

Technical session guide

Session Name	Topic	Session Number	Time	Location
Technical Session 1	Energy Conversion and Economics	Te1	Oct. 23th, Saturday 13:00-15:00	INTERVIEW HALL(1F)
Technical Session 2	Wide-band Oscillation Stability and Control in New-Type Power System	Te2	Oct. 23th, Saturday 13:00-15:00	CHONGFU HALL(2F)
Technical Session 3	Modeling and Analysis of Cyber-physical-Social System in Energy Fields	Te3	Oct. 23th, Saturday 13:00-15:00	HUANG HE HALL(1F)
Technical Session 4	Young Scholars' Forum on New Type Power Systems	Te4	Oct. 23th, Saturday 13:00-15:00	TAI HANG HALL(1F)
Technical Session 5	Modeling and Analysis of Transient Process in Power-Electronic-Based Power System	Te5	Oct. 23th, Saturday 15:00-17:00	JIAXIANG HALL(2F)
Technical Session 6	Artificial Intelligence and its Application in Power Systems	Te6	Oct. 23th, Saturday 15:00-17:00	CHONGFU HALL(2F)
Technical Session 7	Modeling, Analysis and Optimization of Power Systems with Deep Penetration of Variable Energy Resources	Te7	Oct. 23th, Saturday 15:00-17:00	NANLAO HALL(2F)
Technical Session 8	State Estimation for Integrated Energy Systems	Te8	Oct. 23th, Saturday 15:00-17:00	HUANG HE HALL(1F)
Technical Session 9	Multi-Energy System Integration for Zero-Carbon Development	Te9	Oct. 24th, Sunday 8:00-10:00	JIAXIANG HALL(2F)
Technical Session 10	Power Market Modelling and Analysis in the Context of	Te10	Oct. 24th, Sunday	HUANG HE

	Carbon Neutrality		8:00-10:00	HALL(1F)
Technical Session 11	Renewable Energy Generation Dominated Power System Stability	Te11	Oct. 24th, Sunday 8:00-10:00	CHONGFU HALL(2F)
Technical Session 12	Key Technologies of Security Analysis and Economic Operation of Regional Integrated Energy System Under Carbon-Neutral Goal	Te12	Oct. 24th, Sunday 8:00-10:00	TAI HANG HALL(1F)
Technical Session 13	Trends of Electricity Market Development under Carbon Neutrality and Energy Transition	Te13	Oct. 24th, Sunday 8:00-10:00	NANLAO HALL(2F)
Technical Session 14	Risk, Prevention and Control of Extreme Events including Short Circuits in Power and Energy Systems	Te14	Oct. 24th, Sunday 10:00-12:00	CHONGFU HALL(2F)
Technical Session 15	Modeling of Renewables-Dominated Power Systems	Te15	Oct. 24th, Sunday 10:00-12:00	NANLAO HALL(2F)
Technical Session 16	CSEE JPES Forum: Key Technologies of New-Type Power System Construction	Te16	Oct. 24th, Sunday 10:00-12:00	JIAXIANG HALL(2F)
Technical Session 17	Toward Low-Carbon Energy Transition: Hydrogen Technology and Future Society	Te17	Oct. 24th, Sunday 10:00-12:00	TAI HANG HALL(1F)
Technical Session 18	Approximate Modeling Techniques in Integrated Energy System Operation and Control	Te18	Oct. 24th, Sunday 10:00-12:00	HUANG HE HALL(1F)
Technical Session 19	Key Technologies of Grid-Integration and Operation Control for Offshore Wind farms	Te19	Oct. 24th, Sunday 13:00-15:00	NANLAO HALL(2F)

Technical Session 20	Distributed Optimization Approaches and Market Mechanisms	Te20	Oct. 24th, Sunday 13:00-15:00	TAI HANG HALL(1F)
Technical Session 21	Key Technologies of Hydrogen Production Based on Renewable Energy Sources	Te21	Oct. 24th, Sunday 13:00-15:00	HUANG HE HALL(1F)
Technical Session 22	Digital Transformation for New Type of Power System	Te22	Oct. 24th, Sunday 13:00-15:00	CHONGFU HALL(2F)
Technical Session 23	Synchronism of Renewable Energy Dominated Power Systems	Te23	Oct. 24th, Sunday 10:00-12:00	ONLINE
Technical Session 24	Security and Operation Control for Energy Storage Devices in New-Type Power Systems	Te24	Oct. 24th, Sunday 13:00-15:00	ONLINE

