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## WELCOME MESSAGE

### General Chairs of CIEEC2019



**Qingxin Yang**



**Zhongliang Guan**

It's my great pleasure to invite you to join us for 2019 IEEE 3rd International Electrical and Energy Conference (CIEEC2019), which will provide a forum within the international academic and engineering community in the field of electrical and energy. The event will be held in Beijing, China on September 7-9, 2019. It is jointly sponsored by IEEE Beijing Section, China Electrotechnical Society (CES) and Beijing Jiaotong University.

The scientific research and development of electrical engineering are meeting new challenges and chances as renewable energy sources are being greatly promoted. Thus, there comes a growing demand to organize an international conference to promote close interaction between academics and engineers in the area of electrical and energy. CIEEC2019 will appeal and organize scholars and experts and enterprises to communicate and discuss the trend of development of electrical technology and equipment of energy with overseas peer companies, to carry out high-level exchanges and showcase the latest achievements.

Beijing is China's capital and the political, economic, cultural, technological center of the People's Republic of China, which has a history of over 3000 years. A long history has left numerous famous historical sites which possess great aesthetic and cultural values. We are looking forward to meeting you in the very beautiful city Beijing, China on September 7-9, 2019. Definitely CIEEC2019 will provide you a pleasure experience, new contacts and happy stay in Beijing.

## CONFERENCE COMMITTEES

### ✧ General Chairs

Qingxin Yang	China Electrotechnical Society, China
Tianjiao Pu	China Electric Power Research institute, China
Zhongliang Guan	Beijing Jiaotong University, China

### ✧ Honorary Chairs

Anjan Bose	Washington State University, USA
Guobiao Gu	Institute of Electrical Engineering, Chinese Academy of Sciences, China

### ✧ Technical Program Committee Chair

Jinghan He	Beijing Jiaotong University, China
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### Technical Program Committee Vice Chairs

Yonghua Song	University of Macau, China
Wenliang Zhang	State Grid Corporation of China, China
Xidong Liang	Tsinghua University, China
Xinzhou Dong	Tsinghua University, China
Ping Ju	Hohai University, China
Kang Li	Leeds University, UK
Jianzhong Wu	Cardiff University, UK
Mingchao Xia	Beijing Jiaotong University, China
Lin Ruan	Institute of Electrical Engineering, Chinese Academy of Sciences, China
Xiaojun Wang	Beijing Jiaotong University, China

### Technical Program Committee Members

Zhao Ma	China Electric Power Research Institute, China
Pingliang Zeng	Hangzhou Dainzi university, China
Xiangjun Zeng	Changsha University of Science & Technology, China
Jinyue Yan	Royal Institute of Technology, Sweden
Xiaohua Xia	Pretoria University, South Africa
Xiaoping Zhang	University of Birmingham, UK
Mingcong Deng	Tokyo University of Agriculture and Technology, Japan
Zheng Yan	Shanghai Jiaotong University, China
Junyong Liu	Sichuan University, China



## 2019 IEEE 3rd International Electrical and Energy Conference

Dongxia Zhang	China Electric Power Research institute, China
Yin Xu	Beijing Jiaotong University, China
Peng Li	North China Electric Power University, China
Sijie Chen	Shanghai Jiaotong University, China
Hong Li	Beijing Jiaotong University, China
Feng Gao	Shandong University, China
Puqi Ning	Institute of Electrical Engineering, Chinese Academy of Sciences, China
Yong Li	Hunan University, China
Jiwen Zhao	Hefei University of Technology, China
Wei Pei	Institute of Electrical Engineering, Chinese Academy of Sciences, China
Ling Zhang	Tsinghua University, China
Meng Huang	North China Electric Power University, China
Liang Che	Hunan University, China
Jiebie Zhu	Tianjin University, China
Xuan Liu	Hunan University, China
Fang Zhang	Beijing Jiaotong University, China
Dechang Yang	China Agriculture University, China
Meng Li	Beijing Jiaotong University, China
Jinxu Chen	Institute of Electrical Engineering, Chinese Academy of Sciences, China
Xiaoyang Cui	Tsinghua University, China

### ※ Youth Forum Chair

Yin Xu	Beijing Jiaotong University, China
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### Youth Forum Co-chair

Laijun Chen	Tsinghua University, China
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### ※ Local Organizing Committee Chairs

Yi Han	China Electrotechnical Society, China
Mingchao Xia	Beijing Jiaotong University, China

### ※ Publication Chair

Mengqi Zhou	IEEE Beijing Section
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✧ International Advisory Board

Anjan Bose	Washington State University, USA
Vijay Vittal	Arizona State University, USA
Wanda Reder	S&C Electric Company, USA
Mladen Kezunovic	Texas A&M University, USA
Vahid Madani	GridTology, LCC., USA
Ali Mehrizi-Sani	Virginia Polytechnic Institute, USA
Giorgio Guglieri	Politecnico di Torino, Italy
Stanimir Valtchev	Lisbon University, Portugal
Tongxin Zheng	New England, Inc, USA
Jinyue Yan	Royal Institute of Technology, Sweden
Xiaohua Xia	Pretoria University, South Africa
Jianzhong Wu	Cardiff University, UK
Xiaoping Zhang	University of Brimingham, UK
Mingcong Deng	Tokyo University of Agruculture and Technology, Japan
Zhe Chen	Aalborg University, Denmark
Chaoyang Dong	University of Sydney, Australia
Hengsi Chen	Aachen University, Germany
Kang Li	Leeds University, UK
Zhongbei Tian	University of Birmingham, UK

✧ General Secretary

Fang Zhang	Beijing Jiaotong University
Meng Li	Beijing Jiaotong University
Yue Hu	China Electrotechnical Society
Yuan Chen	Beijing Jiaotong University
Jinxu Chen	Institute of Electrical Engineering, Chinese Academy of Sciences
Tingting He	Beijing Jiaotong University
Yu Sun	China Electrotechnical Society
Wei Li	China Electrotechnical Society
Guomin Luo	Beijing Jiaotong University
Qifang Chen	Beijing Jiaotong University
Jiping Zhang	China Electrotechnical Society



## LOCATION

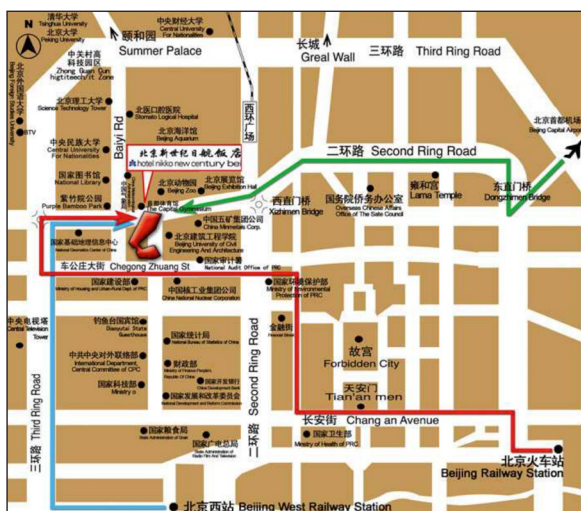
### Conference Location: Hotel Nikko New Century Beijing

Address: No.6, South Road, Capital Stadium, Haidian District, Beijing, P.R. China

### Hotel: Hotel Nikko New Century Beijing

Hotel Nikko New Century Beijing is a five-star joint venture luxury hotel and a member of "Nikko Hotels International". The hotel is conveniently situated in Beijing's flourishing western business district, just minutes from Zhong Guan Cun, the city's high - tech/IT zone. With 712 rooms, the hotel is the ideal place for business people to stay. Facilities include luxury guest rooms, apartments and offices, unique restaurants, spacious and elegant banquet halls, complete health and recreation facilities, and free high-speed broadband internet connections in all guest rooms. To ensure a enjoyable stay, the hotel is dedicated to providing a professional service to every guest.

(The distance between the hotel and the Beijing Capital Airport is 36 km and it takes 45 minutes to get there by car. The hotel offers limousine service. The distance between the hotel and Xike Station (West Railway) Station is 6 Km and takes 10 minutes to get there by car. )



## CONFERENCE INFORMATION

### **Sponsored by:**

Institute of Electrical and Electronics Engineers (IEEE) Beijing Section  
China Electrotechnical Society (CES)  
Beijing Jiaotong University

### **Co-Sponsored by:**

IEEE PES  
Institute of Electrical Engineering, Chinese Academy of Sciences  
Specialty Committee of Clean Energy Equipment & Cooling Technology,  
China Society for Hydropower Engineering  
Tsinghua University  
Zhejiang University  
University of Macau  
Xi'an Jiaotong University  
Shanghai Jiaotong University  
Hohai University  
Hunan University  
Hefei University of Technology  
Tianjin University of Technology  
Global Chinese Electrical and Energy Technology Industry Alliance  
China Electrotechnical Society British Society  
UK-China University Consortium on Engineering Education and Research

### **Organized by:**

China Electrotechnical Society (CES)  
Beijing Jiaotong University  
Beijing Zhongdianhuaheng Technology Co., Ltd.  
Smart Energy Research Center, Beijing Jiaotong University

### **Official Language**

The Official Language of the conference is English, which will be used for all presentations and printed materials.



### **Guidelines for Oral Presentation Presenters**

Please bring your presentations (PPT, PowerPoint) as a PDF file on USB Flash Memory if you do not have any video clips, with all fonts embedded so that all the mathematical symbols and equations will be projected properly. This generally avoids the problem of incompatible PPT editors. A laser pointer and microphone will be provided for your use. Any additional technical equipment should be requested at least one week in advance of the presentation.

Each paper in an oral session is allocated 8 minutes. This includes time required for introduction of the speaker, as well as time for questions from the audience. Therefore, authors are advised to prepare a 8 minutes talk and leave 5 minutes for questions at the end.

Please arrive at your session at least 10 minutes before the start of your session to load up your file into the laptop in the room. If you choose to bring PPT slides with video clips on USB, you can bring your material in a couple of different PPT versions and try out prior to the presentation. Only PowerPoint files (.PPT or .PPTX) with version of 2013 or earlier are supported for oral presentation.

If you need additional audio/visual equipment, please notify us by mail [cieecconf@163.com](mailto:cieecconf@163.com) before Aug.31. If your presentation includes videos or animations, it is strongly recommended to convert them into .gif format before insert them into the PowerPoint document because special video format might not be displayed on the computer. Each invited talk is allocated 8 minutes, include 6 minutes of presentation and 2 minutes of Q&A. If you have to be absent from the CIEEC2019 for some irresistible reasons, please inform us in advance via [cieecconf@163.com](mailto:cieecconf@163.com).

### **Guidelines for Poster Presenters**

Please bring your poster when you attend the conference. The dimension of the poster board is 100cm in width by 1.75m in height. poster presentation should include following items in addition to the main contents.

Title of the presentation,

Author's names and their organizations,

Introduction

Conclusion

The poster boards are marked with the sequence No. of corresponding paper. Please do not cover the number. A poster information desk with fixing materials will be available.

Please put up your poster prior to the start of the poster session and remove it shortly after the session.

## GENERAL INFORMATION

### Local Time

GMT +8 hours (Beijing Time)

### Climate and Weather

Beijing is located in the north of the North China Plain, Beijing's climate is typical continental monsoon climate. The usual temperature in September is about 15°-25°.

### Currency

The unit of currency in China is the Chinese Yuan (RMB). Notes occur in 100, 50, 20, 10, 5 and 1 Yuan denominations, while coins occur in 1, 0.5, 0.1 Yuan denominations.

### Business Hours

Government office hours are usually from 9:00 to 17:00 on weekdays and closed on weekends. Banks are open from 9:00 to 16:00 on weekdays and from 10:00 to 15:00 on weekends. Major stores are open day from 10:00 to 21:00.

### Useful Phone Number

Police 110 / Fire 119 / Ambulance 120

### Secretaries:

Jiping Zhang +86-139-1017-8191 (Mobile)

Wei Li +86-135-0105-6430 (Mobile)

Yue Hu +86-139-1033-1535 (Mobile)

Yuan Chen +86-188-1150-7551 (Mobile)

Jinxiu Chen +86-159-0100-7370 (Mobile)



## PROGRAM AT A GLANCE

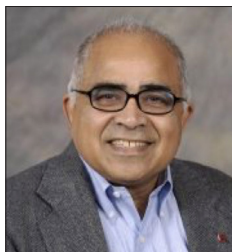
Program at a Glance					
Time	Sep.7		Sep.8	Sep.9	
9:00	Register		Opening Ceremony	Invited Re-ports & Oral Session	Poster Session
9:20					
9:30					
9:30					
10:00					
10:40					
10:40					
11:00					
12:00					
12:00					
13:30					
13:30					
14:00	Tutorial	Register	Keynote Speeches	Invited Re-ports & Oral Session	Poster Session
16:00					
16:15					
16:30					
16:30					
17:00	Register		Free Talk	Best Paper Awards and Closing Ceremony	
17:00					
17:30					
18:00					
18:00					
18:30	Welcome Reception	Banquet			
18:30					
20:00					

## QUICK GUIDE FOR TECHNICAL PROGRAM

Sep.7 - Saturday		
Time	Content	Venue
09:00-20:30	Register	Hotel Lobby
14:00-17:00	Tutorial	Shandong Hall(2nd Floor)
18:00-20:00	Welcome Reception	Zhonghua Hall A(2nd Floor)
Sep.8 -Sunday		
Time	Content	Venue
09:00-09:20	Session 1: Opening Ceremony	Century Hall(3rd Floor)
09:30-12:00	Session 2: Keynote Speeches	
13:30-17:00	Session 3: Keynote Speeches	
18:00-20:00	Banquet	
Sep.9 -Monday		
Time	Content	Venue
09:00-12:00	Session4: Smart Grid - Youth Forum	Century Hall A (3rd Floor)
14:00-14:40	Session5: Motor & System Control	
14:40-15:30	Session6: Electrical Equipment	
15:30-17:00	Session7: Artificial Intelligence in Electrical and Energy System	
09:00-17:00	Session8: Power Electronics	Chongqing Hall(3rd Floor)
09:00-16:30	Session9: High Voltage and Insulation Technology	Yunnan Hall(3rd Floor)
09:00-17:00	Session10: DC Transmission Control & Protection (Chinese Language )	Shanghai Hall(3rd Floor)
09:00-17:00	Session11: Transportation Electrification and New Energy DC Distribution System Technical	Shandong Hall(2nd Floor)
09:00-17:00	Session12: Clean Energy Equipment & Cooling Technology (Chinese Language )	Jiangsu Hall(2nd Floor)
09:00-17:00	Session13: Power System & New Energy & GRID & Energy Internet	Zhonghua Hall (2nd Floor)
09:00-17:00	Session14: Poster Session	
09:00-17:00	Session15: The 4th International Symposium on the "Future of Renewable Energy"	Century Hall B (3rd Floor)
17:00-17:30	Session16: Best Paper Awards and Closing Ceremony	



## KEYNOTE SPEAKERS



### **Anjan Bose**

Member of US National Academy of Engineering  
Professor of Washington State University

Anjan Bose is a Regents Professor and the Distinguished Professor of Electric Power Engineering at Washington State University in Pullman, Washington, where he also served as the Dean of the College of Engineering & Architecture from 1998 to 2005. He served the US Department of Energy as a Senior Advisor on the electric power grid in the Obama administration. He is a leading researcher on the operation and control of the electric power grid. He has worked in the electric power industry as well as academe for over 40 years. He received his BS, MS and PhD, all in Electrical Engineering, from the Indian Institute of Technology – Kharagpur, University of California – Berkeley and Iowa State University, respectively.

Dr. Bose is a Member of the US National Academy of Engineering, a Foreign Fellow of the Indian National Academy of Engineering and a Fellow of the Institute of Electrical & Electronics Engineers (IEEE). He was the recipient of the Outstanding Power Engineering Educator Award, the Third Millennium Medal, and the Herman Halperin Electric Transmission & Distribution Award from the IEEE. He has been recognized by both Iowa State University and the Indian Institute of Technology with their distinguished alumnus awards. He has served on several editorial boards and on many national and international technical committees. He was appointed by the governor to the board of directors of the Washington Technology Center, and by the US Secretary of Energy on the committee to study the 1999 and 2003 power blackouts. He has served on several committees of the US National Academies including those for Engineering Education, Cybersecurity Research, Power Grid Security and America's Energy Future. He has consulted for many electric power companies and advised government agencies throughout the world.

