with Kolmogorov-Arnold Attention GNN Tangyao Feng , State Grid Chongqing Electric Power Research Institute
55	1991	Handheld Acoustic PD Localization in HVDC Converter Valve Halls Using Adaptive MUSIC Chenyu Zhao , North China Electric Power University
56	2185	Transmission-Distribution Coordinated Dispatch Considering Probabilistic Equivalent Modeling of Active Distribution Networks Kunpeng Xia , China Agricultural University
57	0422	Coordinated Planning of Source-Storage for High Wind Power Penetration Power Systems Considering Inertia Support Shixing Ding , Yanshan University
58	5333	Coupling Dispatch Strategy for Hydrogen Supply Chain Under Vehicle-Road-Pipeline Dynamic Synergistic Hydrogen Transportation Tianxi Qin , Chongqing University
59	2709	Multi-agent Collaborative Optimal Scheduling of Integrated Energy Systems Considering Carbon Trading and Demand Response in the Market Environment Binglin Yang , Shandong University
60	9231	Hierarchical Allocation of AGC Command Considering Battery and Hydrogen Energy Storage Systems Kexin Huang , Chongqing University
61	5868	Incentive-Based Pricing of Multi-energy Retailer's Integrated Demand Response with Individual Techno-Economic Contribution Wenjun Zhang , Nanjing Tech University
62	5323	Multi-Period Path-Stable Green Routing for Real-Time Energy Transactions in Energy Internet Systems Yixian Yang , Macau University of Science and Technology
63	1628	Coordinated State-Power Control for Thermal-Molten Salt-Battery Systems Enabling Flexible Grid Integration Jialun Zuo , Chongqing University
64	6543	Capacity Optimization Configuration of Photovoltaic-storage-hydrogen System Based on GA-SCSO Xiaoya Luo , University of Jinan
65	5801	Optimal Bidding Strategy of Wind-storage Power Station in Day-Ahead Electricity Market Based on Deep Reinforcement Learning Jun Xie , Hohai University
66	6635	Photovoltaic Power Forecasting Based on Temporally Improved Deep Embedded Clustering and Dual State Control Soft Mixture of Experts Xiaotong Yang , University of Jinan





67	9622	Thermal-Balancing Rotation Control Strategy for Distributed DC Energy Dissipation Devices in Offshore Wind VSC-HVDC Systems Zekai Li , Hohai University
68	4302	Uncertainty Aware Computing-Storage Coordination for Accurate Data Center Load Regulation Zhenkun Zhao , North China Electric Power University
69	8658	Agent-Based Strategy Analysis for Energy Storage in the Intraday Market Zhenxin Zhang , ShanDong University
70	1338	Cluster-Based Voltage Control Strategy for Distribution Networks Considering Energy Storage State Coupling Xiaotong Li , Chongqing University
71	1681	Collaborative Optimization of Prosumers and Shared Energy Storage Based on Combinatorial Auction Ningning Liu , Shandong University
72	0571	Energy Consumption Optimization and Intelligent Control Strategy for Converter Station Valve Cooling Water Systems Liuyang Lu , Kunming University of Science and Technology
73	3215	An Energy Efficient Unipolar Buck Assisted Linear Amplifier Drive System With Optimized Envelope Generation Baoyang Liu , Shanghai Jiao Tong University
74	7944	Model Predictive Control-based Coordinated Control of Circulating Cooling Water Flow and Temperature in a Circulation Station Jiangchuan Kuai , Kunming University of Science and Technology
75	9051	Robust Multi-Vector Predictive Current Control for PMSM Drives With Incremental Modeling and Disturbance Compensation Haoyu Hu , Shanghai Jiao Tong University
76	5843	Cooperative Scheduling and Benefit Settlement of a Data Center and an Electricity Aggregator Under Time-of-Use Pricing Guisen Ye , University of Jinan
77	8525	AreaSafe MARL: Projection Guided Multi-Agent Reinforcement Learning for Overload Mitigation in Transmission System Junyan Shao , Aalborg University
78	8440	Evaluation of the Flexible Regulation Capability of a Sending-End Grid Under Different Control Strategies for Energy Storage Near a VSC-HVDC System Zhen Niu , State Grid Gansu Electric Power Research Institute
79	3460	Coordinated Control Strategy for Energy Storage Supporting VSC-HVDC in Sending-End Grid Considering Fault Disturbances Zhen Niu , State Grid Gansu Electric Power Research Institute
80	6613	A Multi-Device Coordinated Voltage Control Method Considering the Characteristics of