14. Technical Session Details

Technical Session 1: Energy Conversion and Economics

Oct. 23rd, Saturday 13:00-15:00, Interview Hall(1F)

Chair(s):

Fushuan Wen
Professor
Zhejiang University

Panelist:

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|-------------|--|
| 13:00-13:30 | Te1-01
<i>Business model and use case analysis of integrated energy services</i>
Xuzhu Dong
Professor, Wuhan University |
| 13:30-14:00 | Te1-02
<i>User centred smart campus, technologies and planning</i>
Zhaoyang Dong
Professor, The University of NSW |
| 14:00-14:30 | Te1-03
<i>Smart Energy Internet technology and demonstration applications in Shanxi</i>
Jinhao Wang
Senior Engineer, Shanxi Electric Power Research Institute of SGCC |
| 14:30-15:00 | Te1-04
<i>Compressed-Air Energy Storage Power Station Using Salt Cavern in Jintan, Jiangsu Province: Research and Practice</i>
Shengwei Mei
Professor, Tsinghua University |

Technical Session 2: Wide-band Oscillation Stability and Control in New-Type Power System

Oct. 23rd, Saturday 13:00-15:00, Chongfu Hall(2F)

Chair(s):

Jing Ma
Professor
North China Electric Power University

Panelist:

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|-------------|--|
| 13:00-13:20 | Te2-01
<i>Stability Analysis and Monitoring of Wide-Band Oscillations in Wind Integrated Power System</i>
Shuang Feng
Lecturer, Southeast University |
| 13:20-13:40 | Te2-02
<i>The Stability Analysis and Control of Power Systems with Wind Power Generation</i>
Kai Liao
Associate Professor, Southwest Jiaotong University |
| 13:40-14:00 | Te2-03
<i>Mechanism and Suppression Control of Wideband Oscillations in MMC-HVDC Connected offshore Wind Farms</i>
Jing Lv
Associate Professor, Shanghai Jiaotong University |
| 14:00-14:15 | Te2-04
<i>Security Region of Power System with Large-scale Wind Power</i>
Chao Qin
Associate Professor, Tianjin University |
| 14:15-14:30 | Te2-05
<i>Wide Area Monitoring of Subsynchronous Oscillation</i>
Yang Wang
Researcher, Sichuan University |
| 14:30-14:45 | Te2-06
<i>A Holistic Data Analytics for Natural and Forced Oscillations in Power</i> |

Systems

Rufeng Zhang

Deputy Director, Northeast Electric Power University

14:45-15:00

Te2-07

Grid-friendly Control Technology for Wind Power Generation

Taiying Zheng

Dean Assistant, Zhejiang University

Technical Session 3: Modeling and Analysis of Cyber-Physical-Social System in Energy Fields

Oct. 23rd, Saturday 13:00-15:00, Huanghe Hall(1F)

Chair(s):

Nian Liu
Professor
North China Electric Power University

Xiaoyuan Xu
Assistant Professor
Shanghai Jiao Tong University

Panelist:

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|-------------|---|
| 13:00-13:20 | Te3-01
<i>Modeling Autonomous Mobility-on-Demand System: An Energy-Transportation Nexus Perspective</i>
Zhaohao Ding
Associate Professor, North China Electric Power University |
| 13:20-13:40 | Te3-02
<i>Impacts of the Social Dimension on the Emerging Sustainable Energy Community for Prosumers</i>
Tao Huang
Professor, Politecnico di Torino |
| 13:40-14:00 | Te3-03
<i>Social Relationship Preference-Aware P2P Energy Market for Urban Energy Prosumers and Consumers</i>
Fengji Luo
Lecturer, The University of Sydney |
| 14:00-14:20 | Te3-04
<i>Time-Dependent Clpu Modeling and Its Application in Robust Distribution System Load Restoration</i>
Meng Song
Research Associate, Southeast University |
| 14:20-14:40 | Te3-05
<i>Parallel Cyber-Physical-Social Systems Based Smart Energy</i> |

Robotic Dispatcher: Concepts, Architectures and Challenges

Tao Yu

Professor, South China University of Technology

14:40-15:00

Te3-06

*Distribution System Operating State Awareness Based on
Synchronous Phasor Measurement*

Xiaoyuan Xu

Professor, Shanghai Jiaotong University

Technical Session 4: Young Scholars' Forum on New Type Power Systems

Oct. 23rd, Saturday 13:00-15:00, Taihang Hall(1F)