**Guobiao Gu**

Academician of Chinese Academy of Engineering  
Research Fellow of Institute of Electrical Engineering,  
Chinese Academy of Sciences



Guobiao Gu is academician of the Chinese Academy of Engineering, director of the degree assessment committee and professor in Institute of Electrical Engineering, Chinese Academy of Sciences, has been engaging in the development of the new evaporative cooling technology of large generator since 1958. Prof. Gu has got significant achievement of changing research into industrialization on international level, specially the two 70MW evaporative cooling hydro-generator sets on Three Gorges underground power plant, which was known as the largest in China at that time and received high evaluation. Meanwhile, the evaporative cooling technology was regarded as one of the four innovations in rotating electrical machine field by International Council on Large Electric Systems (CIGRE) in 2000.

Furthermore, he has won the second prize of National Science and Technology Progress Award twice, the first prize of the Science and Technology Progress Award of the Chinese Academy of Sciences twice and the second prize, the first prize of Qinghai Science and Technology Progress Award and the first prize of military science and technology progress, Ho Leung Ho Lee Prize of Science and Technology Achievement, China Machinery Industry Association Science and Technology Achievement Award.

He is currently engaged in the research and industrial application of evaporative cooling on large generators and electronic information equipment.



**Vijay Vittal**

Member of US National Academy of Engineering  
Professor of Arizona State University

VIJAY VITTAL was born in Bangalore, India. He received the B.E. degree from the B.M.S. College of Engineering, Bangalore, India, in 1977; the M.Tech. degree from the Indian Institute of Technology, Kanpur, India, in 1979; and the Ph.D. degree from Iowa State University, Ames, in 1982 all in electrical engineering.

In 2005 he joined Arizona State University where he is the Ira A. Fulton Chair Professor and the ASU Foundation Professor in Power Systems Engineering at the School of Electrical, Computer and Energy Engineering. From 1982 – 2004 he served as a faculty member at Iowa State University. He joined the Faculty of the School of Electrical & Computer Engineering at Iowa State University in 1982, he was promoted to the rank of associate professor in 1986, and to the rank of professor in 1990. In 1999 he was appointed as the Harpole Endowed Professor and in 2003 became an Anson Marston Distinguished Professor.

His research interests are in power system dynamics, dynamic security assessment of power systems, power system operation and control, and application of robust control techniques to power systems. He is the author and co-author of several papers in his field. In 1992 he co-authored the textbook entitled Power System Transient Stability Assessment Using the Transient Energy Function Method with A. A. Fouad, in 1999 he co-authored the textbook entitled Power System Analysis with A. R. Bergen, and in 2012 he co-authored the textbook entitled Grid Integration and Dynamic Impact of Wind Energy with Raja Ayyanar and in 2014 he co-authored the textbook entitled Application of Time-Synchronized Measurements in Power System Transmission Networks with Mladen Kezunovic, Sakis Meliopoulos and Vaithianathan Venkatasubramanian.

During 1993-1994 he was the Program Director of the Power Systems Program

at the U. S. National Science Foundation. He is a recipient of the 1985 U.S. Presidential Young Investigator Award. In 1988, he received the NCR Faculty Award of Excellence. He also received the 1989 Iowa State University College of Engineering "Young Engineering Faculty Research Award." In 1997, he was elected as a Fellow of IEEE for contributions "to the development of the transient energy function method and its application to power system dynamic security assessment, and for leadership in power engineering education and research." He was also the recipient of the 2000 IEEE Power Engineering Society Outstanding Power Engineering Educator Award. From 1998-2000 he was the Chairman of the IEEE Power Engineering Society System Dynamic Performance Committee. He was the technical program chair for the 2001 IEEE PES Summer Power Meeting. In 2003 he received Iowa State University Foundation Award for Outstanding Achievement in Research and was also elected to the U.S. National Academy of Engineering in 2004. From 2005-2011 he served as the Editor in Chief of the IEEE Transactions on Power Systems. In 2013 he was awarded the IEEE Herman Halperin T&D Field Award. In 2018 he received the Utility Variable-Generation Integration Group (UVIG) Achievement Award and the IEEE Power and Energy Society Prabha S. Kundur Power System Dynamics and Control Award. In 2019 he was awarded the IEEE Power and Energy Society Prize Paper Award.

Since 2005 Dr. Vittal has also served as the Director of the Power System Engineering Research Center, a Phase III National Science Foundation, Industry/University Collaborative Research Center consisting of 12-member universities and 30 industry members.



**Guangfu Tang**

Academician of Chinese Academy of Engineering  
Vice President of Global Energy Interconnection  
Research Institute Co.,Ltd.

Guangfu Tang received his B.E. degree in electrical engineering from Xi'an Jiao Tong University, Shanxi, China, in 1990, and the M.E. degree and the Ph.D. degree in electrical engineering from Institute of Plasma Physics, The Chinese Academy of Sciences (ASIPP), in 1993 and 1996, respectively.

He is currently a Professorate Senior Engineer, Vice President of the Global Energy Internet Research Institute, and Director of the State Key Laboratory of Advanced Transmission Technology. He was a regular member of HVDC and power electronics study committee of International Council on Large Electric Systems (CIGRE) between 2006 and 2008, and was the convener of CIGRE during 2007–2011. He is now a member of HVDC system performance strategy advisor group in CIGRE, and obtained the distinguished member status of CIGRE in 2012.

His research interests include flexible ac transmission systems (FACTS), the converter valve of high voltage and ultra high voltage in DC transmission systems, the voltage-source converter-based high-voltage DC (VSC-HVDC) transmission systems, and DC grid. His outstanding contributions, such as static var compensator, controllable series thyristor valve,  $\pm 800$  UHV DC converter valve, flexible DC converter and high-voltage DC circuit breaker, etc., have got high international positions in demonstration projects and applications.

He has published more than 137 papers, and won 77 patents in his research field, including one Chinese Patent Gold Award and three Excellent Awards. He was awarded the second prize of the National Technology Invention, the first and second prize of National Prize for Progress in Science and Technology, and the first prize of the provincial and ministerial level (five times). He also won the 9th China Engineering Science and Technology Guanhua Youth Award.

**Wanda Reder**

Member of US National Academy of Engineering  
President and CEO of Grid-X Partners



Wanda Reder, is the President and CEO of Grid-X Partners, a WBE-certified management consulting company that is focused on electric grid transformation. She is also an IEEE Fellow and a National Academy of Engineering inductee for leadership in electric power delivery and workforce development. Her most recent work includes supporting distribution utilities and their regulatory organizations to develop Distribution System Operator capability that includes grid forming smart inverter contributions.

Earlier career experiences include being Chief Strategy Officer at S&C Electric Company and she also served as its Vice President of Power Systems Services significantly expanding field and project-related service work globally. Under her leadership she pioneered the design, engineering and commissioning of more than 7 GW of wind-power projects, 70 MW of solar projects and 150 MWh of storage projects in North America starting as early as 2006. Prior to S&C she held executive leadership positions at Exelon and Northern States Power (now Xcel), with increasing responsibilities in areas such as asset investment strategy, standards, engineering, systems planning, reliability, work management, automated metering and demand-side management.

She is currently the Vice-Chair for the Department of Energy Electricity Advisory Committee and the Past President of the IEEE Power & Energy Society, where she launched and successfully led the IEEE PES Scholarship Plus Initiative and IEEE Smart Grid. IEEE Smart Grid brings together IEEE's broad array of technical societies and organizations through collaboration to encourage the successful rollout of technologically advanced, environment-friendly and secure smart-grid networks around the world. She serves on the Board of Directors for Technical Diagnostic Services, the Singapore Energy Grid 2.0 Advisory Board (chair) and on the IEEE Foundation Board. Ms. Reder has a B.S. in Engineering from South Dakota State University where she is a Trustee



## **2019 IEEE 3rd International Electrical and Energy Conference**

and has an MBA from the University of St. Thomas. She is the recipient of several awards, including the IEEE Richard M. Emberson Award, the Electric and Computer Engineering Department Heads Association Industry Award, the IEEE PES Meritorious Service Award and Leadership Award, and the South Dakota State University Distinguished Engineer Award. She also has an award endowed in her honor, the IEEE PES Wanda Reder Pioneer in Power Award, to promote diversity globally in the electric utility industry by recognizing a deserving female annually.

**Mladen Kezunovic**  
Professor of Texas A&M University



Dr. Mladen Kezunovic is the Regents Professor and Eugene E. Webb endowed Professor at Texas A&M University, USA where he is employed since 1986. He serves in several leading roles at the university: Director, Smart Grid Center; Site Director, Power Systems Engineering Research Center (PSerc), and Director, Power Systems Control and Protection Lab. He is also the Principal Consultant, as well as President and CEO of XpertPower™ Associates, which has been providing consulting services for utility industry for over 25 years. He worked for Westinghouse Electric in the U.S.A. as a Systems Engineer on developing the first all-digital substation design during 1979-1980 and for Energoinvest Company in Europe as the Technical Lead for substation automation development during 1980-86. He was a consultant for EdF's Research Centre in Clamart, France in 1999-2000 and was a Visiting Professor at the University of Hong Kong in fall of 2009. He was an Eminent Scholar at the Texas A&M University-Qatar in 2015/2016 and Special Visiting Researcher in Brazil in 2015-2017. He also acted as a consultant to over 50 utilities and vendors worldwide, and served three terms (2009-2013) as a Director on the Board of Directors of the Smart Grid Interoperability Panel (SGIP) representing research organizations and universities. He was appointed by the US Secretary of Energy to serve on the Electricity Advisory Committee for the Department of Energy in 2016-2018, and reconfirmed for the second term 2018-2020.

Dr. Kezunovic was a Principal Investigator on over 120 R&D projects, published more than 550 papers and gave over 100 invited lectures, short courses and seminars around the world. He is an IEEE Life Fellow and Distinguished Speaker, CIGRE Fellow, Honorary Member and Distinguished member, and Registered Professional Engineer in Texas. He is the recipient of the Inaugural 2011 IEEE Educational Activities Board Standards Education Award "for educating students and engineers about the importance and benefits of interoperability standards" and CIGRE Technical Committee Award for "remarkable technical contribution to the study committee B5, protection and automation" in 2013.



**Ping Ju**

Professor of Hohai University

Ping Ju received the BEng. and M.S. degrees in electrical engineering from Southeast University, China in 1982, 1985, respectively. In 1988 he received the Ph.D. degree in electrical engineering from Zhejiang University, China. From 1994 to 1995, he was an Alexander-von-Humboldt Fellow at the University of Dortmund, Germany. He is now a professor of electrical engineering at Hohai University and Zhejiang University, China. He is an IET fellow, CSEE fellow, IEEE SM, chairman of remote technical committee on analytic methods for power systems, vice chairman or member of editorial board of several international journals. He has published 6 books and over 300 journal papers. He was awarded the Scientific Funds for Outstanding Young Scientists of China in 2007, and National Science and Technology Progress Award of China in 2017. His research interests include modeling and control of power systems and smart grids with renewable power generation.

**Vahid Madani**

President and Executive Engineer at GridTology, LLC.



Vahid Madani, Ph. D, Fellow IEEE – is President and Executive Engineer at GridTology, LLC., an international advising corporation and training institution in advanced power systems applications, grid modernization, and deployment of emerging technology in generation, transmission, and distribution.

Mr. Madani is an industry leader in developing strategies, roadmaps and engineering standards for many advanced solutions in T & D and related standards and conformance testing; including System Integrity protection and wide-area disturbance monitoring, synchrophasor systems and associated Cyber Security.

Dr. Madani has held many technical, leadership, and advisory roles including Chair of Reliability for Western Electricity Region in North America, Chair of the Standards for Synchrophasor systems at NERC (North American Electric Corporation) , and as advisor to the U.S. Department of Energy (DOE) on wide-area systems and on portfolio of energy programs with recent focus on synchronizing renewables for integrated grid.

Dr. Madani is a Fellow of IEEE and IEEE Distinguished Lecturer, author of IEEE special publications, and has co-authored text books and reference hand-books. He is adjunct faculty in accredited US and International universities, a board-certified Electrical Engineer in California, and holds multiple US and International patents.



**Kang Li**

Professor at the University of Leeds

Founding Member of UK-China University Consortium on Engineering Education and Research

Kang Li is the Head and Chair Professor of the Smart Energy Systems Group at the University of Leeds, UK, and a visiting professor at Queen's University Belfast, Technical University of Bari, and Shanghai Jiaotong University. He is one of the founding members of the UK-China University Consortium on Engineering Education and Research, a member of the management committee of the Consortium and the lead of the UK-China Knowledge Exploitation Platform. He is also a member of the Executive Committee of the UK Automatic Control Council, and a Member of the Accreditation Committee of the Institute of Measurement and Control within the Engineering Council, Chairman of the IEEE UK and Ireland Control and Communications Chapter, and former Secretary of the IEEE UK and Ireland Section. He is an Executive Editor or Associate Editor of 5 internationally renowned academic journals including IET/IFAC, Co-Chair or Programme Chair of more than 20 international conferences.

Prof Li has been engaged in cutting-edge scientific research in the fields of artificial intelligence, automatic control, electric power and renewable energy, electric vehicles and energy storage systems, energy-saving and emission reduction in energy intensive manufacturing industries, with focus on knowledge transfer. He has published more than 350 papers, including more than 10 paper awards, and the most recent award is the Springer Nature's 'China New Development Award' in 2018 for the conference proceeding "Advances in Green Energy Systems and Smart Grid" edited by him and his colleagues. Research results have been widely used in manufacturing, power, automotive and other fields. He and his team has developed a new generation of energy-efficient monitoring systems for energy-intensive manufacturing processes based on the Internet of Things and artificial intelligence (Point Energy, <http://www.pointenergy.org/>) which has been used in several food processing and plastics industries in the UK. He and his team won the 2016 INVENT Invention Award from the Northern Ireland Science Park, and finalist of the 2016 Annual

Research Invention Award by the Irish Sustainable Energy Agency. The R&D team was highly commended by the Prince Andrew in 2016. He has developed new sensing technology to monitor the internal condition of the batteries in real time, and a new type of battery thermoelectric model is established for optimizing the battery charging and discharging strategy for electric vehicles and power systems. Professor Li has had long-term commitment to promoting UK-China collaborations on science and technology and higher education exchanges, which has been highly commended by both the Chinese and British governments and funding agencies. Professor Li is currently involved in the establishment of a £70 million high-speed railway system innovation and integration institute at University of Leeds, responsible for the electrification and system integration.



**Xinzhou Dong**

Professor of Tsinghua University

Xinzhou Dong is Tenured professor Tsinghua University, Member of Academic committee of Dept, Tsinghua University, Head of Protection Group, Leader on Power System Research Team, Director of Beijing international science technology cooperation base on Green Energy and Power Safety.

#### **Memberships and Part-Time Jobs**

IEEE Fellow, IET Fellow, Fellow of CSEE, Trustee of CES, Member of the technical committee of CIGRE China, Convener of Cigre B5 WG55, Member of IEEE PSRC Fellow WG, Member of Relaying Committee of CSEE, Member of Expert Group of Power safety of National safety committee, Member of National Standardization Administration Committee on Power System Relaying of China, Member of National Standardization Administration Committee on Short Circuit Current Calculation of China, Vice Chairman of Relaying Committee of CSHE, Vice Chairman of protection and control committee of CES, Member of Expert Group for protection of SGCC, Chief international professor of National Taipei University of Technology, Talents Program of Shaanxi Province, Distinguished Professor of Shaanxi University of Technology, Member of JPES Editorial Board, Member of MPCE Editorial Board, Deputy Editor in Chief of PMPC Editorial Board, Member of PAC World Editorial Advisory Committee, Member of JPSA Editorial Board, Member of EPAE Editorial Board, Member of JPSA Editorial Board, Member of Journal of Electric Power Science and Technology Editorial Board, Deputy Chairman of Academic committee of State Engineering Laboratory on Renewable Energy of Hefei University of Technology, Member of Academic committee of State Key Laboratory on Power Safety and Energy Saving of CEPRI, Distinguished Expert of State Key Laboratory on Protection and Control of NARI.

### **Main Research Fields**

Mainly engaged in electric power system fault analysis and protection Teaching and Research, and the major research area are as follows: Traveling waves-based protection, Travelling waves-based -fault location, Traveling waves-based-line selection, Non-communication protection, UHV transmission line's protection, Intelligent substation, System protection, Application research on wavelet transform.

### **Projects**

Undertook State Key R&D Plan Project; Finished Major International collaborative project of NSFC (National Natural Science Foundation) , Key project of NSFC, Tsinghua-ALSTOM Research Center on Protection and Control; Attended the State 973 Project Innovation team of the Ministry of Education.