		Dynamic and Static Reactive Power Resources Zhongyi Wen , State Grid Chongqing Electric Power Co. Electric Power Research Institute
81	4577	Multi-objective Optimization of Regional Reactive Power Re-serve for AC/DC Hybrid Power System Considering Wind Power Scenarios Zhongyi Wen , State Grid Chongqing Electric Power Co. Electric Power Research Institute
82	9307	Degradation Analysis of Lithium-ion Batteries Under Rail Transit Vibration Environment Huaisheng Liu , Chongqing University
83	4099	State of Health Estimation for Sodium-Ion Battery Based on Genetic algorithm and Extreme Learning Machine Yao Wang , Chongqing University
84	1040	A Security-Constrained Optimization Model with Coordinated Frequency Support from Renewable Energy and Energy Storage Peishuang Shi , Shandong University
85	4258	Short-Circuit Current Calculation for Photovoltaic Power Plants Considering the Entire Fault Ride-Through Process Gang Yuan , Dalian University of Technology
86	2757	An Improved ALE-FEM Approach for High-Precision Simulation of Metal Particle Trajectories in GIS Ruixiao Meng , Chongqing University
87	7358	Small Signal Stability Analysis of VSC-HVDC Based on Impedance Model Zhen Niu , Chongqing University
88	9253	Temporal Analysis and Suppression Strategy of Terminal Transient Overvoltage in Renewable-Energy Units under Short-Circuit Faults Peinan Wang , North China Electric Power University
89	5509	An Online Wideband Battery Module Impedance Measurement Method of Using Segmented Composite Excitation Huaisheng Liu , Chongqing University
90	4973	Configuration of Distributed Synchronous Condensers for Suppressing Transient Overvoltage in Low-SCR UHVDC Sending-End Grids Junqi Bai , Chongqing University
91	3003	The Resource–Access Paradox: Electricity, Inequality, and Rural Exclusion in Africa Frederic Mirindi , University of Manitoba

POSTER SESSION II

Time 17:00-18:00, July 13

Venue G. E. Ballroom B-9F

Order	Paper ID	Details
01	0362	Optimization Control Strategy for Distribution Networks to Mitigate Transformer Aging Under Bidirectional Power Flow Switching Yuying Wang , State Grid Chongqing Electric Power Company Shinan Power Supply Branch
02	4618	A Cascading Failure Blocking Method in Transmission Grids Mitigating Impact of Secondary Faults Haipeng Kang , Shanghai Jiao Tong University
03	9380	System Dynamics-Based Approach for Evolutionary Analysis of Future Distribution Network Topologies Ranfeng Mu , Tianjin University
04	6179	Tail-Risk-Preserving Scenario Reduction for Resilient Distribution Network Assessment under Typhoon Disasters Zijin Wang , North China Electric Power University
05	5893	Flexibility Interval Assessment of Feeders in Active Distribution Networks Considering Static Voltage Load Characteristics Yifu Chen , Shanghai Jiao Tong University
06	4442	Physics-Informed Deep Learning for State Estimation and Voltage Prediction in Active Distribution Networks Junjun Xu , Nanjing University of Posts and Telecommunications
07	3849	Small-Signal Stability Constrained Logistics-Energy Coordinated Scheduling for Renewable-Integrated Seaports Tao Wang , Shanghai Jiao Tong University
08	3158	Distribution Transformer Performance under Bidirectional Power Flow Switching Induced by High-Penetration Distributed Generation Yuying Wang , State Grid Chongqing Electric Power Company Shinan Power Supply Branch
09	3181	State-Task-Network-Based Process Modeling of Polysilicon Loads for Frequency Regulation Flexibility Characterization Yishen Wang , Hohai University
10	6117	Quantifying the Secure Regulation Region of a Thermal Power Unit Coupled with Battery and Thermal Energy Storage for Deep Peak Shaving Meilin Lv , Chongqing University
11	5353	Three-Level Symmetrical Active Half-Bridge Converter for Wide Output Voltage Range