Chair(s):

Qinglai Guo
Professor
Tsinghua University

Panelist:

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| 13:00-13:30 | Te4-01
<i>Some Findings on the Large-Disturbance Stability Pattern and Mechanism of Grid-Connected VSC</i>
Lei Chen
Assistant Researcher, Tsinghua University |
| 13:30-14:00 | Te4-02
<i>Damping Control of High Frequency Resonance in Grid-Connected VSC-HVDC System</i>
Chongru Liu
Professor, North China Electric Power University |
| 14:00-14:30 | Te4-03
<i>20 Qinglai Guo Tsinghua University Young Scholars' Forum on New Type Power Systems</i>
Xinyu Chen
Deputy Director, Huazhong University of Science and Technology |
| 14:30-15:00 | Te4-04
<i>Adaptive Prediction Intervals for Uncertainty Quantification of Renewable Energy Generation</i>
Can Wan
Researcher, PhD Supervisor, Zhejiang University |

Technical Session 5: Modeling and Analysis of Transient Process in Power-Electronic-Based Power System

Oct. 23rd, Saturday 15:00-17:00, Jiaxiang Hall(2F)

Chair(s):

Canbing Li
Professor
Shanghai Jiao Tong University

Panelist:

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| 15:00-15:30 | Te5-01
<i>Design and Evaluation of High Capacity Lithium-ion Battery Energy Storage Systems</i>
Rui Li
Professor, Shanghai Jiaotong University |
| 15:30-16:00 | Te5-02
<i>The Operation Characteristics of off-shore Wind Power and Its Impact on Power System</i>
Hao Yu
Deputy Manager, Institute of Power System Planning, Guangdong Power Grid, CSG |
| 16:00-16:30 | Te5-03
<i>Distributed Optimal Control of Energy Storages in a DC Microgrid with Communication Delay</i>
Xia Chen
Associate Professor, Huazhong University of Science and Technology |
| 16:30-17:00 | Te5-04
<i>Impedance Modeling and Fault Control of Interactive Microgrid in Active Distribution Networks</i>
Xubin Liu
Associate Professor, Central South University |

Technical Session 6: Artificial Intelligence and its Application in Power Systems

Oct. 23rd, Saturday 15:00-17:00, Chongfu Hall(2F)

Chair(s):

Yi Tang
Professor
Southeast University

Panelist:

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| 15:00-15:30 | Te6-01
<i>Computational Intelligence-Based Uncertainty Quantification in Distributed Power Systems</i>
Hao Quan
Professor, Nanjing University of Science and Technology |
| 15:30-16:00 | Te6-02
<i>Decentralized Coordination Parameters Optimization Mitigating Temporal and Spatial Flexible Demand Synchronization Effect in Distribution Networks Using Deep Reinforcement Learning</i>
Yujian Ye
Assistant Researcher, Southeast University |
| 16:00-16:30 | Te6-03
<i>A Data-driven and Model-driven Combined Method for Power System Critical Clearing Time Fast Prediction</i>
Feng Li
Lecturer, Nanjing Normal University |
| 16:30-17:00 | Te6-04
<i>Renewable Energy Interval Prediction Based on The Biased Convex Cost Function and Auto Encoder</i>
Huan Long
Associate Professor, Southeast University |

Technical Session 7: Modeling, Analysis and Optimization of Power Systems with Deep Penetration of Variable Energy

Resources

Oct. 23rd, Saturday 15:00-17:00, Nanlao Hall(2F)

Chair(s):

Zheng Yan
Professor
Shanghai Jiao Tong University

Panelist:

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| 15:00-15:25 | Te7-01
<i>Energy Sharing: New Business Model for Accommodating Renewable Generation Uncertainty</i>
Yue Chen
Assistant Professor, The Chinese University of Hong Kong |
| 15:25-15:50 | Te7-02
<i>Robust Reactive Power Support From Active Distribution Networks With Uncertain DERs</i>
Zhengshuo Li
Professor, Shandong University |
| 15:50-16:15 | Te7-03
<i>Linear Programs for Large- Scale Unit Commitment</i>
Tao Ding
Professor, Xi 'An Jiaotong University |
| 16:15-16:40 | Te7-04
<i>Online Optimal Feedback Control for Power Systems with High Penetration Renewables</i>
Yi Guo
Eth Fellow, Swiss Federal Institute of Technology in Zurich (Eth Zurich) |
| 16:40-17:00 | Te7-05
<i>Mitigating the Voltage Unbalance in Distribution Network with Distributed Renewable Energy via Uncertainty Quantification</i>
Han Wang |