### **Main Achievements and Awards**

333 published papers, 17 SCI indexed, 261 Ei indexed, 65 ISTP indexed; 7 books with co-authors; 14 international patents; 55 Chinese patents; 2007 State Technological Invention Award of Chinese government, 2nd Prize; 2017 State Technological Invention Award of Chinese government, 2nd Prize; 2016 Science and technology Award of Beijing City, 1st Prize; 2016 Science and technology Award of Shaanxi Province Beijing, 1st Prize; 2014 Science and technology Award of Shaanxi Province, 1st Prize; 2014 Power Technical Invention Award of CSEE, 1st Prize; 2 gold medals of 42th/43th International Exhibition of Inventions in Geneva; 2014 Chinese technical Exhibition of Inventions in Shanghai; 2013 Scientific Chinese; 2016 CIGRE Distinguished Member Award; 2017 Chinese Most Cited Researchers from Elsevier.



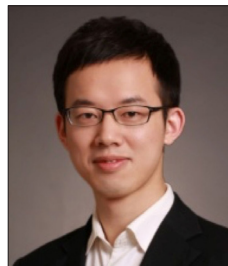
**Giorgio Guglieri**

Professor of Politecnici di Torino

Giorgio Guglieri is full professor of flight mechanics at Politecnico di Torino. He is member of the steering board of the PhD Program in Aerospace Engineering. He carries out teaching activities in the Aerospace Engineering degree program of Politecnico di Torino, as responsible of the courses in Introduction to Flight Mechanics, Helicopter Flight Mechanics and Flight Simulation. He is a senior member of AIAA (American Institute of Aeronautics and Astronautics) and AHS (American Helicopter Society). Author of several articles published in international journals and conferences of the following sectors: aerospace engineering, control, automation and robotics. He is involved in research activities in the following fields: flight mechanics of fixed and rotary wing aircraft, flight simulation, design of human-machine interfaces for robotics, development and testing of unmanned aerial systems, planning and mission control for autonomous systems, design of guidance, navigation and control systems for aircraft and spacecraft. As part of his research activities, he collaborates and shares funded research programs (including EU funded programs) with academic institutions, research centres, networks and companies, both in Italy and abroad. Giorgio Guglieri is the representative of Politecnico di Torino in the European Pegasus network. He is co-founder of Mavtech srl, a spin-off of the Politecnico di Torino (from 2005 to 2015), presently an innovative SME operating at NOI Techpark in Bozen.

**Yin Xu**

Professor of Beijing Jiaotong University



Yin Xu received his B.E. and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2008 and 2013, respectively. During 2013-2016, he was an Assistant Research Professor at the School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA, USA. He is currently a Professor at Beijing Jiaotong University, Beijing, China. His research interests include power grid security and resiliency, power system modeling and high-performance simulation, and electricity-transportation interdependency. He has been awarded the China Electric Power Technology Excellent Young Talent Award and selected by the 100-Talent Program of Beijing Jiaotong University.

Dr. Xu is currently serving as Co-chair of IEEE PES WG on Distribution Test Feeders, Chair of IEEE PES WG on Energy Internet Resilience, Secretary of IEEE PES TF on Dynamic Average Modeling Techniques, Secretary of WG on IEEE PC57.31.10 Guide for the Selection of Neutral-Grounding Devices for HVDC Converter Transformers, and Vice Secretary General of IEEE PES China SC on DC Power System Protection and Control.



## Opening Ceremony Chair:



**Yi Han**

Secretary-General of China Electrotechnical Society

## Keynote Speech Chairs:



**Jinghan He**

Professor of Beijing Jiaotong University



**Xidong Liang**

Professor of Tsinghua University



**Anjan Bose**

Professor of Washington State University



**SeungJae Lee**

Professor of Myongji University

## Session1: Opening Ceremony Host: Yi Han

Venue: Century Hall(3rd Floor)

Time	Session1: Opening Ceremony
09:00-09:20	<p>Welcome Speech</p> <p><b>Qingxin Yang</b> <i>President of China Electrotechnical Society</i></p> <p><b>Zhongliang Guan</b> <i>Vice President of Beijing Jiaotong University</i></p> <p><b>Mengqi Zhou</b> <i>Vice Chairman of IEEE Beijing Council</i></p>

## Session2: Keynote Speeches

Host: Jinghan He, Xidong Liang

Venue: Century Hall(3rd Floor)

Time	Session2: Keynote Speeches
09:20-09:50	<p>Power System Resiliency: Technical, Regulatory and Organizational Solutions</p> <p><b>Anjan Bose</b> <i>Member of the US National Academy of Engineering</i></p>
09:50-10:20	<p>Energy Transformation and New Urbanization Energy System</p> <p><b>Guobiao Gu</b> <i>Academician of Chinese Academy of Engineering</i></p>
10:20-10:50	<p>Electricity and Water Do Mix: Interdependent Electric and Water Infrastructure Modeling, Optimization and Control</p> <p><b>Vijay Vittal</b> <i>Member of the US National Academy of Engineering</i></p>
10:50-11:00	<b>Coffee Break</b>
11:00-11:30	<p>Key Technical Issues Supporting Energy Internet in Energy Transformation</p> <p><b>Guangfu Tang</b> <i>Academician of Chinese Academy of Engineering</i></p>
11:30-12:00	<p>Grid Modernization Enables a Clean Energy Future</p> <p><b>Wanda Reder</b> <i>Member of the US National Academy of Engineering</i></p>



## Session3: Keynote Speeches

Host: Anjan Bose, SeungJae Lee

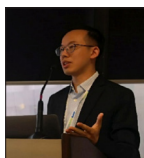
Venue: Century Hall(3rd Floor)

Time	Session 3:Keynote Speeches
13:30-14:00	Resilience in Flexible Electricity Grids <b>Mladen Kezunovic</b> <i>Professor of Texas A&amp;M University</i>
14:00-14:30	Stochastic Oscillations in Smart Grids Integrated with Renewable Energy <b>Ping Ju</b> <i>Professor of Hohai University</i>
14:30-15:00	Advanced Wide-area Protection Applications for System Reliability Improvement <b>Vahid Madani</b> <i>President and Executive Engineer at GridTology, LLC.,</i>
15:00-1530	Battery Storage in Shaping Low Carbon Energy Future <b>Kang Li</b> <i>Professor at the University of Leeds</i>
15:30-16:00	Fast Protection of Transmission Lines for VSC DC Grid <b>Xinzhou Dong</b> <i>Professor of Tsinghua University</i>
16:00-16:30	Applications of unmanned aerial vehicles for environmental and electrical systems monitoring <b>Giorgio Guglieri</b> <i>Professor of Politecnico di Torino</i>
16:30-17:00	Resilient Urban Power Grids and Interdependent Critical Infrastructures <b>Yin Xu</b> <i>Professor of Beijing Jiaotong University</i>
18:00-20:00	<b>Banquet</b>

## Session4: Smart Grid-Youth Forum

Venue: Century Hall A (3rd Floor)

### Chair



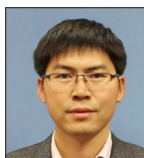
**Yin Xu**

Professor of Beijing Jiaotong University

Yin Xu received his B.E. and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2008 and 2013, respectively. During 2013-2016, he was an Assistant Research Professor at the School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA, USA. He is currently a Professor at Beijing Jiaotong University, Beijing, China. His research interests include power grid security and resiliency, power system modeling and high-performance simulation, and electricity-transportation interdependency. He has been awarded the China Electric Power Technology Excellent Young Talent Award and selected by the 100-Talent Program of Beijing Jiaotong University.

Dr. Xu is currently serving as Co-chair of IEEE PES WG on Distribution Test Feeders, Chair of IEEE PES WG on Energy Internet Resilience, Secretary of IEEE PES TF on Dynamic Average Modeling Techniques, Secretary of WG on IEEE PC57.31.10 Guide for the Selection of Neutral-Grounding Devices for HVDC Converter Transformers, and Vice Secretary General of IEEE PES China SC on DC Power System Protection and Control.

### Co-Chair



**Laijun Chen**

Associate Professor of Tsinghua University

Laijun Chen received his B.E. and Ph.D. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2006 and 2011, respectively. During 2016-2017, he was a Visiting Scholar at the Advanced Power Grid Modeling, Energy Systems Division, Argonne National Laboratory, Chicago, IL, USA. He is currently an Associate Professor at the Department of Electrical Engineering, Tsinghua University, Beijing, China. His research interests include renewables integration, integrated energy system



and energy storage system.

Dr. Chen is currently serving as young assistant editor of CSEE Journal of Power and Energy Systems. He is also a guest editor of Special Issue on Multi-carrier Energy Storage for Harnessing Renewable Generation, IET Renewable Power Generation. He is currently supported by “1000 top Talents” innovation program funded by Qinghai Province.

## Speakers



**Yong Li**

Professor of Hunan University

Dr. Yong Li has ever worked as a research associate at the Institute of Energy Systems, Energy Efficiency and Energy Economics, TU Dortmund University, Dortmund, Germany, where he received the Ph. D. degree in 2012. From September 2012 to March 2013, he worked as a Research Fellow at The University of Queensland, Brisbane, Australia. In 2013, Prof. Yong Li was granted by Youth Thousand Talents Program of China. In 2018, he was granted by the Outstanding Youth Program of Natural Science Foundation of China. He holds 12 Chinese Patents, 2 International Patents. As a corresponding author, published 100+ international journal and conference papers. His current research interests include power system stability analysis and control, energy conversion system and equipment, analysis and control of power quality. Dr. Li is the Associate Editor of IEEE Transactions on Industry Application, IET Generation, Transmission & Distribution, IET Power Electronics, and Energy System Research.



**Pinjia Zhang**

Associate Professor of Tsinghua University

Pinjia Zhang, associate professor, the Department of Electrical Engineering, Tsinghua University, senior member of the IEEE. He obtained his PhD from Georgia Tech, Atlanta, GA, USA in 2010. He was with the electric machines lab, GE Global Research from 2010 to 2015.

He is a member of the Standard Committee and Award Committee of IEEE Industrial Application Society, Secretary-General of Beijing Branch of IEEE

Industrial Application Society. He serves as the associate editor IEEE Transactions on Industrial Electronics, IEEE Transactions on Industry Applications, and IEEE Access. He also serves as the convener of CIGRE/A1.45 on-line monitoring standards committee for large generator systems.

His research mainly focuses on the on-line monitoring and fault prognosis of electrical equipment. He has received 4 best paper awards by IEEE Industrial Application Society and Industrial Electronics Society. He has published over than 80 papers in refereed conference proceedings and journals, and has more than 40 patents granted. He is also the recipient of the 2018 IAS Andrew W. Smith Outstanding Young Member Achievement Award.



**Jiebei Zhu**

Professor of Tianjin University

Jiebei Zhu, full professor with School of Electrical Engineering and Information in Tianjin University, received the B.S. degree in microelectronics from Nankai University, Tianjin, China, in 2008, and the M.Sc. and Ph.D. degrees in electronic and electrical engineering from the University of Strathclyde, Glasgow, U.K., in 2009 and 2013, respectively. From 2013, he acts as a Senior Power System Engineer and Innovation Project Manager with National Grid Plc. of the GB transmission system operator. He successively chairs the modelling project of "GB Electricity Ten Year Statement," guides HVDC network developments in North Sea for the EU project of "European Ten Year Network Development Plan," and advises system operations and security for Scotland in real time for GB Electricity Network Control Center. He is currently supported by "1000 Young Talents" innovation program by China Central Organization Committee. His research interests involve with HVDC transmission system control, renewable energy systems, and multi-energy systems. Dr. Zhu was awarded with the license of "Chartered Engineer" by UK Engineering Council and IET.



**Yi Tang**

Professor of Southeast University

Dr. Tang Yi is a professor of electrical engineering school of Southeast University. He graduated from Harbin Institute of Technology, and received Bachelor, Master and Ph.D. degree in 2000, 2002,



and 2006 respectively. He is a Senior Member of the IEEE PES, and servers as the Editor Board member for several academic journals. He has conducted more than 80 research projects for MOST (Ministry of Science and Technology of China), MOE (Ministry of Education of China), NSFC (National Science Foundation of China), SGCC (State Grid Corporation of China), CSG (China Southern Power Grid) and other utilities.



### **Xingming Bian**

**Associate Professor of North China Electric Power University**

Xingming Bian, PH.D., Associate Professor, PH.D. Supervisor in School of Electrical and Electronics Engineering, North China Electric Power University. He received the B.S. degree in Electrical Engineering from Huazhong University of Science and Technology, Wuhan, China, in 2006. He received the Ph.D. degree from the Department of Electrical Engineering at Tsinghua University, Beijing, China, in 2012. His research interests are electromagnetic environment of electric power equipments and new materials in powers grid.

He has been awarded as the gainer of Fok Ying-Tong Education Foundation(2016), Young Elite Scientists Sponsorship Program by CAST(2017)and Academic rising star (2012) in Tsinghua University. He has presided several projects, including two projects from NSFC, two sub-projects from National Key Research and Development Program.He has published more than 60 high quality journal paper, 15 papers were cited as top 10% in the subject of Electrical Engineering, and He was awarded "World Impact scholar" by Elsevier database.



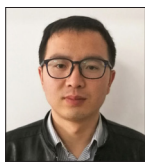
### **Haoran Zhao**

**Professor of Shandong University**

Haoran Zhao received his bachelor, master and PhD degrees from Shandong University (SDU), Technische Universitaet Berlin (TUB), and Technical University of Denmark (DTU), respectively. He has work experiences in State Grid Corporation of China (SGCC, China), Younicos AG (Germany), DigSILENT GmbH (Germany) and Center for Electric Power and Energy (CEE) of DTU. He got the national scholarship for outstanding overseas students in 2015, and was selected as the Thousand Talent Plan

(Youth Program), Qilu Young Scholar in 2017. Currently, he is a full-professor at Shandong University.

He is IEEE senior member, member of CIGRE Working Group C6.C1.33 (Integrated Energy system) Working Group and CIGRE C4.56 (Electromagnetic transient simulation models for large-scale system impact studies in power systems having a high penetration of inverter connected generation), Vice Chair of Shandong Energy Research Association. Currently he is an Associate Editor of the IET Journal of Engineering, the Youth Editor of Power System Protection and Control. He is also the guest associate editor of Special Issue of IEEE Transactions on Energy Conversion, guest Editor-in-chief of Special Issue of International Journal of Electrical Power& Energy Systems.



**Haitao Hu**

Professor of Southwest Jiaotong University

Haitao Hu is a Professor at Southwest Jiaotong University in China. He serves as an Associate Editor of Journal of Modern Power Systems and Clean Energy (MPCE) and an Editorial Board of Journal of Power Electronics Technology (in China). From 2013 to 2014, he was a visiting doctoral scholar at the University of Alberta, Edmonton, AB, Canada. His main research interests include power quality, energy-saving, and stability of the railway traction system.



**Mostafa Kheshti**

Associate Professor of Shandong University

Mostafa Kheshti (M'16) was born in Iran in 1987. He received the B.Sc. degree in electrical engineering from the Shiraz University of Technology, Shiraz, Iran, and the M.Sc. and Ph.D. degrees in power system engineering from Xi'an Jiaotong University, Xi'an, China, in 2010, 2013, and 2017, respectively. He was with the Regional Dispatching Center of Fars Regional Electric Company. He was with Shandong University, Jinan, China, where he is currently an Associate Professor at School of Electrical Engineering of Shandong University. His research interests include low inertia systems and stability control and optimization of renewable energy integrated power system using computational intelligence methods. Dr. Kheshti is the recipient of the Shandong University Future Young Scholars Award, China, in 2019.



**Sohrab Mirsaeidi**

Associate Professor of Beijing Jiaotong University

Sohrab Mirsaeidi received his Ph.D. degree in Electrical Engineering from University of Technology Malaysia (UTM), Malaysia in 2016. He furthered his postdoctoral research at the Department of Electrical Engineering, Tsinghua University, China from 2016 to 2019. Currently, he is an Associate Professor at the School of Electrical Engineering, Beijing Jiaotong University, China. Sohrab Mirsaeidi has published more than 50 papers and 2 books in the field of microgrids and large-scale power networks. He has also been involved in several national research projects in China. His main research interests include control and protection of large-scale hybrid AC/DC grids, distributed generation, and microgrids. He is a Member of IEEE.