		Applications Ming-Tsung Tsai , Southern Taiwan University of Science and Technology
12	8567	Multi-Dimensional Risk Assessment of Coupled Disruptions in Power and Transportation Systems under Extreme Weather Conditions Peixiao Fan , The Hong Kong Polytechnic University
13	0228	Research on Integrated Oil Cooling Structure of Flat Wire Motor for High-Speed Vehicles Yi Liu , Harbin University of Science and Technology
14	4032	Anomaly Detection of Power Grid Measurement Data Based on Feature Fusion and LOF Cheng Huang , Shandong University
15	8348	Collaborative Optimization Design for High-Frequency Losses in EV High-Speed Flat-Wire Motors Considering Parameter Coupling Yaowei Bian , Harbin University of Science and Technology
16	4343	A Method for Anomaly Detection and Repair in Distribution Transformer Loads Based on LSTM Dan Ai , Tongren Power Supply Bureau of Guizhou Power Grid Co., Ltd
17	9109	Research on Fault-Tolerant Performance of Modular Winding In-Wheel Motor Under Inter-Turn Short-Circuit Fault Guidong Wang , Harbin University of Science and Technology
18	1344	Multi-Objective Optimal Dispatch of Microgrids Considering Demand Response: An Economic-Flexibility Tradeoff Approach Junhao Li , China Agricultural University
19	5125	Investigation of Fault-Tolerant Design Principles in a Multi-Unit PMSM With FSCW for In-Wheel Drive Hanbing Yang , Harbin University of Science and Technology
20	5883	EMI Mitigation of SiC Power Module Based on Flip-Stacked Package Structure Neng Wang , Huazhong University of Science and Technology
21	7802	Hardware Components and Energy Consumption Control of the Intelligent Computing Center, Including Computing Power and Communications Zijie Li , Northeastern University
22	6192	Power Quality Disturbance Classification Based on Conv1D-DAE and Multi-View Image Encoding with CNN Bowen Zheng , China Electric Power Research Institute
23	9025	Optimal Scheduling of Combined Heat and Power System Considering Renewable Energy Uncertainty: An Improved A3C Algorithm Yuanbao Wu , China Agricultural University
24	3780	Distributed Optimization of Microgrid Clusters Considering Multi-Stakeholder Privacy and Physical Decision Robustness Hao Xu , Zhejiang University of Technology





25	8631	An Online Identification Method for Charging Load Based on the Mean Teacher-student Network Yutong Wu , Tianjin University
26	1064	Research on Electricity-Carbon Optimization Pathways Considering Distribution Network Investment Costs Jichang Zhang , Shandong University
27	9657	Co-Optimization of Line Upgrading and Switch Configuration in Distribution Networks Considering Aggregated Regulation of Integrated Energy Systems Qiwei Wang , China Agricultural University
28	2417	A Day-ahead Electricity Price Forecasting Method Considering the Boundary Conditions of the Electricity Market and the Carbon Footprint Factor Han Wang , North China Electric Power University
29	6558	A Novel Optimal Scheduling Method for Heterogeneous Rural Micro Energy Grid Cluster Considering Cash-Credit Trading Yifan Bian , Xinjiang University
30	7830	A Novel Privacy-preserving Wind Power Forecasting Method Considering Regional Spatio-temporal Correlations Han Wang , North China Electric Power University
31	8136	Price Sensitivity Analysis of Adjustable Resources in Multi-Energy Flexible Systems of Public Buildings Luhao Wang , University of Jinan
32	9477	Co-Optimization of Control Parameters and Operation Scheduling for Islanded Microgrids Considering Frequency-Security Constraints Bo Wang , Hohai University
33	6751	A Compact Mixed-Integer Linear Programming Formulation for Non-Intrusive Load Monitoring With Startup Linking and Normalized Power Variables Wei Li , Southeast University
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