Technical Session 8: State Estimation for Integrated Energy Systems

Oct. 23rd, Saturday 15:00-17:00, Huanghe Hall(1F)

Chair(s):

Junbo Zhao
Assistant Professor
Mississippi State University

Ye Guo
Associate Professor
Tsinghua Shenzhen International Graduate School

Panelist:

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| 15:00-15:30 | Te8-01
<i>Research on State Estimation of Integrated Energy System</i>
Yanbo Chen
PhD Supervisor, North China Electric Power University |
| 15:30-16:00 | Te8-02
<i>Data- and Model-Driven State Estimation for Power Distribution Systems</i>
Manyun Huang
Associate Professor, Hohai University |
| 16:00-16:30 | Te8-03
<i>Distributed State Estimation for Networked Micro-grids</i>
Yuntao Ju
Associate Professor, China Agricultural University |
| 16:30-17:00 | Te8-04
<i>Distributed Dynamic State Estimation for Integrated Energy Systems: Modeling and Computing Architecture</i>
Wen Zhang
Professor, Shandong University |

Technical Session 9: Multi-energy System Integration for Zero-carbon Development

Oct. 24th, Sunday 8:00-10:00, Jiaxiang Hall(2F)

Chair(s):

Yong Li
Professor
Hunan University, China

Lin Jiang
Professor
University of Liverpool

Panelist:

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| 8:00-8:15 | Te9-01
<i>Control of Community Microgrids with Flexible Multi-energy Sources</i>
Denis Sidorov
Professor, Energy Systems Institute of Siberian Branch of Russian Academy of Sciences |
| 8:15-8:30 | Te9-02
<i>Volatility Suppression of Service Restoration for Distribution Systems with Multi-Energy</i>
Chun Chen
Lecturer, Changsha University of Science and Technology |
| 8:30-8:45 | Te9-03
<i>Japan's Low-Carbon Development Strategy for Multi-Energy System</i>
Yicheng Zhou
Visiting Professor, Waseda University, Japan |
| 8:45-9:00 | Te9-04
<i>Static and Dynamic State Estimation of Integrated Energy System</i>
Dechang Yang
Deputy Director, China Agricultural University |
| 9:00-9:15 | Te9-05
<i>Zero-Carbon District Energy Internet Model of Multi-energy System using Multi-agent Reinforcement Learning</i>
Nikita Tomin |

Senior Research Fellow, Melentiev Energy Systems Institute SB
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| 9:15-9:30 | Te9-06
<i>Autonomous Operation of Multi-Energy Micro Grid</i>
Yong Li
Professor, Hunan University |
| 9:30-9:40 | Te9-07
<i>A Real-life Investment Assessment for an Electricity-Hydrogen System</i>
Hrvoje Pandzic
Head of the Department of Energy and Power Systems, Faculty of Electrical Engineering and Computing, University of Zagreb |
| 9:40-9:50 | Te9-08
<i>Hierarchical Decentral Optimal Dispatch for Networked Multi-energy Microgrids</i>
Yang Li
Lecturer, Hohai University |
| 9:50-10:00 | Te9-09
<i>Software and Hardware-in-loop Co-simulation of Multi-energy Microgrids</i>
Lin Jiang
Reader, University of Liverpool |

Technical Session 10: Power Market Modelling and Analysis in the Context of Carbon Neutrality

Oct. 24th, Sunday 8:00-10:00, Huanghe Hall(1F)

Chair(s):

Junhua Zhao
Professor
The Chinese University of Hong Kong (Shenzhen)

Panelist:

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| 8:00-8:30 | Te10-01
<i>Energy Market Planning towards a Net-zero Emission Future</i>
Jing Qiu
Senior Lecturer, The University of Sydney |
| 8:30-9:00 | Te10-02
<i>Temporal Vulnerability Assessment for Convex Hull Pricing</i>
Chenye Wu
Assistant Professor, The Chinese University of Hong Kong, Shenzhen |
| 9:00-9:30 | Te10-03
<i>Power-to-Gas Station and Integrated Energy System Planning in Deregulated Market Considering Ancillary Service Provision</i>
Guibin Wang
Researcher, Shenzhen University |
| 9:30-10:00 | Te10-04
<i>Low-Carbon Energy Dispatch Considering Large-Scale Data Centers</i>
Gaoqi Liang
Research Fellow, Nanyang Technological University |