Time	Smart Grid-Youth Forum
09:00-09:20	Optimization and Control Technology for Energy Efficiency and Green Operation of Industrial Customer Power System <b>Yong Li</b>
09:20-09:40	The Theory and Method of Non-Intrusive On-Line Monitoring of Electrical Equipment Based on Leakage Current Measuring <b>Pinjia Zhang</b>
09:40-10:00	An Ultra-rapid Active Power Output Reduction Scheme for DFIG Wind Turbine Generators for Rotor Stability Security and Power Losses Minimization Using DC Chopper <b>Jiebei Zhu</b>
10:00-10:20	Inertial Response of Wind Turbines in Grid Frequency Control <b>Mostafa Kheshti</b>
10:20-10:40	Prediction techniques of transient stability situation awareness in power system based on combined physical and data-driven modeling <b>Yi Tang</b>
10:40-11:00	Corona Discharge and Suppression of Electric Power Equipments in Complex Conditions <b>Xingming Bian</b>
11:00-11:20	Refined modeling, simulation of optimal control of large-scale wind farm <b>Haoran Zhao</b>
11:20-11:40	Mechanism and Risk Areas of Cascading Faults: A Newly Emerging Fault Type in Large-Scale Hybrid AC/DC Power Grids <b>Sohrab Mirsaedi</b>
11:40-12:00	The Energy Storage System for High-speed Railway <b>Haitao Hu</b>
12:00-14:00	<b>Lunch</b>



## Session 5: Motor and System Control

## Session 6: Electrical Equipment

Venue: Century Hall A (3rd Floor)

### Chairs



**Jiwen Zhao**

Professor of Heifei University  
of Technology



**Bin Xiong**

Associate Professor of Institute of  
Electrical Engineering, Chinese  
Academy of Sciences

Time	ID	Motor and System Control
14:00-14:40	83	Analytical Calculation of Leakage Reactance in High-Frequency Transformers Considering Frequency-Dependent and Winding-Structure Characteristics <a href="#">Tan Kaijia</a> , <a href="#">Ye Zhijun</a> , <a href="#">Lin Xiaoming</a> , <a href="#">Hu Te</a> , <a href="#">Hao Liangliang</a>
	410	Sensitivity of Axial Velocity at the Air Gap Entrance to Flow Rate Distribution at Stator Radial Ventilation Ducts of Air-Cooled Turbo-Generator with Single-Channel Ventilation <a href="#">Yong Li</a> , <a href="#">Weili Li</a> , <a href="#">Ying Su</a>
	202	Analysis of high frequency current at the sampling instant of SPMSM Based on High Frequency signal Injection method <a href="#">Huiwen Xiao</a> , <a href="#">Feng Zhao</a> , <a href="#">Haibo Wang</a> , <a href="#">Wei Huang</a> , <a href="#">Fei Xu</a>
	375	A method to determine the critical current value of the bearing electrical corrosion <a href="#">Qinqin Wang</a> , <a href="#">Ruifang Liu</a> , <a href="#">Xuejiao Ren</a>
	546	A stabilization control for PMSM drive system equipped with reduced dc-link capacitor <a href="#">Zhiwei Zheng</a> , <a href="#">Wenxiang Song</a> , <a href="#">Hongmin Lin</a>

Time	ID	Electrical Equipment
14:40-15:30	123	Technology Summary on the Application of Variable-Speed Pump-Turbine Units for Wind Storage Operation <a href="#">Hao Zhang</a> , <a href="#">Man Chen</a> , <a href="#">Yumin Peng</a> , <a href="#">Jianwei Zhou</a> , <a href="#">Rufei He</a>
	135	Study on Heat Transfer Characteristics of Serrated Fins of Plate-Fin Heat Sink <a href="#">Pengcheng Zhang</a> , <a href="#">Jinmeng Li</a> , <a href="#">Junwei Liu</a> , <a href="#">Dinghui Wang</a>
	243	Design and Application of Equipment Status Monitoring and Analysis System Based on Big Data <a href="#">Yu Gong</a> , <a href="#">Hao Zhang</a>
	244	Design of the Unit Startup Process by Dragging Back-to-back for Pumped Storage Power Station <a href="#">Yumin Peng</a> , <a href="#">Man Chen</a> , <a href="#">Hao Zhang</a>
	256	Research on Health Status Evaluation of Relay Protection Based on Combinatorial Weighting Model <a href="#">Junjie Zhang</a> , <a href="#">Ancheng Xue</a> , <a href="#">Lie Zhang</a> , <a href="#">Zexin Zhou</a> , <a href="#">Guosheng Yang</a> , <a href="#">Hanfang Zhang</a> , <a href="#">Wenhuan Wang</a> , <a href="#">Zhijie Wang</a>
	580	Polarization Current and AC Impedance Characteristics of Electric Power Equipment Metal Materials with Different Corrosion Condition Under High Temperature and High Humidity Industrial Pollution Environment <a href="#">Xiao Ren</a> , <a href="#">Wang Qian</a> , <a href="#">Yao Zhong</a> , <a href="#">Gaolin Wu</a> , <a href="#">Jian Hao</a> , <a href="#">Jiefeng Liu</a>
	603	Electromagnetic Thermal Finite Element Modeling of MCR via Homogenization Method <a href="#">Caifei Hu</a> , <a href="#">Li Tong</a> , <a href="#">Xueliang Fan</a> , <a href="#">Liqun He</a> , <a href="#">Xiaohui Li</a>

## Session 7: Artificial Intelligence in Electrical and Energy Applications

Venue: Century Hall A (3rd Floor)

### Chairs



**Tianjiao Pu**  
Professor of China Electric Power Research Institute



**Dongxia Zhang**  
Professor of China Electric Power Research Institute



**Liang Che**  
Professor of Hunan University



**Xuan Liu**  
Professor of Hunan University

Time	Invited/ID	Artificial Intelligence in Electrical and Energy Applications
15:30-15:50	Invited	Application of Deep Learning in Power System Security Analysis <a href="#">Dongxia Zhang</a>
15:50-17:00	45	Fault Location in VSC-HVDC Using Stacked Denoising Autoencoder <a href="#">Guomin Luo</a> , <a href="#">Jiaxin Hei</a> , <a href="#">Yanying Liu</a> , <a href="#">Meng Li</a> , <a href="#">Jinghan He</a>
	284	Fill Missing Data for Wind Farms Using Long Short-Term Memory Based Recurrent Neural Network <a href="#">Tie Li</a> , <a href="#">Junci Tang</a> , <a href="#">Feng Jiang</a> , <a href="#">Xiaopeng Xu</a> , <a href="#">Chunzhu Li</a> , <a href="#">Jiawen Bai</a> , <a href="#">Tao Ding</a>
	286	An Improved Profit Allocation Method of Load Aggregator based on Shapley Value under Government Regulation <a href="#">Ruihua Si</a> , <a href="#">Wanxun Liu</a> , <a href="#">Shichao Zhou</a> , <a href="#">Zhiqi Wang</a> , <a href="#">Hongbo Shao</a>
	466	Short-Term Photovoltaic Power-Forecasting based on Machine Learning <a href="#">Weilin Guo</a> , <a href="#">Xiaoyan Jiang</a> , <a href="#">Liang Che</a>

Time	Invited/ID	Artificial Intelligence in Electrical and Energy Applications
15:50-17:00	512	A data-driven approach for SoH estimation of lithium batteries using signal processing techniques <a href="#">Sahar Khaleghi</a> , <a href="#">Yousef Firouz</a> , <a href="#">Joeri VAN MIERLO</a> , <a href="#">Peter VAN DEN BOSSCHE</a>
	517	Ultra-Short-Term Prediction of Wind Power Based on Chaos Theory and ABC Optimized RBF Neural Network <a href="#">Yang Cui</a> , <a href="#">Shi Yan</a> , <a href="#">Huiquan Zhang</a> , <a href="#">Siyu Huang</a>
	715	Distributed Drones for Power Line Inspection with Weighted Consensus Control in Dynamic Network Systems <a href="#">Lan Xu</a> , <a href="#">King Adebo</a> , <a href="#">Junhui Zhao</a> , <a href="#">Lei Miao</a>
	368	Characteristic and Control Strategy Study of Electromagnetic Coupling Mechanism among EV Wireless Charging system <a href="#">Ming Xue</a> , <a href="#">Shuting Ma</a> , <a href="#">Qingxin Yang</a>
	68	On-line analysis of suspicious electricity stealing based on level-change detection <a href="#">Yang Haitao</a> , <a href="#">Wu Luyang</a> , <a href="#">Wang Jianhui</a> , <a href="#">Wu Beili</a> , <a href="#">Xin Jieqing</a>
	197	Knowledge Acquisition of Online Static Voltage Stability Margin Assessment Based on Random Forest Algorithm <a href="#">Hui Fang</a> , <a href="#">Ke Zhao</a> , <a href="#">Ruilin Xu</a> , <a href="#">Xiaojun Zhu</a> , <a href="#">Pei Zhang</a> , <a href="#">Chao Ren</a> , <a href="#">Qiaoqiao Li</a> , <a href="#">Yan Xu</a>
17:00-17:30	Excellent Paper Awards and Closing Ceremony <i>Century Hall B (3rd Floor)</i>	



## Session 8 : Power Electronics

Venue: Chongqing Hall (3rd Floor)

### Chairs



**Hong Li**  
Professor of  
Beijing Jiaotong  
University



**Puqi Ning**  
Associate Professor of  
Institute of Electrical  
Engineering ,  
Chinese Academy of  
Sciences

### Speakers



**Feng Gao**



**Jun Yu**



**Xuejun Pei**



**Chushan Li**



**Kai Sun**



**Jun Wang**



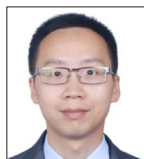
**Laili Wang**



**Yun Bai**



**Yunhui Mei**



**Zhiqiang Wang**

Time	Invited/ID	Power Electronics
09:00-09:25	Invited	Coordinated PWM Regulation of Dispersed Converters <b>Feng Gao</b> <i>Professor of Shandong University</i>
09:25-09:50	Invited	Research on EMC design and test of high speed train <b>Jun Yu</b> <i>Assistant Researcher of Locomotive and Car Research In</i>
09:50-10:15	Invited	Modeling of EMI Crosstalk and Optimization of Shielding Effect between Cables in Power Converter <b>Xuejun Pei</b> <i>Professor of Huazhong University of Science and Technology</i>
10:15-10:40	Invited	Wide Bandgap & Si Hybrid Technology for High Density High Power Converter <b>Chushan Li</b> <i>Assistant Professor of Zhejiang University</i>
10:40-11:05	Invited	Advanced DC-DC Converters for Battery Energy Storage Systems <b>Kai Sun</b> <i>Associate Professor of Tsinghua University</i>
11:05-12:00	189	Multi-Phase Interleaved Bidirectional DC/DC Converter with Two-Winding Coupled Inductors <b>Bing Su, Yubin Wang, Xuekun Wang, Fan Wang, Jia Ming, Zheng Guo</b>
	594	Calculation of Parasitic Capacitance of Foil Winding Dry-type Power Transformer <b>Tamara Egamnazarova, Minxiao Han, Xiahui Zhang, Haseeb Ur Rehman, Chunlai Qiao, Mishkat Ullah Jan</b>
	607	Backflow Power Optimization of DAB with Gradient Descent Algorithm Based Extended-Phase-Shift Control in EER Application <b>Bingkai Zhou, Xiaofeng Yang, Zhi Zhang, Zejie Li, Trillion Q. Zheng, Xiaojie You</b>
	634	A Voltage Sag Suppression Method With Short Response Time Based On Energy Storage System <b>Anping Hu, Jun Zhuang, Yibin Tao, Jie Yang, Chen Zhou</b>
	724	Impedance Modeling and Stability Analysis of Three-Level Neutral-Point-Clamped Grid-Tied Inverters <b>Bo Zhang, Xiong Du, Xiaoming Zou, Lijuan Fan</b>
12:00-14:00	Lunch	



Time	Invited/ID	Power Electronics
14:00-14:25	Invited	Research Challenges and Some Solutions of SiC Power Devices <b>Jun Wang</b> <i>Professor of Hunan University</i>
14:25-14:50	Invited	Packaging and Integration of Wide-Band-Gap Devices and Their Applications in Power Equipment <b>Laili Wang</b> <i>Professor of Xi'an Jiaotong University</i>
14:50-15:15	Invited	Progress of SiC Power Electronics Devices <b>Yun Bai</b> <i>Associate Researcher of Institute of Microelectronics, Chinese Academy of Sciences</i>
15:15-15:40	Invited	Silver sintering: material science and applications <b>Yunhui Mei</b> <i>Associate Professor of Tianjin University</i>
15:40-16:05	Invited	Low-inductance SiC Power Module Packaging Design: A Revisit <b>Zhiqiang Wang</b> <i>Professor of Huazhong University of Science and Technology</i>
16:05-17:00	159	A primary side controlled single-stage flyback LED driver with high PF <b>Xiong Han, Changyuan Chang, Luyang He</b>
	247	Analysis of Parallel Operation of 4H-SiC GTOs <b>Fang Fang, Shiwei Liang, Xin Yin, Hangzhi Liu, Wenjuan Deng, Jun Wang, Kun Zhou, Xiaopeng Cao</b>
	272	Current Harmonic Suppression Technology for Dual Three-Phase Permanent Magnet Synchronous Motor <b>Ya Wang, Wenxiang Song, Zhihuang Ruan, Yan Yan</b>
	280	Cascaded quasi-Z source inverter based on switched-inductor <b>Yunxia Li, Qiaojie Zhang, Qiao Yu</b>
	597	A Novel Soft-Switching Three-Phase Grid-Connected Quasi-Z-Source Inverter <b>Min Peng, Aiwen Qu</b>
17:00-17:30		Excellent Paper Awards and Closing Ceremony <i>Century Hall B (3rd Floor)</i>

## Session 9: High Voltage and Insulation Technology

Venue: Yunnan Hall(3rd Floor)

### Chairs



**Xidong Liang**

Professor of Tsinghua University



**Ling Zhang**

Associate Professor of Tsinghua University



**Meng Huang**

Lecturer of North China Electric Power University

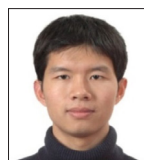
### Speakers



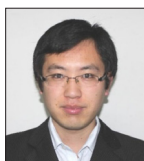
**Xinlong Zheng**



**Xiang Zhang**



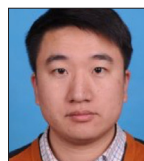
**Shuqun Wu**



**Quanling Yang**



**Ling Zhang**



**Anqiang Lv**



Time	Invited/ID	Power Electronics
09:00-10:40	Invited	Development of marine cable transmission technology in China <b>Xinlong Zheng</b> <i>Vice Director of Ocean Transmission Technology Research Center, State Grid Zhejiang Zhoushan Power Supply Company</i>
	Invited	Improving Power Transformer Performance with Dimensional Analysis Based Thermal Modelling <b>Xiang Zhang</b> <i>Research associate at the University of Manchester</i>
	Invited	Study on Partial Discharge Characteristics and Insulation Life of Polyimide Films under High Frequency and High Voltage Pulse Voltage <b>Shuqun Wu</b> <i>Associate Professor of Nanjing University of Aeronautics and Astronautics (NUAA)</i>
10:50-11:50	84	Distribution of Meteorological Elements related to Conductor Icing at Southwest of China <b>Jialun Yang, Bin Liu, Bin Zhao, Yaduo Liu, Xueping Zhan, Kunpeng Ji</b>
	167	Research on Real-time Calculation Model for Transient Temperature Rise of Direct Buried Single-core Cable <b>Chenzhao Fu, Wenrong Si, Honglei Li, Yongchun Liang, Qian Hao, Lingyu Zhu</b>
	261	Conductivity Current and Electric Breakdown Properties of Thermally Aged Nano Silicone Rubber <b>Yuanxiang Zhou, Hao Nie, Yunxiao Zhang, Ling Zhang, Xin Huang, Yuanxiang Zhou, Zhaowei Wang, Ke Li</b>
	425	Full-field Simulation of $\pm 800\text{kV}$ Valve Hall in Flexible DC System <b>Yaqiang Deng, Penglong He, Bo Zhang</b>
	535	Temperature Online Monitoring of Submarine Cable Based on BOTDA and FOCT <b>Danyu Jiang, Jingli Dou, Xian Yang, Zhiqin Ma, Dan Zhou</b>
12:00-14:00	Lunch	

Time	Invited/ID	Power Electronics
14:00-15:40	Invited	Construction of high-performance cellulose-based dielectric films for energy storage <b>Quanling Yang</b> <i>Professor of Wuhan University of Technology</i>
	Invited	Electrical Tree Aging Mechanism and Nano-modified Insulation of High-voltage Power Cables <b>Ling Zhang</b> <i>Assistant Professor of Tsinghua University</i>
	Invited	Condition monitoring of submarine power cable based on distributed optical fiber sensing technology <b>Anqiang Lv</b> <i>Associate professor of North China Electric Power University (Baoding)</i>
15:40-17:00	475	An Improved Dynamic Equivalent Method for the DC Off-shore Wind <b>Wei Li, Hui Wang</b>
	489	Effect of Diameter and Height on Ice Thickness of Cylinder <b>Xiaodong Ren, Xingliang Jiang, Zhiyu Li, Qianhao She</b>
	543	Evaluation of abutment degree of circuit breaker contact based on breaking radiation electromagnetic wave detection <b>Hongming Ma, Wei Wang, Zhiwan Cheng, Ke Wang, Fangyi Li, Zhongzheng Ning, Feng Wu</b>
	590	Experience Gained in Fault Diagnosis and Tear-down Analysis of Transformer Bushings <b>Dan Zhou, Zhiqin Ma, Linglong Cai, Xian Yang, Xiaobo Ou, Chunyao Lin, Xudong Ouyang</b>
	599	Study on the Power Grid Loss and Conducting Model <b>Xiaofeng ZHAO, Chengjia WANG, Zengbin WANG</b>
	725	Detection and Research of 500kV Submarine Cable Routing <b>Yikang Chen, Chi Cai, Cong Wu, Weijia Zhang, Xiaowei Huang, Zhenjin Cen, Qiang Guo</b>
	453	Temperature Online Monitoring of Submarine Cable Based on BOTDA and FOCT <b>Xiaowei Huang, Yahui Li, Cong Wu, Daoying Lin, Zihuan Liu, Yikang Chen, Xiaojun Li, Weijia Zhang, Chi Cai</b>
17:00-17:30		Excellent Paper Awards and Closing Ceremony <i>Century Hall B (3rd Floor)</i>



## Session 10: DC Transmission Control & Protection (Chinese Language)

Venue: Shanghai Hall(3rd Floor)

Time	Content
9:00-10:30	Leader's speech
10:30-10:50	Break
10:50-11:00	Certificate issuance
11:00-11:30	Research on Control Strategy and Technology of HVDC Transmission
11:30-12:00	Application of New Theory and Technology in HVDC Transmission
12:00-14:00	Lunch
14:00-14:30	System framework and implementation scheme of HVDC transmission protection
14:30-15:00	Modeling technology of HVDC system simulation
15:00-15:30	Research on System Integration and Work Program of HVDC Transmission Engineering
15:30-16:00	Construction and Debugging Scheme of Control and Protection System for HVDC Transmission Project
16:00-16:30	Voltage Control of Multi-Converter for Large Grid System in the Future
16:30-17:00	Relay Protection Principle of DC Grid

## Session 11: Transportation Electrification and New Energy DC Distribution System

Venue: Shandong Hall (2nd Floor)

### Chairs



**Mingli Wu**

Professor of Beijing Jiaotong University



**Xuhong Huang**

Research Fellow, Beijing Subway Yuning Co. Ltd. Power Supply Company



**Zhongbei Tian**

Research Fellow, University of Birmingham-Birmingham Centre for Railway Research and Education (BCRRE)

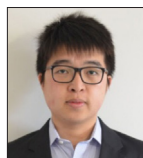
### Speakers



**Renle Huang**



**Yiming Hou**



**Zhongbei Tian**



**Xuenong He**



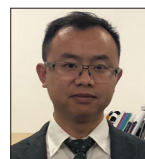
**Shijun Bai**



**Bo Liu**



**Jun Yang**



**Kejian Song**



Time	Content
09:00-09:10	Introduction Brief <b>Mingli Wu</b> <i>Professor of Beijing Jiaotong University</i>
09:10-09:40	Lightning Protection of Rail Transit Overhead Catenary <b>Litian Wang</b> <i>Research Professor of China Railway Electrization Kance Design &amp; Research Institute Limited Company</i>
09:40-10:10	Smart Traction Power Supply System <b>Xingqiang Chen</b> <i>Research Professor of China Railway Design Corporation</i>
10:10-10:40	Energy Conversion Efficiency Evaluation Technology of New Energy DC Power Supply and Distribution <b>Xuenong He</b> <i>President of Fluke Measurement Equipment Corporation (Shanghai)</i>
10:40-10:50	<b>Coffee Break</b>
10:50-11:20	DC Power System: Frontiers and Prospects <b>Yiming Hou</b> <i>Research Professor of China Electric Power Research Institute</i>
11:20-11:50	High-Order Harmonic Resonances in Traction Power Supplies: A Review Based on Railway Operational Data, Measurements, and Experience <b>Kejian Song</b> <i>Lecture of Beijing Jiaotong University</i>
12:00-13:30	<b>Lunch</b>
13:30-14:00	Key Technology and Typical Application Scenarios of AC/DC Distribution System <b>Renle Huang</b> <i>Research Professor of China Electric Power Research Institute</i>
14:00-14:30	Application Environment and Key Technology of Flexible DC Distribution Systems <b>Shijun Bai</b> <i>Senior Engineer of Xian XD High Voltage Apparatus Co., Ltd.</i>
14:30-15:00	Light Storage and Charging Integrated Power Station for the Future of Aerospace <b>Bo Liu</b> <i>Chairman of Beijing Offshore Full-Service Co., Ltd.</i>
15:00-15:10	<b>Coffee Break</b>
15:10-15:40	Energy-saving Technologies for DC Railway Traction Power Systems <b>Zhongbei Tian</b> <i>University of Birmingham</i>
15:40-16:10	Application and Research of Flywheel Energy Storage System in Beijing Metro <b>Zhenhai Song</b> <i>Beijing Subway Yuning Co. Ltd. Power Supply Company</i>
16:10-16:40	Research and Application of DC Micro-Grid Distribution System <b>Jun Yang</b> <i>Beijing Meckey Engineering Co.</i>

## Session 12: Clean Energy Equipment & Cooling Technology (Chinese Language)

Venue: Jiangsu Hall(2nd Floor)

### Chairs



**An Luo**

Academician of Chinese Academy of Engineering  
Professor of Hunan University



**Lin Ruan**

Professor of Institute of Electrical Engineering,  
Chinese Academy of Sciences

Time	Opening Ceremony
09:00-09:40	Welcome Speech <b>Yihang Wu</b> <i>Secretary-General of China Society for Hydropower Engineering</i>
	Welcome Speech <b>Guobiao Gu</b> <i>Vice Secretary-General Honorary Director of Specialty Committee of Clean Energy Equipment &amp; Cooling Technology, China Society for Hydropower Engineering</i>
	Work Report <b>Lin Ruan</b> <i>Secretary-General of Specialty Committee of Clean Energy Equipment &amp; Cooling Technology, China Society for Hydropower Engineering</i>
Time	Keynote Speeches
09:40-10:20	Integration of enterprise and research for a win-win solution-Development Road of Cooling Technology <b>Guobiao Gu</b> <i>Academician of Chinese Academy of Engineering</i>
10:20-10:40	<b>Coffee Break</b>



Time	Keynote Speeches
10:40-11:20	Study on the Key Technology of 1000MW Hydrogenerator Unit <b>Chengping Zhang</b> <i>China Three Gorges Corporation, China Three Gorges Mechanical and Electrical Engineering Co., Ltd.</i>
11:20-12:00	High-efficiency Condenser with Liquid-Vapor Separation <b>Ying Chen</b> <i>Guangdong University of Technology</i>
12:00-13:30	Lunch
Time	Oral
13:30-13:45	Declares scheduling program in the afternoon <b>Yigang Liao</b> <i>Vice Secretary-General of Specialty Committee of Clean Energy Equipment &amp; Cooling Technology</i>
13:45-14:00	Summary of wind generator cooling technology <b>LIU Junwei, LU Yuanwei, WANG Dinghui</b>
14:00-14:15	The Design of Energy Storage System in Wind Power Station <b>Ji Shiyu, Xu Zhanpeng</b>
14:15-14:30	Reference Correlation of the Viscosity of HFO-1336mzz(Z) (Cis-1,1,1,4,4,4-Hexafluoro-2-Butene) <b>Zeyu Zhang Xianyang Meng Ke Zhang Jiangtao Wu</b>
14:30-14:45	Design and Analysis of PCS Key Technologies for Large Capacity Battery Energy Storage Power Station <b>Chen Xiang , Guoping Zhu, Lunsen Zou, Xuemo Yong</b>
14:40-15:00	Design and Application of Heat Pipe self-cooling and Heat dissipation in Power Rectifier <b>Huang Dake</b>
15:00-15:20	Coffee Break
15:20-15:35	Application of Immersion Virtual Reality System in Assistant Decision Making of Hydropower Station Maintenance <b>KONG Jihong, HUANG Kun, QIU Enhua, LV Yisong</b>
15:35-15:50	Operation analysis of evaporative cooling system of Ankang <b>He Jianing</b>
15:50~16:05	Design of Platform and Preliminary Experimental Study of the Combined-Cycle System of Spray Evaporative Cooling and Air Cooling <b>Yu Wang, Haihong Dong, Lin Ruan, Yigang Liao</b>
16:05~16:20	Technical Design and Optimization of Rotor Coil Cooling Structure for Large Air-cooled Condenser <b>Wang Chao, Liao Yigang, Zhou Guanghou</b>
16:20~16:35	Study on Ventilation Cooling Design of DEC 350MW Air Cooled Turbo Generator <b>Zhang Haibo, Li Jia, Zhou Guanghou, Li Yang</b>

## Session 13: Power System, Smart Grid, New Energy & Renewable Energy, Energy Internet

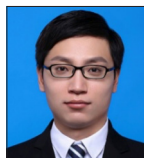
Venue: Zhonghua Hall (2nd Floor)

### Chairs



**Zheng Yan**

Professor of Shanghai Jiaotong University



**Fang Zhang**

Associate Professor  
of Beijing Jiaotong  
University



**Sijie Chen**

Assistant Professor  
of Shanghai Jiaotong  
University



**Sohrab Mirsaeidi**

Associate Professor  
of Beijing Jiaotong  
University

Time	ID	Title
09:00-10:00	Poster	
10:00-11:00	94	Research on Line Protection Configuration Scheme of Hybrid Multi-terminal HVDC Transmission System <b>Qingqing Zhan, Liangliang Hao, Zhengguang Chen, Xingguo Wang</b>
	128	Design of New Intelligent Commutation Switch Based on Bidirectional Thyristor <b>Yunlong Zhao, Renfei Che</b>
	145	A Multi-Agent based Critical Load Restoration Using Islanded Operation of DGs in Radial Distribution Network <b>Mazhar Hussain, Xiaoyu Wu, Sanaullah Kaka, Yin Xu, Sijia Wang</b>
	201	Anomaly Detection of Technical Loss Based on Situation Awareness and Control Chart Technologies <b>Chang Chen, Jihua Xie, Huan Long, Guodong Li, Zheng Wang, Chuanghua Liu, Yuyan Man</b>
	210	Research on Optimal Scheduling of Power System with High-penetration Renewable Energy Considering Flexibility of Power Supply Side and Load Side <b>Su Zhang, Jianqin Liu, Zhi An, Longfei Ma, Quanhui Che, Yuan Peng</b>
	226	Research on Power System Fault Diagnosis Architecture Based on MAS <b>Wang Lei, Guo Lijuan, Mu Wei, Chi Xiaojiang, Wang Zhe, Li Hongbo, Guo Ting</b>



Time	ID	Title
10:00-11:00	303	Fault line selection based on cross wavelet and Romanovsky Criterion <b>Jianwen Zhao, Wei Shi, Jiaxin Duan, Ruijie Zhao, Xin Shi</b>
	308	Uncertain Power Flow Algorithm for Hybrid AC/DC Grids Incorporating VSCs <b>Pingjing DU, Ming YANG, Jiajun YANG, Yu ZHOU</b>
	396	Adaptive Temperature Estimation for Lithium-Ion Batteries <b>Yu Jiang, Ziqiang Chen</b>
	413	Research on Location Selection of Distribution Network Repair Center Considering Loss of Load Level <b>dingqian li, qiuyue chen, ming wang, shaowen he, dechang yang</b>
11:00-12:00	424	DC traction power supply system reliability evaluation and robust design <b>Yilin Chen, Zhongbei Tian, Stuart Hillmansen, Clive Roberts, Ning Zhao</b>
	467	Study on Mesh Adaptive Direct Search Algorithm for Distribution Network Reconfiguration with Distribution Generators <b>Zhuang Yang, Junhua Peng, Pengxiong Huo</b>
	482	Fault Location Based on Comparison of Current Information for Distribution Network with DGs <b>Jianwen Zhao, Ruijie Zhao, Wei Shi, Xin Shi, Jiaxin Duan</b>
	541	Research and Analysis of Signal Injection Method for Measuring Capacitive Current in Distribution Network <b>Junhua Peng, Zhuang Yang, Pengxiong Huo</b>
	574	EEAC-based Transient Stability Analysis of Hydropower System Considering Different Practical Hydroelectric Generator Models <b>Weitao Chen, Xiangyu Wu, Yin Xu, Jinghan He, Zheng Shi, Chang Liu</b>
	583	Determination of Dynamic Equivalent Boundary of AC-DC Power Systems Considering AC-DC Coupling <b>Haiwei Wu, Ming Yang, Rui Yang, Yin Xu, Jinghan He, Zheng Shi</b>
	608	GPU-Accelerated Batch Solution for Short-Circuit Current Calculation of Large-scale Power Systems <b>Boyang Shang, Yin Xu, Chengeng Zhang, Ying Chen, Zhengyuan Liu, Long Lin, Chunlei Xu, Jing Yu</b>
	620	Batch Computing Method for Sensitivity Analysis of Large Power Grids Based on GPU Acceleration <b>Chengeng Zhang, Yin Xu, Ying Chen, Zhengyuan Liu, Siyan Liu, Dawei Su, Haiwei Wu</b>
	626	Research on Orderly Electricity Consumption Management Strategy for Campus Dormitory <b>Jinghan He, Zhida Li, Fang Zhang, Pinghao Ni</b>
12:00-13:30	Lunch	
13:30-14:30	Poster	
14:30-16:50	161	Fuzzy Least Squares Support Vector Machine Based Condition Evaluation Method of Microgrid Community <b>Weidong Chen, Shuo Liang, Yuanyuan Xiao, Min Guo, Tianjun Jing, Jinlin Li</b>
	165	Research of Day-ahead Scheduling Strategy in Smart Grid Considering Uncertainties of Demand <b>Zheyu Guo, Yanan Zheng, Gengyin Li</b>
	197	Knowledge Acquisition of Online Static Voltage Stability Margin Assessment Based on Random Forest Algorithm <b>Hui Fang, Ke Zhao, Ruilin Xu, Xiaojun Zhu, Pei Zhang, Chao Ren, Qiaoqiao Li, Yan Xu</b>
	458	Dynamic Compensation Control of AC Microgrid Based on Residual Generator <b>Changbin Hu, Heng Lu, Shanna Luo, Yuntao Shi, Kaiyu Chen</b>