Technical Session 11: Renewable Energy Generation

Dominated Power System Stability

Oct. 24th, Sunday 8:00-10:00, Chongfu Hall(2F)

Chair(s):

Jinquan Zhao
Professor
Hohai University

Panelist:

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| 8:00-8:30 | <p>Te11-01</p> <p><i>Transient stability in Renewable-dominant Power System :Challenge and Recent Progress</i></p> <p>Meng Zhan
Professor, Huazhong University of Science and Technology</p> |
| 8:30-9:00 | <p>Te11-02</p> <p><i>Frequency Scanning and Stability Analysis for Renewable Sources Using Real Time Simulation</i></p> <p>Hui Ding
R&D Supervisor, Simulation & Analytical Study, RTDS Technologies Inc.</p> |
| 9:00-9:30 | <p>Te11-03</p> <p><i>Large Disturbance Stability of Power System with High Penetration of Renewables and Inverters: Phenomena, Challenges, And Perspectives</i></p> <p>Qirong Jiang
Professor, Tsinghua University</p> |
| 9:30-10:00 | <p>Te11-04</p> <p><i>Practical Applications of SSO Analysis and Mitigation</i></p> <p>Zheng Zhou
Principal, Teshmont Consultants now Stantec</p> |

Technical Session 12: Key Technologies of Security Analysis and Economic Operation of Regional Integrated Energy

System Under Carbon-Neutral Goal

Oct. 24th, Sunday 8:00-10:00, Taihang Hall(1F)

Chair(s):

Dan Wang
Associate Professor
Tianjin University

Xinwei Shen
Research Scientist
Tsinghua Shenzhen International Graduate School

Panelist:

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| 8:00-8:30 | Te12-01
<i>Nonlinear Optimization for the Regional Integrated Energy System</i>
Zhi Wu
Associate Professor, Southeast University |
| 8:30-9:00 | Te12-02
<i>Data-Driven Situation Awareness and Risk-Averse Optimization of Regional Integrated Energy System</i>
Hao Xiao
Assistant Researcher, Institute of Electrical Engineering of the Chinese Academy of Sciences |
| 9:00-9:30 | Te12-03
<i>Dynamic Equivalent Modeling of High-Penetration Level Renewable Energy Integrated Power System</i>
Zhenyuan Zhang
Professor, University of Electronic Science and Technology of China |
| 9:30-10:00 | Te12-04
<i>Nearly Zero Carbon Optimal Operation Model And Benefit Allocation Strategy For A Novel Virtual Power Plant Using Carbon Capture, Power-to-Gas, And Waste Incineration Power In Rural Areas</i>
Liwei Ju
Associate Professor, North China Electric Power University |

Technical Session 13: Trends of Electricity Market Development under Carbon Neutrality and Energy Transition

Oct. 24th, Sunday 8:00-10:00, Nanlao Hall(2F)

Chair(s):

Feng Gao
Chief Scientist
TsingSoft Inc.

Panelist:

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| 8:00-8:25 | Te13-01
<i>Experience and Practice of Shanxi Electricity Market for Ensuring Adequacy and Promoting Renewable Energy Adoption</i>
Peng Zou
Deputy Director, State Grid of Shanxi Province |
| 8:25-8:50 | Te13-02
<i>Carbon Market and Electricity Market: Impact Mechanism and Potential Assessment</i>
Feng Song
Professor and Department Head, Renmin University of China |
| 8:50-9:15 | Te13-03
<i>Renewable Energy-Enriched Low-Inertia Power Grid: Operations and Markets</i>
Xingpeng Li
Assistant Professor, University of Houston USA |
| 9:15-9:40 | Te13-04
<i>Research on Synergetic Effect of Multi-Subnet ACDC Hybrid Microgrid Control Technology</i>
Tiancang Du
Manager, Southern Power Grid International Co., Ltd |
| 9:40-10:00 | Te13-05
<i>Clean Energy Transition – Challenges and Opportunities</i>
Tongxin Zheng
Director, ISO New England USA |

Technical Session 14: Risk, Prevention and Control of Extreme Events including Short Circuits in Power and Energy Systems

Oct. 24th, Sunday 10:00-12:00, Chongfu Hall(2F)