Time	ID	Title
14:30-16:50	508	Dynamic compensation strategy of microgrid PCC voltage based on residual generator <a href="#">Changbin Hu</a> , <a href="#">Yue Zhang</a> , <a href="#">Yuntao Shi</a> , <a href="#">Shanna Luo</a> , <a href="#">Rui Ma</a> , <a href="#">Hui Fan</a> , <a href="#">Jinghua Zhou</a>
	509	Dynamic Compensation Control Strategy of DC Microgrid Bus Voltage Based on Disturbance Observer <a href="#">Changbin Hu</a> , <a href="#">Huisheng Wang</a> , <a href="#">Shanna Luo</a> , <a href="#">Yuntao Shi</a> , <a href="#">Rui Ma</a> , <a href="#">Hui Fan</a> , <a href="#">Jinghua Zhou</a>
	582	Identifying ZIP Coefficients of Aggregated Residential Load Model using AMI Data <a href="#">Fan Feng</a> , <a href="#">Tong Zhang</a> , <a href="#">Heyang Yu</a> , <a href="#">Guangchao Geng</a>
	630	Nonlinear Conduction Characteristics and Application of SiO <sub>2</sub> @SiC/Epoxy Nanocomposite <a href="#">Wang Tingting</a> , <a href="#">Xiao Wei</a> , <a href="#">Zeng Xiangjun</a> , <a href="#">Han Yongsen</a> , <a href="#">Zhang xin</a>
	406	Comprehensive Benefit Analysis of Energy Saving and Loss Reduction for Flexible Substation Applied to Active Distribution Network <a href="#">Jinghang Li</a> , <a href="#">Hui Zhou</a> , <a href="#">Li Cong</a> , <a href="#">Xianglong Zhang</a>
	85	The Research on the Triple Phase Shift Control of the Isolated Bidirectional DC-DC Converter <a href="#">Wang Chongwu</a> , <a href="#">Song Qian</a> , <a href="#">Zhang Junlu</a>
	613	Day-Ahead Scheduling of a Microgrid-Like Fast Charging Station <a href="#">Fan Wu</a> , <a href="#">Yun Zhou</a> , <a href="#">Donghan Feng</a> , <a href="#">Yiwei Shi</a> , <a href="#">Ting Lei</a> , <a href="#">Chen Fang</a>
	129	Optimal Local Energy Trading considering Network Cost via Hotelling Game <a href="#">Yajun Zhang</a> , <a href="#">Chenghong Gu</a> , <a href="#">Furong Li</a> , <a href="#">Min Zhang</a>
	235	A Deep Reinforcement Learning Based Energy Storage System Control Method for Wind farm Integrating of Prediction and Decision <a href="#">Jiajun Yang</a> , <a href="#">Ming Yang</a> , <a href="#">Pingjing Du</a> , <a href="#">Fangqing Yan</a> , <a href="#">Yixiao Yu</a>
	334	Fractional-order Feedback Linearization Sliding-mode Control Design for Grid-connected PV Inverters <a href="#">Fang Zeng</a> , <a href="#">Hongchu Shu</a> , <a href="#">Tianjiao Zhu</a> , <a href="#">Thidar Swe</a> , <a href="#">Bo Yang</a>
	347	Mechanism Analysis on Peak Regulation Auxiliary Service Market in China: Towards a High-penetration Renewable Power Grid <a href="#">Min Zhang</a> , <a href="#">Zhengting Jiang</a>
	553	Contribution Analysis of Influential Factors for Wind Power Curtailment Caused by Lack of Load-Following Capability Based on BP-MIV <a href="#">Xiaoxi LV</a> , <a href="#">Cun DONG</a> , <a href="#">Zhifeng LIANG</a> , <a href="#">Pei ZHANG</a> , <a href="#">Dengxuan LI</a>
	564	Optimization of the Integrated Energy System with Energy Storage Considering Risk Operation <a href="#">Lu Haiqiang</a> , <a href="#">Lu Shuijin</a> , <a href="#">Mo Yujie</a>
	625	Ultra-short Term Wind Power Forecasting Based on LSTM Neural Network <a href="#">Jiateng LI</a> , <a href="#">Duo GENG</a> , <a href="#">Pei ZHANG</a> , <a href="#">Xiangfei MEGN</a> , <a href="#">Zhifeng LIANG</a> , <a href="#">Gaofeng FAN</a>
	473	Research on Businesss-orientend Smart Grid Asset Information Modeling Technology <a href="#">Zengtao Zhao</a> , <a href="#">Dinglin Li</a> , <a href="#">Jun She</a> , <a href="#">Lei Zhao</a> , <a href="#">Kezhi Wang</a>
	633	Comparative Study on Generation Right Trading Models for Supporting Renewable Energy Consumption <a href="#">Yinggang Peng</a> , <a href="#">Qing He</a> , <a href="#">Pei Zhang</a> , <a href="#">Yao Lu</a> , <a href="#">Taiyou Yong</a> , <a href="#">Cun Dong</a>
17:00-17:30	Excellent Paper Awards and Closing Ceremony <i>Century Hall B (3rd Floor)</i>	



## Session 15: The 4th International Symposium on “Future of Renewable Energy”

Venue: Century Hall B (3rd Floor)

### Chairs



**Pei Zhang**

Deputy Dean of International School  
of Renewable Energy,  
Beijing Jiaotong University



**Ali Mehrizi-Sani**

Associate Professor of  
Virginia Tech

### Speakers



**Ali Mehrizi-Sani**



**Zongxiang Lu**



**Taiyou Yong**



**SeungJae Lee**



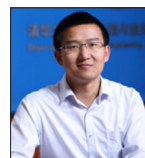
**Fang Zhang**



**Can Chen**



**Pei Zhang**



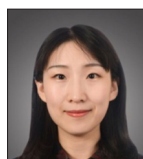
**Zechun Hu**



**Haibo Zhang**



**Haijiao Wang**



**Ying Wang**

Time	Title
09:00-09:30	Power System with 100% Inverter-based Renewable Generation <b>Ali Mehrizi-Sani</b> Professor of Virginia Tech
09:30-10:00	Wind Power Forecast Method Considering its Application in Power Grid Dispatching <b>Zongxiang Lu</b> Associate professor of Tsinghua University
10:00-10:30	Study on Generation Rights Trading to Support Cross Regional Renewable Consumption <b>Taiyou Yong</b> Chairman, Eversource Consulting Inc, USA
10:30-11:00	Protection Considerations for DG-Penetrated Power Systems <b>SeungJae Lee</b> Professor of Seoul University
11:00-11:30	Three-phase Voltage Unbalance Mechanism Analysis and Case Study in Large-scale Wind Power Integration Area <b>Can Chen</b> Jibei Electric Power Research Institute
11:30-12:00	Synchrophasors-based Identification for Subsynchronous Oscillations in Power Systems <b>Fang Zhang</b> Associate Professor of Beijing Jiaotong University
12:00-14:00	<b>Lunch</b>
14:00-14:30	Renewable-based electrification and its role in energy transition towards 2050 <b>Bowen Hong</b> State Grid Energy Research Institute
14:30-15:00	Evaluate the Frequency Regulation Capacity Considering Large Scale Renewable Energy Integration <b>Zechun Hu</b> Associate Professor of Tsinghua University
15:00-15:30	Coordinated Strategy of Frequency Limit Control and Automatic Generation Control in Islanded HVDC Sending System for New Energy Base <b>Haibo Zhang</b> Professor of North China Electric Power University
15:30-16:00	Modeling and Analysis of Sub/Super-Synchronous Oscillations in Large Scale Renewable Power Generation Systems <b>Haijiao Wang</b> China Electric Power Research Institute
16:00-16:30	Resilience-oriented distribution system restoration by multiple sources coordination <b>Ying Wang</b> Beijing Jiaotong University
16:30-17:00	Ultra-Short Term Wind Power Forecasting based on LSTM Neural Network <b>Pei Zhang</b> Professor of Beijing Jiaotong University
17:00-17:30	Excellent Paper Awards and Closing Ceremony



## Session 16: Best Paper Awards and Closing Ceremony

Venue: Century Hall B (3rd Floor)

### Chair



**Xiaojun Wang**

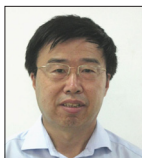
Associate Professor of Beijing Jiaotong University

Time	Content
17:00-17:20	Best Paper Awards
17:20-17:30	Closing Ceremony

## Session 14: Poster Session:

Venue: Zhonghua Hall (2nd Floor)

### Chairs



**Zhiqian Bo**

"Thousand Talents Plan Program" Expert



**Wei Pei**

Professor of Institute of Electrical Engineering, Chinese Academy of Sciences



**Meng Li**

Beijing Jiaotong University



**Qifang Chen**

Beijing Jiaotong University

Article ID	Poster ID	Authors	Title
60	P-001	Jia Wei, Shiwu Xiao, Weijie Dong	Fault Location Method for Active Distribution Network Based on SVM and Feature Search Algorithm
90	P-002	Panpan Liu, Ruanqing Mo, Pu-zhe Lan, Yuhu Zhang, Xuguo Fu, Jianlin Yang	Medium-to-long Term Electricity Consumption Forecasting Using Deep Hybrid Neural Networks
121	P-003	Liu Fang, Zhao, Fa Ping, Xu, Gang Gang, Zhai, Xiu quan, Fan, Guowei	Type Identification of Short Circuit Faults Based on Alexnet
148	P-004	Chen Shi, Junyong Wu, Meiyang Shao, Ran An, Xing Huang, Rong Cai, Xinzhong Wu	Reactive Power Optimization of Distribution System Based on Deep Belief Network
345	P-005	Yingmei Zhang, Genghuang Yang, Xiayi Hao, Minglin Li	Research on Identification and Processing Method for Abnormal Data of Residential Electric Power Consumption
552	P-006	Yongsheng Guan, Dahai Zhang, Chenguang Liang, Bin Xu, Jinjin Ding, Chen Luo	A Voltage Control Strategy for Low-Voltage Distribution Network with High Proportion PVs Based on BP Neural Network
596	P-007	Yiliang Fan, Linyu Wang, Hao Lin, Qintao Du, Ruixin Tang, Peijie Li, Yifei Wang, Fangyuan Xu	Real taxi operation data and user anxiety pricing based charging station setting position decision support system
627	P-008	Shigong Jiang, Hongjun Li, Yunfei Wang, Zhenning Yang, Wei Liu, Jun Han	Short-Term Load Forecasting Method for AC/DC Distribution System Based on Ensemble Learning
640	P-009	C.X. Jiang, Zhigang Li, J.H. Zheng, Q.H. Wu	Power System Emergency Control to Improve Short-Term Voltage Stability using Deep Reinforcement Learning Algorithm
646	P-010	Hongwei Cai, Ting Du, Yixian Wang, Shiwei Xia, Dongying Zhang, Xiaodan Lu	A Survey of Artificial Intelligence Algorithm in Power System Applications
731	P-011	Min Shi, Ke Xu, Jue Wang, Rui Yin, Tieqiang Wang, Taiyou Yong	Short-Term Photovoltaic Power Forecast Based on Long Short-Term Memory Network
51	P-012	Wei Gu, Dingyu Feng, Zide Guo	Development of High-Speed Mechanical Switchgear with Vacuum Interruption Technology and Application in HVDC Circuit Breaker

Article ID	Poster ID	Authors	Title
184	P-013	Jianben Liu, Jianhui Li, Jin-zhao Zhang, Li Zhao, Huangli Wei, Jianbo Sun	Study on Mechanism of a Novel Autotransformer for 18-pulse Rectifier
258	P-014	Linfei Jiang, Fei Xiao, Li-angdeng Hu	Analytical Calculation of the Difference in Parallel Output Current Between the 12-pulse Rectifier Bridges Based on Transformer Leakage Inductance and DC inter-phase Reactor
259	P-015	Jianben Liu, Jianhui Li, Jin-zhao Zhang, Li Zhao, Huangli Wei, Jianbo Sun	A High-voltage and Large-capacity Reactive Power Compensator Based on Magnetic-controlled Switch
463	P-016	Shaoqun Cao, Jingye Zhang, Wenhan Zha, Chuang Zhao, Benkang Yang, Maxiang Zhu	Experimental Study on Current Measurement of Rogowski Coil in a Cryogenic Environment
502	P-017	Haihong Dong, Lin Ruan	Simulation of Thermophysical Parameters in the Natural Circulation Evaporative Cooling System of Hydro-generator Stator Busbar
526	P-018	Fang Yonghao, Deng Yu, Li You	The Research of Silicone Rubber Aging Factors by Attenuated Total Reflection Infrared Spectroscopy
566	P-019	Guoqiang Wu, Xiang Gou, Bo Li	Experimental Study on Heat Transfer Performance of Elliptical Loop Heat Pipe
572	P-020	He Dongsheng, Yifei Wang, Luo Haiao, Lin Zhili, Miao Benjian, Ma Guifen	Optimization of opening and closing test circuit for back-to-back capacitor bank in high voltage and large capacity laboratory
665	P-021	Jicheng Yu, Changxi Yue, Songhui Zhang, He Li, Kui Xiong, Kai Zhu	Study on Field Calibration Technology of Zero Flux DC Current Transformer in $\pm 500\text{kV}$ Converter Station
679	P-022	Hongwei Di, Zhe Hou, Jinxiu Chen, Bin Yang, Min Wu, Zheng Zhang, Yabo Mo	Fault Analysis and Countermeasure Research of Large-Scale Motor-Generator
707	P-023	Wei-guo Li, Xu Yang, Changhong Zhang, Zhong-kang Huang, Jin-wei Chu, Zhen-le Nan	Simulation and Test of Double-fracture Disconnect Switch in GIS
726	P-024	Chengping Zhang, Zubing Zou, Fei Gai	Development and Application of Dry-type Tridimensional Wound-core Transformer
125	P-025	Ning Wang, En Lu, Shuqin Kong, Xuanding Wang, Zhiyuan Liang	Comprehensive Evaluation Index System of Guangdong Electricity Auxiliary Service Market

Article ID	Poster ID	Authors	Title
137	P-026	Shuang Dong, Zhicheng Sha, Chunping Zhu	Disturbance Signal Recognition Method of Power System Based on Constrained Fuzzy Clustering
153	P-027	Jia Guo, Junkuo Li, Chunyan Rong, Zhen Dong, Wei Guan, Yan Zheng, Lingfeng Tan	Effectiveness Evaluation System and Evaluation Method for Anti-ice Damage Technical Transformation Project of Overhead Lines
263	P-028	Yiwen Luo, Kai Yi, Jiangbo Wang, Weizhou Wang	Energy Optimal Dispatch of AC/DC Hybrid Power Supply System with Time-shifting Load
268	P-029	Lingfeng Tan, Yan Zheng, Yaqiong Liu	Comprehensive quantitative evaluation of effect of lightning protection project based on risk governance and prospect of the application context
295	P-030	Benkang Yang, Dong Zhang, Bo Liu, Jichun Li, Liyong Zhang, Wenhan Zha, Chuang Zhao, Shaoqun Cao	Static and Dynamic Performance Research of Superconducting Fault Current Limiting Cable Used in DC Distribution Network
364	P-031	Shipian Guan, Xiyun Miao, Yijing Gao, Pengpeng Yang, Beibei Wang, Jiawei Lu	Overview of the Electricity Futures Market
479	P-032	Yongming Li, Xiaowan Wang, Yue Zhou, Shengyu He, Luwen Xu, Anxin Zou	A Domain Decomposition Charge Simulation Method for Calculation of Power-frequency Electric Field
501	P-033	Junfeng Xia, Nannan Shi, Xiaofeng Xu, Youlin Zhao, Jinnanmin Zhang, Dapeng Zhang, Jiansheng Sun	Study on AC Resistance Characteristics of Stranded Conductors by a High Precision Measuring System
530	P-034	Dong Xia, Weidong Liu, Xin Zhao, Jing Xu, Renzun Zhang, Yujing Li, Su Su	EV Charging Guidance Strategy Considering Dynamic Road Network and Personalized Driving Conditions
551	P-035	Yanchao Liu, Jin Fang, Dongyu Jia, Wenlong Li	Temperature characteristics of FBG sensors with different coatings for High Temperature Superconductor Application
558	P-036	Jiang Wu, Chaoyong Jiao, Meng Chen, Jizhong Chen, Zaiping Zhang	SOC Estimation of Li-ion Battery by Adaptive Dual Kalman Filter under Typical Working Conditions
586	P-037	Ying Xu, Shaotao Dai, Bangzhu Wang, Xufeng Yan, Jing Zhang	AC Loss Calculation of Tri-Axial HTS Cables

Article ID	Poster ID	Authors	Title
605	P-038	Xufeng Yan, Shaotao Dai, Jing Zhang, Ying Xu	Optimization Design of C-type Iron Core for HTS DC Induction Heater
673	P-039	Bingxiang Sun, Jia Liu, Weige Zhang, Haijun Ruan, Xitian He, Xiaojia Su, Jiuchun Jiang	Study on the evolution of equivalent impedance parameters for lithium-ion batteries under combined AC-DC conditions
674	P-040	Bingxiang Sun, Zhengtao Cui, Nan Xue, Xiaojia Su	Study on available energy estimation of LFP battery based on increment energy curve
687	P-041	Yifan Nie, Chaoqun Jiao, Yuanliang Fan	Active Shielding Design of Patrol Robot Wireless Charging System
50	P-042	Jianbiao Li, Mu Wang, Jianfu Chen, Deshu Gan, Xingyu Pei	Integrated Demand Response Model of Micro-grid Considering Electro-Thermal Coupling in Market Environment
56	P-043	Yimin Qian, Kai Ding, Qiao Chen, Xirui Xu	Bi-level Model for Demand Side Management in Integrated Energy System
70	P-044	Jianbiao Li, Mu Wang, Jianfu Chen, Deshu Gan, Xingyu Pei	Optimization Strategy for CHP with Heat Storage Participating in Deep Peak Regulation Market
149	P-045	Xuan Wang, Xiong Zhan, Kaiyuan Zheng, Yongsheng Fu, Yanjun Li, Bin Zhu	A Novel Scheme for Isolated Modular Converter Based Lithium-ion Battery Energy Storage System
186	P-046	Shiyao Zhou, Ziqiang Chen	Model Prediction and Rule Based Energy Management Strategy for Hybrid Energy Storage System
211	P-047	Ning Zhang, Lin Liu, Kefan Liu, Jikang Mao	A novel integrated power-gas-heat system planning model considering energy sources, demand response, storages and energy converters
218	P-048	Guoliang Zhou, Gang Li, Yimin Huang, Hua Zhen, Zhiyu Xiang, Linjie Lv	Design of Energy Block Chain System Supporting Electric Vehicle Charge and Discharge Trading
265	P-049	Jiasen Miao, Cheng Shen, Yuqing Bao	Research on Bidirectional Active Equalization Control Strategy of Lithium Battery Pack for Energy Storage
307	P-050	Peng Yu, Xinbin Zuo, Yong Zhang, Xinghua Liu, Yuejiao Wang, Wei Teng, Guanglei Li, Peng Zhao, Yan Cheng, Shumin Sun, Sun Li	The Study on the Application of Energy Storage Technique in Power Grid

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330	P-051	Luxi Hao, Jun Wu, Baolin Li, Zhidong Wang, Yan Zhang, Jianbing Xu, Chang Liu, Peiying Gan	A Multi-Objective Optimization Planning of Park-level Integrated Energy System Based on Two-tier Planning Model
331	P-052	Taipeng Ji, Hongwei Hu, Dechang Yang	Research on Optimal Allocation of Distributed Generations in Multi-energy System for Rural Area
342	P-053	Kebing Lei, Ziqiang chen	Energy Management Strategy Based on Adaptive Wavelet Analysis for HESS
361	P-054	Bo Yuan, Peng Wang , Jie Yang, Zhicheng Xu	A Review and Outlook of User Side Energy Storage Development in China
401	P-055	Zhuoyan Meng, Qian Yao Xu, Tian Mao, Baorong Zhou	Research on the Full-Life-Cycle Operation Benefit Estimation of the Battery Energy Storage Station Anticipating the Ancillary Service Market in China
411	P-056	Jianlin Yang, Mingxing Guo, Fei Fei, Haiqun Wang, Ling Zhang, Jing Xie	Enabling Technologies for Multinational Inter-connected Smart Grid
438	P-057	Shuying Zhang, Zheng Yan, Chenyang Huang, Hongyan Ma, Libing Yang	Methods of Preventing Collusion of Generation Enterprises in East China Electricity Market
440	P-058	Che Wei, Yinfeng Qiu, Junfeng Chen, Jun Wu, Peiying Gan, Baolin Li, Jianbing Xu, Xiangyu Xing	Research on Energy Efficiency Evaluation of Independent Integrated Energy System
448	P-059	Lin Fu, Tao Ma, Yuhang Cheng, Kun Su, Lei Hou, Peng Li	Research on Local Optimal Dispatching Method of Park-Level Integrated Energy System
449	P-060	Gang Wang, Fengquan Zhou, Peng Li, Zixuan Wang	Optimal Operation Analysis of Integrated Community Energy System Considering Source-Load Uncertainty
450	P-061	Difan Wu, Zixuan Wang, Hou Lei, Taowei Wang, Kun Su, Peng Li	Optimal Scheduling of Electric and Heat Integrated Energy System with Operational Constraints
472	P-062	Geng Niu, Ming Wu, Lingfeng Kou, Xiaogang Hou, Xiaoyun Qu, Yijin Li	A Novel Integrated Energy Station by Merging Data Center with Energy Storage: System Constitution, Collocation and Application

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531	P-063	Liyang Liu, Gengyin Li	Optimal Operation of Regional Integrated Energy System Considering Energy Storage and Conversion
548	P-064	Wenxuan Liu, Xuankun Song, Liu Han, Nan Zhong, Chenghao Li, Zou Ge	Evaluation of Operation Effect for Grid-side Energy Storage Power Station Based on TOPSIS Model
570	P-065	Jie Yang, Bo Yuan, Fuqiang Zhang, Fengkui Luan, Gang Lu, Zhicheng Xu	Research on the application prospect of energy storage technology in energy internet
575	P-066	Duanhong Zhang, Yiwei Shi, Yun Zhou, Donghan Feng, Shanshan Shi, Chen Fang	Coordinated Planning of PEV Fast-Charging Network with Station-owned Photovoltaic Generation
616	P-067	Renguang Wu, Donghai Chen, Yunge Wang, Gang Wang, Yuan Xu, Rong Li, Zhongxian Gu	Optimal Configuration of Energy Storage System via MPC considering High Density Photovoltaics
624	P-068	Dawei He, Xiaojun Wang, Fang Zhang	Research of Traffic Energy System and Optimization Operation Unified Model
641	P-069	Guo Lei, Wang Linyu, Wei Wei, Wu Jingwen	Day Ahead Economic Dispatch of District Integrated Energy Service Providers Under Energy Market
696	P-070	Yipei Wang, Bing Lv, Ximei Liu, Fei Yu	Combined output offshore wind-tide-virtual energy storage system model
727	P-071	Rui Lin, Yanfei Zhao, Lin Tian, Miao Liu, Baohao Chen, Yifeng Zhu, Jie Tang	Deep Learning Based Resource Allocation in NOMA Wireless Power Transfer Networks
7	P-072	Xiaotian Bi, Dabing Chen, Song Gao, Jie Chen, Lei Sun, Jun Jia, Yongwei Wang, Wang Fan	Application of Spectrum Digital Imaging Technology in Quality Test of Transmission Line
38	P-073	Wenhan Zha, Qingquan Qiu	Study on Flashover Characteristics of Epoxy Resin and Polytetrafluoroethylene Under DC Voltage
71	P-074	Yifang Su, Xianjun Shao, Cheng Xie, Shunyu Wu, Zhenhai Chen, Yuchao Shi, Junpei Nan	Research on loop closing operation in 10 kV arc-suppression coil grounding distribution network

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166	P-075	Rui Xie, Xinyuan Ge, Junpeng Zhu, Ripeng Hu, Zheng Sun	Study on Optical-electrical Signal Characteristics of Partial Discharge of Gas-insulated Electric Equipment
168	P-076	Rui Xie, Xinyuan Ge, Junpeng Zhu, Jian Chen, Jinhui Li	Correction of the Relationship between Optical-electrical Signal and Charge Quantity in Partial Discharge Combined Detection
208	P-077	Xu Zhang, Yi Lu, Yanfeng Gao, Xin Wang, Shuochao Fan, Shuyuan Wang, Jifei Zhang, Bin Su, Yuan Chen, Hui Wang	Molecular Dynamics Simulation on Water Diffusion into HTV Silicone Rubber used in High Voltage Composite Insulator
213	P-078	Junbo Wang, Bin Liu, Chunxu Zhang, Fudong Yang, Tingting Zhang, Xingshun Miao	Partial Discharge Type Identification in GIS Based on SCG Algorithm
214	P-079	Junbo Wang, Bin Liu, Chunxu Zhang, Fudong Yang, Tingting Zhang, Xingshun Miao	GIS Partial Discharge Type Identification Based on Optimized Support Vector Machine
215	P-080	Wenhao Zha, Qingquan Qiu, Benkang Yang, Chuang Zhao, Shaoqun Cao	Simulation and Experimental Study of Solenoid SFCL Under DC Impact Current
276	P-081	Xiaofeng Tang, Linli Cui, Jinmei He, Zhengyuxi Su, Peng Chen	Evaluation Method for Insulation Degradation Based on Furfural Content in 35kV Field Transformer Oil
287	P-082	Peipeng Zhou, Zutao Xiang, Lijie Ding, Wei Wei, Dongyang Wang, Liangeng Ban	Methods for Obtaining Excitation Curves and Remanence of Transformers by De-energizing and Energizing Test
292	P-083	Yue Yang, Hongbing Guo, Qi Kang	A General Method for Assessing the Operation Health of Power Transformer Group
304	P-084	Bangzhu Wang, Shaotao Dai, Tao Ma, Lianhong Zhong	Experimental Research on DC Breakdown Characteristics of Liquid Nitrogen under Rod-plane Electrodes
369	P-085	Gang ZHOU, Zhong-jie HAN, Shuijin LU	Intelligent Detection Technology and Engineering Application of High Voltage Circuit Breaker Based on One Key Detection
409	P-086	Yuan Zhou,Xiaofeng Zhao, xian Yang, Xiaolong Cui,Ruixiong Yang,jiayuan Lai	Transient Analysis and Simulation of a Single-Phase Grounding Fault in 20kV Small Resistance Grounding System

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416	P-087	Yuhao Wang, Tong Zhao, Tao Yang, Yongshuai Chen, Liang Zou, Li Zhang	Comprehensive Optimization Strategy of Secondary Sound Source in Active Noise Control System of Power Transformer Based on Monte Carlo Method
428	P-088	Yongshuai Chen, Bangdong Yu, Tong Zhao, Yuhao Wang, Liang Zou, Li Zhang	Study on Propagation Characteristics of Partial Discharge Electromagnetic Wave in Gas Insulated Switchgear
433	P-089	Tao Guo, Shugong Gao, Qilong Zhu, Wei Wang, Zhongzheng Ni, Dingkai Xu	Method for detecting Arc reignition of circuit breaker breaking process based on radiated electromagnetic wave
434	P-090	Liangxing Tang, Tao Guo, Zhilei Zhang, Hongming Ma, Wei Wang, Zhongzheng Ni, Dingkai Xu	State Evaluation of Arc Contact of Circuit Breaker based on Radiated Electromagnetic Wave Signal
524	P-091	Yezhou Hu, Xianjun Shao, Cheng Xie, Zhenhai Chen, Shunyu Wu, Yuchao Shi, Zhuoran Li	The feasibility research on distribution network loop closing operation based on hybrid grounding model of arc suppression coil and low resistance
529	P-092	Zhihua Lu, Siyuan Zhou, Pengbo Zhao, Xinxin Hu, Hui Ni, Xu Yang, Cheng Pan, Ju Tang	Partial Discharge Signal Denoising Based on Dual-Tree Complex Wavelet Transform Combined with Thresholding
532	P-093	Qingling Wang, Siyuan Zhou, Jinxia Xu, Jia Chen, Shengnan Hu, Xu Yang, Cheng Pan, Ju Tang	Partial Discharge Signal Denoising Based on Block Thresholding
537	P-094	Chaozhi Zheng, Fuzeng Zhang, Yongsheng Xu, Shaojie Chen, Tingting Wang, She Chen	Three-dimensional modelling and Optimization of a Fully-covered Interdigital Capacitive Sensor for Power Cable Insulation Detection
542	P-095	Hongming Ma, Wei Wang, Zhiwan Cheng, Xianping Zhao, Fangyi Li, Zhongzheng Ning, Feng Wu	Gas Decomposition Products Produced by Breaking Short Circuit Current of Circuit Breaker with Different Ablation Degree
581	P-096	Guanghua Guo, Guantao Wang, Yonggang Liu, Tao Gao, Shengwei Fang	Analysis of Lightning Breakage in 10kV Distribution Network and Protection Characteristics of Arrester
584	P-097	Hui Wang, Guantao Wang, Xiaoning Li, Li Zhang, Shengwei Fang	Optimization of Lightning Protection System for 10 kV Distribution Network Based on Yalmip Toolbox

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593	P-098	Tianshao Liu,Zhiming Zhen,X-izhong He	Partial Discharge Propagation Characteristics of HV Cables Based on A Novel Inner Sensor
675	P-099	Jinwei Chu, Xiaoxing Wei, Wangying Liu, Chi Xu, Haofeng Zhang, Zhidong Jia	Study of Hydrophobicity Migration of HTV and LSR materials
74	P-100	Chengdong Gui, Wenguang Chen, Jia Du, Wei Hu	Modeling and Simulation of Vehicle Engine PMSM Cooling System Based on Fuzzy Control
178	P-101	Yucan Wu, Jie Zhou, Yonggang Li, Jinye Xiang	Analysis of the Pole Slipping Operation of Turbo-generator Based on Improved Damping Finite Element Model
179	P-102	Bonzou Adolphe Kouassi, Yiming Zhang, Mesmin J. Mbyamm Kiki, Sie Ouattara	PID Tuning Of Chopper Fed Speed Control Of DC Motor Based On Ant Colony Optimization Algorithm
200	P-103	Chuanyu Sun, Jingkai Li, Peng Zhuang, Jiaqing Li	Design and Analysis of a Novel 24-Phase Bearingless Switched Reluctance Motor
267	P-104	Hepeng Su, Guisheng Jie, Liang Zhou, Jinyang Han	Stator Flux Trajectory Control with Optimized Pulse Patterns Based on Voltage Command Feed-Forward
309	P-105	Hong Cao, Shi Chen, Wenrui Cai, Xingguo wang, Min Xie, Dingxiang Du, Bin Yu, Haigang Wang, Qingzhu Shao	An Improved Extinction Angle Control Strategy to Mitigate Continuous Commutation Failure for HVDC system with hierarchical connection
332	P-106	Xiangjian Shi, Chuanbao Yi, Yifeng Shi, Wei Yan, Gaoyue Zhong, Xiangyu Niu	Analysis of operation characteristics of adjustable-speed pumped storage hydropower unit with AC excitation
348	P-107	Chuiyi Kong, Shuang Wang	Temperature Rise Analysis of High Power Density Permanent Magnet Motor Based on Fluid-solid Coupling
459	P-108	Peng Zhou, Haiping Xu, Tao Guan, Wei Liu	Harmonic Current Compensation of PMSM Based on Disturbance Observer and Robustness Analysis
544	P-109	Yufei Wang, Yinghong Wen	Electromagnetic Emission of Maglev Vehicle by Linear Synchronous Motor
614	P-110	Weiqiang Yao, Wei Bao, Shan-shan Shi, Yin Xu, Sijia Wang, Xiangyu Wu	Comparison of Performances between Angle Droop Control and Frequency Droop Control in Microgrids

Article ID	Poster ID	Authors	Title
642	P-111	Tao Wu,Huan Xie,Fen Tang,Pengfei Chen,Jinsheng Yang,Shanying Li,Xuezhi Wu	Modeling and Control of Variable Speed DFIG Pumped Storage Turbine Based on RTDS
658	P-112	Huang Qi, Luo Ling,Zhu Liwei	Design and Research of Axial Flux Permanent Magnet Motor for Electric Vehicle
668	P-113	Zhichao Lin, Busheng Luo, Zhijian Song	A risk evaluation method to voltage sag considering the process immunity time of industry consumer
702	P-114	Yali Liu, Xiaohui Hu, Jinbing Lv	The New Methods for Calculating Voltage Sag Energy in Three-phase System
61	P-115	Xian Gao, Yibo Wang	Voltage Control of Rural Grid with High Proportion of Residential PV plants
78	P-116	CAO Xueming, Huang Jian, Jiang Jun	Safety analysis of power-battery-equipped traction system for urban rail transit
93	P-117	Mengyao Zhang, Mingxing Guo, Ruanming Huang, Rong Ye, Yan Li, Da Shen, Lingwen Wang	Analysis of Power Characteristics of the Offshore Floating Wind Turbine Based on the Tension Leg Platform
106	P-118	Hu Hong, Wei Hua, Zhang Le	A Unit Commitment Model with Demand Response Considering Nuclear Power Participation in Peak Load Regulation
113	P-119	Danyang Lv, Jianwen Ren, Xiangcheng Zhang, Xu Tian, Ping Ji, Xin Zhang	Units Recombination Method Under New Energy Permeability Change
130	P-120	Liwei Du, Xun Ma, Zuming Liu, Benqian Qin, Xiaojuan Zhong, Taixiang Zhao	Comparison of Various Tracking Modes on Improvement of PV Power Generation System
134	P-121	Haiyu Huang, Baofeng Jiang, Huaqiang Xiong, Shaolian Xia, Yanjun Cheng, Chunming Wang	Research on Trading Mechanism and Safety Checking Mechanism of Trans-provincial Peak-shaving Auxiliary Service
147	P-122	Feng Yin, Puzhi Zhao, Yue Wang, Zhuocheng Li, Yang Wang, Xianyong Xiao	Coordinated central and local voltage control in low voltage distribution network with photovoltaic generation
150	P-123	Xiaoguang QI, Rui LIU, Haidong ZHAO, Jiakun AN, Peng XI, Hua SHAO, Ying WANG, Zhang ZHANG, Qianmao ZHANG	Comprehensive planning method of new energy considering multi-type and different grid-connected modes