Chair(s):

Chengjin Ye
Research Professor
Zhejiang University

Panelist:

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| 10:00-10:25 | Te14-01
<i>Resilience Enhancement Strategy for Power Distribution System under Typhoon Weather</i>
Changsen Feng
Associate Professor, Zhejiang University of Technology |
| 10:25-10:50 | Te14-02
<i>Resilience Assessment and Enhancement of Integrated Electricity-gas System Considering Multi-type Natural Disasters</i>
Kai Hou
Associate Professor, Tianjin University |
| 10:50-11:15 | T14-03
<i>Adaptive Control of Flexible Loads for Enhancing the Power System Resilience Facing Accidental Outages</i>
Hongxun Hui
Postdoctoral Fellow, University of Macau |
| 11:15-11:40 | Te14-04
<i>Planning Urban Energy Systems Adapting to Extreme Weather</i>
Rui Jing
Assistant Researcher, Cardiff University |
| 11:40-12:00 | Te14-05
<i>Research on Building Comprehensive Energy and Demand Side Response</i>
Ji Li
Deputy Director, China Academy of Building Research |

Technical Session 15: Modeling of Renewables-Dominated Power Systems

Oct. 24th, Sunday 10:00-12:00, Nanlao Hall(2F)

Chair(s):

Weixing Li
Professor
Dalian University of Technology

Yuan Zeng
Professor
Tianjin University

Panelist:

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| 10:00-10:30 | Te15-01
<i>Power System Dynamic Simulation Validation Based on WAMS</i>
Jun An
Vice President, Northeast Electric Power University |
| 10:30-11:00 | Te15-02
<i>Research of Data-Driven and Physics-Based Combined Method for Power Grid Transient Stability Assessment</i>
Qi Wang
Associate Professor, Southeast University |
| 11:00-11:30 | Te15-03
<i>Online Load Modeling Based on Characteristic Matching of Small Disturbance Response</i>
Yuan Zeng
Associate Professor, Tianjin University |
| 11:30-12:00 | Te15-04
<i>Data-driven Method for Wind Farm Modeling</i>
Pupu Chao
Associate Professor, Dalian University of Technology |

Technical Session 16: CSEE JPES Forum: Key Technologies of New-Type Power System Construction

Oct. 24th, Sunday 10:00-12:00, Jiaxiang Hall(2F)

Chair(s):

Xiaohui Qin
Professoriate Senior Engineer
China Electric Power Research Institute

Panelist:

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| 10:00-10:25 | Te16-01
<i>Power and Energy System Planning: Adaptive Method and Application</i>
Pingliang Zeng
Professor, Hangzhou Dianzi University |
| 10:25-10:50 | Te16-02
<i>Revisit the Stability Mechanism of the New-Type Power System</i>
Xin Zhang
Researcher, Zhejiang University |
| 10:50-11:15 | Te16-03
<i>Research on Impedance Adaptive Dual-Mode Control of Grid-Connected Inverters for High-Penetration New Energy Power Generation</i>
Ming Li
Assistant Researcher, Tsinghua University |
| 11:15-11:40 | Te16-04
<i>Key Technologies of Relay Protection for DC Grid</i>
Meng LI
Associate Professor, Beijing Jiaotong University |
| 11:40-12:00 | Te16-05
<i>Research and Application of Power System Carbon Dioxide Emissions Modeling</i>
Wenjing Chen
Experts, China Electric Power Research Institute |

Technical Session 17: Toward Low-Carbon Energy

Transition: Hydrogen Technology and Future Society

Oct. 24th, Sunday 10:00-12:00, Taihang Hall(1F)

Chair(s):

Jianxiao Wang
Assistant Professor
North China Electric Power University

Guannan He
Assistant Professor
Peking University

Panelist:

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| 10:00-10:30 | Te17-01
<i>Logistics-Energy Collaborative Optimization Scheduling Method for Large Seaport Integrated Energy System</i>
Wentao Huang
Associate Professor, Shanghai Jiaotong University |
| 10:30-11:00 | Te17-02
<i>Dynamic Integration of Hydrogen in Power Systems</i>
Jin Lin
Associate Professor, Tsinghua University |
| 11:00-11:30 | Te17-03
<i>Hydrogen Production and Comprehensive Utilization Technology</i>
Xiaodong Peng
Senior Engineer, Global Energy Interconnection Research Institute,
State Grid Corporation of China |
| 11:30-12:00 | Te17-04
<i>Aggregated Management of Distributed Energy Resources for Carbon Neutralization</i>
Guangsheng Pan
PhD student, Southeast University |