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231	P-125	Jinye Xiang, Dezhi Chen, Mingyu Yang, Jie Zhou, Ruihao Jiao, Ye Yuan, Lixin Li, Hang Meng	The Impact of Wind Power in Wind-Thermal Hybrid Centralized Transmission on Transient Angle Stability of Power System
251	P-126	Zhu Jianhua, Zhao Zilong, Fan Guowei, Zhai Baoyu, Liu Zhen, Zhang Bin, Dong Xuetao, Xu Zhi, Li Kaixin, Zhao Qi, Li Mingxia, Wang Tingwang	Equivalent Inertia Evaluation Of Wind Farm Based On Stabilization Diagram
252	P-127	Jie Guo, Hong Li, Zheng Wang, Yin Lin, Daoshan Huang, Lijie Wang	The Model of Photovoltaic Power Short-Term Prediction Based on Dynamic Time Warping Algorithm of Partial Least Squares
293	P-128	Hu ZHANG, Liang ZHAO, Peipei PENG, Ning CHEN, Hualing HAN	Research on the Market Trading Model of Ancillary Services of Diversified Flexible Ramping
297	P-129	Liang Zhao, Yunfeng Tang, Ying Zhang	Coordinated Control of Active and Reactive Power of Distribution Network with Distributed Photovoltaic Based On Scene Analysis
310	P-130	Ying Chen, Yanfeng Meng, Shuju Hu	Inertial Coordinated Control Strategy of PMSG-Based Wind Energy Generation System
333	P-131	Na Yang, Bin Ye, Dashan Sun, Guoliang Wang, Li Liu, Xijun Ren	Stress Testing of Delaying Investment on Power Infrastructure in Context of Mixed Ownership Reform
340	P-132	Qinfei Sun, Ping Chen, Shuo Yang, Cheng Gong, Anqi Liang, Zhao Wang, Xianglong Li	Calculation Method for Incremental 'Coal to Electricity' Load and Corresponding Average Distribution Transformer Capacity
356	P-133	Yu Zhou, Yiyun Huang, Fei Guo, Haozhang Sun	Research on Resonant Frequency Feedback Control Strategy of EAST Fishtail Divertor Magnet Coil Power Supply
386	P-134	Xinfu Song, Chao Zheng, Yijun Chen, Zhongping Yu, Sizhuo Lv	Study on the Influence of Large-Scaled Photovoltaic Grid-Connected on the Transient Stability and Countermeasures
391	P-135	Qian Zhu, Fei Chang, Zhen-dong Zang, Zhanwang Li, Wenbao Xv, Bing Lv	Research on Effective Location of Energy Storage in High-Permeability Photovoltaic Distribution Network



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392	P-136	Hui Sun, Changqiang Ding, Shubo Hu, Wei Zhou	Optimal Dispatch of Integrated Electricity and Natural Gas Energy Systems with Long-Distance Pipeline Networks
393	P-137	Yang Cui, Siyu Huang, Huiquan Zhang, Hongbo Li	Scheduling of Fully Renewable Energy Systems with CSP Plants and Pumped Storage
414	P-138	Wentao Zhang, Xuna Liu, Shengyong Ye, Chuan Long, Bo Chen, Yuhong Zhang, Xuehai Lv, Jie Yang, Hongjun Gao	Modeling Transaction Behavior of Multiple Stakeholders Based on Interactive Cooperation in Distribution Network
417	P-139	Yu LIU, Jian YANG, Changming JIANG, Siqing NIU, Haoxing LI, Shuiping CHEN	Review on Met Mast Site Selection Methods in Grid-Connected Wind Farm
426	P-140	Shuiping Chen, Jian Yang, Yu Liu, Ke Tang, Peng Song	Evaluation and Improvement of Power Forecasting Indicators for Renewable Energy Stations
456	P-141	Shilei Guan, Changkai Shi, Jie Chen, Jinwei Fu, Haotian Gao, Tong Shu, Junjie Tang	Probabilistic Short Circuit Analysis on Zero-sequence Current in Single-phase Grounding Faults
533	P-142	Jiaoru Song, Lian Suo	Optimal energy for grid-connected microgrid with battery swapping station and wind photovoltaic and energy storage
536	P-143	Wei Wei, Shaowei Huang, Huizhe Guan, Ruihao Su, Hang Fan, Xinwei Sun, Lijie Ding	Parameter Identification of Photovoltaic Power Plant Based on Data Dimension Reduction
615	P-144	Tiantian Yang, Wenzhong Gao, Fang Zhang	Summary of Research on Power Boosting Technology of Distributed Mobile Energy Storage Charging Piles
619	P-145	Qiuchen Yun, Wenzhong Gao, Fang Zhang, Lin Cheng, Liting Tian	Optimization of operation strategy of virtual power plants involved in peak shaving
622	P-146	Bin Zhu, Xingzhe Hou, Hongliang Sun, Ke Zheng	Optimal allocation scheme of energy storage capacity of charging pile based on power-boosting
632	P-147	Rui Li, Haixu Song, Su Su	Study on Business Model of Virtual Power Plant based on Osterwalder Business Model Canvas

Article ID	Poster ID	Authors	Title
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645	P-149	Shu Wang, Ju Hu, Chen Lv, Zhouyang Ren,Zongpeng Song	Fine resolution 30-year climatic wind energy dataset over China for renewable energy assessment and operation via Weather Research and Forecasting model hindcast
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## Tutorial

Time: 14:00-17:00, Sep.7

Venue: Shandong Meeting Room, Hotel Nikko New Century Beijing

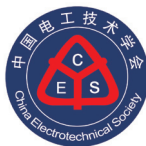
## Chair



**Mingchao Xia**

Professor of Beijing Jiaotong University

Time	Tutorial
14:00-15:00	Evolution of Control Centers <b>Anjan Bose</b> <i>Professor of Washington State University</i>
15:00-16:00	Modeling Renewable Resources for Transient Stability Analysis <b>Vijay Vittal</b> <i>Professor of Arizona State University</i>
16:00-17:00	Control and Protection in Microgrids <b>Ali Mehrizi-Sani</b> <i>Associate Professor of Virginia Tech</i>



## China Electrotechnical Society 中国电工技术学会

CES Founded in 1981, China Electrotechnical Society(CES) is the leading academic, non profitable national society of Electrical Engineering.

With over 50,000 individual members including 2,100 senior members, more than 1500 group members, 8 working committees, 56 technical divisions and 17 provinces and municipality's sections, CES has set up a high-end academic exchange platform for Scientific researchers, experts, technicians, enterprise managers who are engaged in the field of Electrical Engineering. The Main Activities of CES are:

Host academic conference; Pubication; Education and Accreditation

Science popuarization; CES Science & Technoogy Reward and other rewards works

Reease the standards ; Exhibition; Consuting

The headquarter of CES is located in Beijing and executed the resolutions carry by the council of CES. The National Members Congress (NMC) is the highest leadership organizations of CES and the Council and the standing council is as the governing body of CES. There are 187 elected directors and 57 elected executive directors including 8 academicians in the newest Council (the 8th) of CES.

To foster technological innovation, to advocate open, equal and mutually beneficial cooperation and to provide a full range of services to our members is the core purpose of CES.

China Electrotechnical Society  
Add: 10th Floor, Tianlian Building, No.102 Lianhuachi  
East Road, Xicheng District, Beijing, 100055, China

Tel: (86 10) 632 568 57  
Fax:(86 10) 632 568 08  
Website: [www.ces.org.cn](http://www.ces.org.cn)



## The School of Electrical Engineering, Beijing Jiaotong University

### 北京交通大学电气工程学院



The School of Electrical Engineering, Beijing Jiaotong University, includes the Department of Electric Power Engineering, Department of Electric Drive & Control Engineering, Institute of Renewable Energy, Institute of Power Electronics and Electric Traction, Institute of Electric Machinery & Apparatus, Institute of Traction Power Supply, School of

Renewable Energy, National Active Distribution Network Technology Research Center, Electrotechnics & Electronics Teaching Center, and Electrical Engineering Laboratories Center, etc.

The School is able to grant bachelor, master and doctoral degree and nurture professional talents. Every year the school will recruit more than 340 undergraduates, 260 master graduates, and more than 40 doctoral candidates. There are 162 staff members in the school, including 3 foreign professors, 36 professors, 55 associate professors, 28 lecturers, 34 PhD supervisors and 93 Master tutors. 78% of all teachers have a doctorate. During the Twelfth 5-year period, there are over 700 new scientific research projects and the total funds sum up to about 420 million.

The School has taken the lead in “111 plan” to build the base of Overseas Expertise Introduction Project—Innovative Intelligence Base for Big Data Analysis of Active Power Distribution and Processing. The School has widely established cooperative relationship with many universities and industries in countries such as the United States, the United Kingdom, Canada, Greece, Denmark, Japan, Belgium, the Czech Republic and other countries. An international cooperation laboratory—Rockwell Automation Lab of Beijing Jiaotong University was set up and a number of famous foreign scholars were invited as adjunct professors or honorary professors to teach and lecture. Each year the School will select outstanding undergraduate and graduate students to study abroad, jointly training them with renowned overseas universities.



**International School of Renewable Energy,  
Beijing Jiaotong University  
北京交通大学新能源国际学院**



International School of Renewable Energy was jointly established by the Chinese State Administration for Foreign

Expert Affairs, the Chinese Ministry of Education, and Beijing Jiaotong University in November 2015. It is one of only a handful national "International Demonstration Schools" selected through a rigorous and competitive process in China over the past several years. Its current research directions include renewable generation systems, integration of renewable energy, and economics and environment regulation and policies.

Since its establishment, the School has recruited 5 full-time and more than 20 part-time professors from top overseas universities. The inaugural class began in September 2016. All major courses are taught in English. Every year the School will recruit about 60 undergraduate students and 30 graduate students. Offering cutting-edge research opportunities and bachelor, master, and doctoral degrees, the School established broad and stable connection and cooperation with many world-wide renowned aims at building a base of world-class research and talent in the field of renewable energy.



**The Specialty Committee of Clean Energy Equipment &  
Cooling Technology  
China Society for Hydropower Engineering**

**中国水力发电工程学会  
清洁能源装备冷却技术专委会**

The Specialty Committee of Clean Energy Equipment & Cooling Technology, China Society for Hydropower Engineering, was reviewed and established in 2018 through the Fifth Session of the Eighth Standing Council by China Society for Hydropower Engineering (CSHE). The committee is affiliated to the Institute of Electrical Engineering of the Chinese Academy of Sciences. After recruitment and registration, there are 39 domestic companies which are engaged in all aspects of clean energy equipment project investment, complete sets of equipment manufacturing, cooling technology researching, designing and consulting, related equipment development and manufacturing. The special committee currently has one honorary chairman, one chairman, five deputy directors, one secretary-general, one vice secretary-general and 27 members. At present, the main work of the special committee includes: organizing research on the development of disciplines in this major; organizing academic exchanges, product launches, popular science activities, technical consultations and technical training activities around clean energy equipment cooling technology and supporting equipment; erecting the bridge between technology and products, and that between technology and industrial applications; disseminating scientific methods, promoting advanced technologies, and facilitating technology exchanges and corporate cooperation.

The establishment of the Specialty Committee of Clean Energy Equipment & Cooling Technology, China Society for Hydropower Engineering has established a platform for technology exchanges, resource sharing, and collaborative development of industry, academia and research for clean energy equipment development, cooling technology research and equipment R&D and manufacturing. We warmly welcome the relevant units and scientists to participate in activities of the special committee.

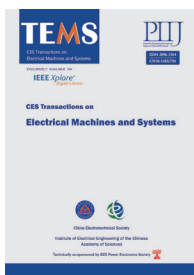
Address: No.6 Beiertiao, Zhongguancun, Beijing, China

Tel: 86-10-82547099

Email: [coolingtech@yeah.net](mailto:coolingtech@yeah.net)



WeChat Official Account



CES Transactions on Electrical Machines and Systems (CES TEMS, former JICEMS) is an international journal, which is quarterly published by the China Electrotechnical Society (CES) and the Institute of Electrical Engineering of the Chinese Academy of Sciences (IEE CAS), and technically co-sponsored by IEEE Power Electronics Society (IEEE PELS), starting from March 2017.

## The topics of CES TEMS include but not limited to: design, implementation and integration of

- *high performance electric machines*
- *motor drives*
- *power electronics and its applications*
- *efficient energy conversion*
- *motion control and servo systems*
- *photovoltaic power generation*
- *wind power*
- *reliability and fault diagnosis*
- *magnetic field analysis*
- *new material applications*
- *electromagnetic compatibility*
- *electrification of transportation*

All manuscripts should be submitted through the CES TEMS Manuscript Central at <https://mc03.manuscriptcentral.com/tems> or at the Journal's website and details of submission guideline and the template can be found at: [www.cestems.org](http://www.cestems.org)

The CES TEMS is an open-access journal. All submitted papers will be peer-reviewed by 3 independent reviewers and the published papers will be included in the IEEE Xplore. Inclusion in other globally recognized database such as the Web of Science (SCI) is under arrangement.

CES TEMS aims at establishing a high-level academic communication platform to present the latest R & D achievements in the fields of electrical machines and systems in a timely fashion, and to attract the relevant researchers and professionals from all over the world to exchange technical information and experience.

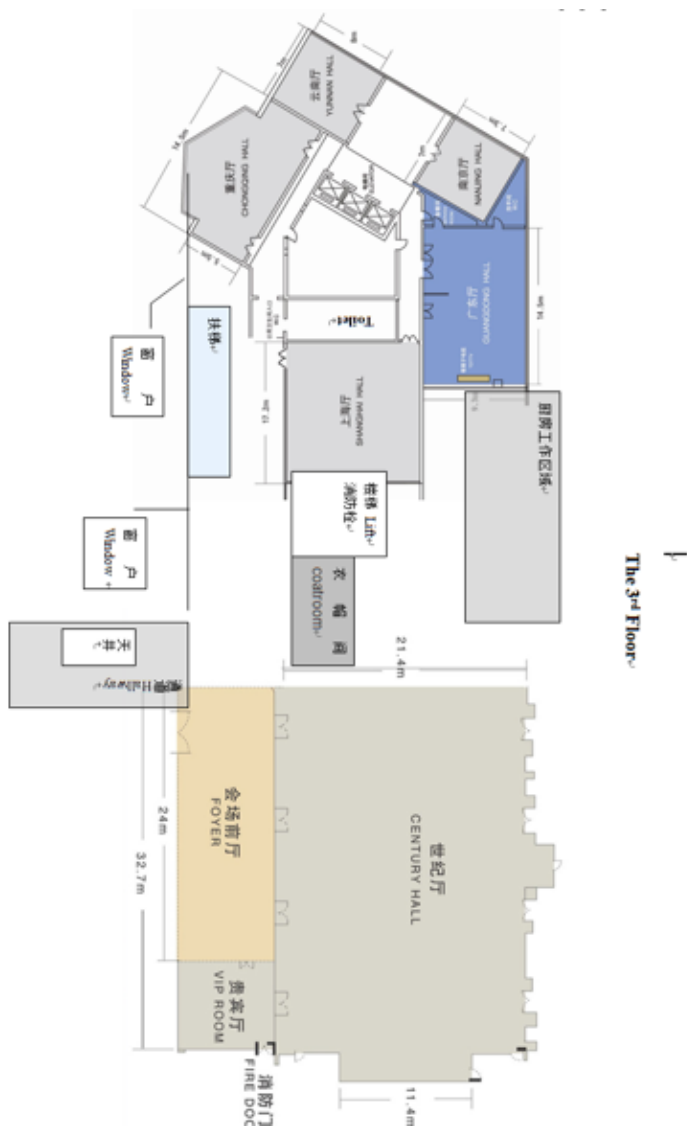
**Editorial department:** China Electrotechnical Society

**Add:** 10th Floor, Tianlian Building, No.102 Lianhuachi East Road, Xicheng District, Beijing, 100055, China

**Tel:** 8610-632 568 23 **E-mail:** [cestems@126.com](mailto:cestems@126.com) **Official Website:** <http://www.cestems.org>

The 2<sup>nd</sup> Floor







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