Technical Session 18: Approximate Modeling Techniques in Integrated Energy System Operation and Control

Oct. 24th, Sunday 10:00-12:00, Huanghe Hall(1F)

Chair(s):

Zhigang Li
Associate Professor
South China University of Technology

Panelist:

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| 10:00-10:25 | Te18-01
<i>Gas-electric Coupling: Modeling and Market-based Coordination</i>
Sheng Chen
Associate Professor, Hohai University |
| 10:25-10:50 | Te18-02
<i>Inter-Temporal Flexibility from Multi-Energy System: An Elimination Perspective</i>
Zhifang Yang
Distinguished Researcher, Chongqing University |
| 10:50-11:15 | Te18-03
<i>A Dynamic Equivalent Model for District Heating Networks: Formulation, Existence and Application in Distributed Electricity-Heat Operation</i>
Weiye Zheng
Associate Professor, South China University of Technology |
| 11:15-11:40 | Te18-04
<i>Three-phase Linear Power Flow Model Applied for Active Distribution Network Optimization</i>
Yuntao Ju
Associate Professor, China Agricultural University |
| 11:40-12:00 | Te18-05
<i>Data-Driven Modeling and Strategic Operation of Thermostatically Controlled Load</i>
Hongcai Zhang
Assistant Professor, University of Macau |

Technical Session 19: Key Technologies of Grid-Integration and Operation Control for Offshore Wind farms

Oct. 24th, Sunday 13:00-15:00, Nanlao Hall(2F)

Chair(s):

Wei Yao
Professor
Huazhong University of Science and Technology

Jiakun Fang
Professor
Huazhong University of Science and Technology

Panelist:

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| 13:00-13:25 | Te19-01
<i>Optimal Control Method for Large-scale Wind Turbines Clusters
Considering Wake Effect</i>
Sheng Huang
Professor, Hunan University |
| 13:25-13:50 | Te19-02
<i>Hybrid DC/DC AUTO for offshore Wind Farm Integration</i>
Chenghao Li
Deputy Director, Henan EPRI of State Grid Cooperation of China |
| 13:50-14:15 | Te19-03
<i>The Reliability Assessment of the offshore Wind Power Considering
the Impacts of the Extreme Weather Event</i>
Changzheng Shao
Assistant Researcher, Chongqing University |
| 14:15-14:40 | Te19-04
<i>Grid-Friendly Control of MTDC Systems for Integrating offshore Wind
Farms</i>
Weiyu Wang
Assistant Professor, Changsha University of Science and Technology |
| 14:40-15:00 | Te19-05 |

*Integrated Natural Gas and Power System with Power-to-Hydrogen
From offshore Wind Farm*

Jiakun Fang

Professor, Huazhong University of Science and Technology

Technical Session 20: Distributed Optimization Approaches and Market Mechanisms

Oct. 24th, Sunday 13:00-15:00, Taihang Hall(1F)

Chair(s):

Ye Guo
Associate Professor
Tsinghua Shenzhen International Graduate School

Panelist:

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|-------------|---|
| 13:00-13:30 | Te20-01
<i>Decentralized Solution to Combined Heat and Power Dispatch
Considering Abnormal Communication Conditions</i>
Zhigang Li
Associate Professor, South China University of Technology |
| 13:30-14:00 | Te20-02
<i>A Trusted Energy Trading Framework by Marrying Blockchain and
Optimization</i>
Sijie Chen
Associate Professor, Shanghai Jiaotong University |
| 14:00-14:30 | Te20-03
<i>Master-Slave Splitting Theory and Its Application in Electric-Heat
Coordinated Optimization</i>
Yixun Xue
Associate Professor, Taiyuan University of Technology |
| 14:30-15:00 | Te20-04
<i>Smart Operation Technology of Digital Grid Based on The Fusion of
Deep Learning and Knowledge Graph</i>
Ye Guo
Associate Professor, Tsinghua Shenzhen International Graduate
School |

Technical Session 21: Key Technologies of Hydrogen Production Based on Renewable Energy Sources

Oct. 24th, Sunday 13:00-15:00, Huanghe Hall(1F)

Chair(s):

Yanghong Xia
Professor
Zhejiang University

Panelist:

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|-------------|--|
| 13:00-13:30 | <p>Te21-01
<i>Optimal Dispatch for Integrated Energy Microgrid Considering Start-up and Shutdown of Hydrogen Production</i>
Yaolong Bo
Students, Zhejiang University</p> |
| 13:30-14:00 | <p>Te21-02
<i>An Improved Model for Hydrogen Production by Alkaline Water Electrolysis</i>
Haoran Cheng
Students, Zhejiang University</p> |
| 14:00-14:30 | <p>Te21-03
<i>Inertial Response Improvement Method for Bidirectional Power Converter in Hybrid AC/DC Microgrid</i>
Zeyan Lv
Students, Zhejiang University</p> |
| 14:30-15:00 | <p>Te21-04
<i>A Two-Step Quadratic-Convex Based Tightening Method for Electricity-Gas System Optimization Considering Current Margins</i>
Yuwei Chen
Engineer, Powerchina Huadong Engineering Corporation Limited</p> |

Technical Session 22: Digital Transformation for New Type of Power System

Oct. 24th, Sunday 13:00-15:00, Chongfu Hall(2F)

Chair(s):

Feng Gao
Professorate Senior Engineer
Energy Internet Research Institute, Tsinghua University

Panelist:

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|-------------|---|
| 13:00-13:30 | Te22-01
<i>Digital and AI technologies boost carbon peak and neutrality transformation: Baidu AI Cloud's POV, Solutions and Practices</i>
Yongping Zhang
Senior Director, Baidu AI Cloud Group |
| 13:30-14:00 | Te22-02
<i>Data Virtualization and Double Carbon Goals</i>
Hao Wu
Senior Manager, IBM |
| 14:00-14:30 | Te22-03
<i>Towards Carbon Neutral Industrial Parks: Our Approach and Practice</i>
Wuhua Hu (Wallace)
Vice President, Towngas Energy Investment Limited |
| 14:30-15:00 | Te22-04
<i>Considerations For the Development of Traditional Power Grid Networks to Blockchain P2P and IOT Integrated Networks</i>
Qiaoyin Yang
CTO of Blockchain-Native Energy Internet Research Institute,
Energy Internet Research Institute, Tsinghua University |

Technical Session 23: Synchronism of Renewable Energy

Dominated Power Systems

Oct. 24th, Sunday 10:00-12:00, ONLINE

Chair(s):

Jiabin Hu
Professor
Huazhong University of Science and Technology

Panelist:

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|-------------|--|
| 10:00-10:30 | Te23-01
<i>Interconnecting Variable RE to Weak AC Networks</i>
Yongning Chi
Center Chief Engineer, China Electric Power Research Institute |
| 10:30-11:00 | Te23-02
<i>Discussion on the Virtual Power Angle Stability Problem for Renewable Energy Generation</i>
Huanhai Xin
Professor, Zhejiang University |
| 11:00-11:30 | Te23-03
<i>On the Transient Stability Analysis of Power Systems Based on The Concept of Augmented Synchronization</i>
Feng Liu
Associate Professor, Tsinghua University |
| 11:30-12:00 | Te23-04
<i>Transient Synchronous Stability Analysis of DFIG-based WT Dominated Power Systems</i>
Qianyun TangWang
Researcher, Electric Power Research Institute, China Southern Power Grid |

Technical Session 24: Security and Operation Control for Energy Storage Devices in New-Type Power Systems

Oct. 24th, Sunday 13:00-15:00, ONLINE

Chair(s):

Xiangjun Li
Professor
China Electric Power Research Institute

Panelist:

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|-------------|---|
| 13:00-13:30 | Te24-01
<i>Latest Developments in Combined Electricity and Hydrogen Energy Storage Systems in Japan</i>
Yicheng Zhou
Visiting Professor, Waseda University, Japan |
| 13:30-14:00 | Te24-02
<i>Energy Storage Battery Accident: Investigation, Mechanism and Countermeasures</i>
Xuning Feng
Assistant Professor, Tsinghua University |
| 14:00-14:30 | Te24-03
<i>Modeling and Operation for Vanadium Flow Battery</i>
Binyu Xiong
Associate Professor, Wuhan University of Technology |
| 14:30-15:00 | Te24-04
<i>The Key Technology of Large-Scale Energy Storage Used to Frequency Modulation In The Power System With High Proportion Renewable Energy</i>
Junhui Li
Professor, Northeast Electric Power University |