

2022 4th International Conference on Smart Power & Internet Energy Systems

October 27-30, 2022, Beijing, China



### **Honorary Chairs**

Prof. Chenghui Zhang, Shandong University, China Prof. Shengwei Mei, Tsinghua University, China

#### **General Chair**

Prof. Hua Geng, Tsinghua University, China

#### General Co-Chairs

Prof. Chaohong Bie, Xi'an Jiaotong University, China

Prof. Tianshu Bi, North China Electric Power University, China

Prof. Fei Gao, UTBM, France

Prof. Ahmed Massoud, Qatar University, Qatar

#### **Advisory Chairs**

Prof. Chengshan Wang, Tianjin University, China

Prof. S. M. Muyeen, Qatar University, Qatar

Prof. Mohamed Benbouzid, Brest University, France

# **International Steering Committees**

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Prof. Innocent Kamwa, Laval University, Canada

Prof. Marcelo G. Simoes, University of Vaasa, Finland

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ogy, New Zealand

#### **Technical Committee Chairs**

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Assoc. Prof. Elena Breaz, University of Technology of Belfort-Montbeliard, France

#### **Program Chairs**

Prof. Akshay Rathore, Singapore Institute of Technology, Singapore Prof. Dong Yue, Nanjing University of Posts and Telecommunications, China

# **Important Dates**

Submission Deadline	July 25, 2022
Notification of Acceptance/ Rejection	August 25, 2022
Registration Deadline	September 10, 2022
Conference Date	October 27-30, 2022

Prof. Wenchuan Wu, Tsinghua University, China Prof. Mei Su, Central South University, China Prof. Chunming Tu, Hunan University, China

#### **Special Session Chairs**

Prof. Xiong Du, Chongqing University, China

Prof. Chunxia Dou, Nanjing University of Posts and Telecommunications. China

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#### **Tutorial Chairs**

Prof. Xiaoming Zha, Wuhan University, China Prof. Alian Chen, Shandong University, China

Prof. Zhikang Shuai, Hunan University, China

#### **Award Chairs**

Prof. Jinjun Liu, Xi'an Jiaotong University, China

Prof. Hongchun Shu, Kunming University of Science and Technology, China

Prof. Wuhua Li, Zhejiang University, China

#### **Publicity Chairs**

Prof. Yongqian Liu, North China Electric Power University, China

Prof. Lei Lin, Huazhong University of Science and Technology, China

Prof. Hong Li, Beijing Jiaotong University, China Prof. Somporn Sirisumrannukul, King Mongkut's University of Technology North Bangkok, Thailand

### **About SPIES 2022**

2022 4th International Conference on Smart Power & Internet Energy Systems (SPIES 2022) will be held in Beijing, China on October 27–30, 2022.

The International Conference on Smart Power & Internet Energy Systems is one of the principal events for power and energy experts from academia, industry, utilities, power and energy service providers, researchers and scientists across the globe to exchange ideas and experiences on emerging and enabling technologies.



SPIES 2022 is co-sponsored by Tsinghua University, China and Shandong University, China. It is also technically co-sponsored by IEEE Industry Applications Society, IEEE Industrial Electronics Society and IEEE Power and Energy Society. And great supports also come from University of Vaasa, University of Technology of Belfort-Montbéliard, Changmai Unversity, Universite de Bretagne Occidentable, Auckland University of Technology, University of Nottingham Malaysia and Qatar University etc.

### **Publication**

The accepted and presented papers of the 2022 4th International Conference on Smart Power & Internet Energy Systems (SPIES2022) will be published in conference proceedings to be archived into IEEE Xplore® Digital Library, indexed by Ei Compendex, Scopus, INSPEC, Thomson Reuters' Web of Science, and others.

Some excellent papers (30%~40%) will be recommended to IEEE Transactions on Industry Applications, CSEE Journal of Power and Energy Systems, and Journal of Modern Power Systems and Clean Energy.

# **Plenary Speakers**

The conference organizing committee is delight to have secured some highly experienced, well known Plenary Speakers to deliver presentations.



Plenary Speaker I Prof. Yusheng XUE State Grid Electric Power Research Institute,



Plenary Speaker II Prof. Xiaohong Guan (IEEE Fellow) Xi'an Jiaotong University, China



Plenary Speaker III Prof. Kaushik Rajashekara (IEEE Fellow) University of Houston, USA



Plenary Speaker IV Prof. Leila Parsa (IEEE Fellow) University of California Santa Cruz, USA

# **Keynote Speakers**



Prof. Yang Shi (IEEE Fellow) University of Victoria, Canada



Prof. Jinjun Liu (IEEE Fellow) Xi'an Jiaotong University, China



Prof. Xinbo Ruan (IEEE Fellow) Nanjing University of Aeronautics and Astronautics (NUAA),



Prof. Badrul Chowdhury University of North Carolina at Charlotte (UNCC), North Carolina, USA



Prof. Innocent Kamwa (IEEE Fellow) Laval University, Canada



Prof Vladimir Terzija (IEEE Fellow) Skoltech, Moscow, Russia



Prof. Gianfranco Chicco (IEEE Fellow) Politecnico di Torino, Italy



Prof. Qiuve Sun (IET Fellow) Northeastern University in



Prof. Hong Li Beijing Jiaotong University, China













































# **Call for Papers:**

SPIES 2022 focuses on Smart Power & Internet Energy Systems in real engineering and scientific problems. Prospective authors are invited to submit papers on relevant Tracks including, but not limited to:

### Track 1: DC power transmission and DC power grid Chairs:

Chengyong Zhao, North China Electric Power University, China Jun Liang, Cardiff University, UK

## Track 2: Modeling and stability analysis of renewable energy system

Chairs:

Xiong Du, Chongging University, China Xiongfei Wang, Aalborg University, Denmark

### Track 3: Modeling and control of distributed energy sources Chairs:

Lantao Xing, Shandong University, China Yuemin Ding, University of Navarra, Spain Xiaogiang Guo, Yanshan University, China

Christian A. Rojas, Universidad Tecnica Federico Santa Maria, Chile

## Track 4: Design and control for electrical machines and drives

Chairs:

Wei Xu, Huazhong University of Science and Technology, China Chengming Zhang, Harbin Institute of Technology, China Md Rabiul Islam, University of Wollongong, Australia Mohamed Gamal Hussien, Tanta University, Egypt

#### Track 5: Power electronic device and its reliability Chairs:

Laili Wang, Xi'an Jiaotong University, China Li Ran, University of Warwick, UK

### Track 6: Topology and control of power converters Chairs:

Chunming Tu, Hunan University, China Yam Siwakoti, University of Technology Sydney, Australia Qi Guo, Hunan University, China

#### Track 7: Electromagnetic compatibility (EMC) technology Chairs:

Hong Li, Beijing Jiaotong University, China Zhenyu Zhao, Nanyang Technological University, Singapore Yitao Liu, Shenzhen University, China

# Track 8: Electrified transportation technology and applications

Chairs:

Zedong Zheng, Tsinghua University, China Wensheng Song, Southwest Jiaotong University, China Marek Jasinski, Warsaw University of Technology, Poland

#### Track 9: Energy storage technology and system Chairs:

Xiaosong Hu, Chongqing University, China Remus Teodorescu, Aalborg University, Denmark

## Track 10: Optimization and control of cyber-physical energy system

Chairs:

Zhanbo Xu, Xi'an Jiaotong University, China Lei Wu, Stevens Institute of Technology, USA

### Track 11: Electricity demand and marketing

Chairs:

Haiwang Zhong, Tsinghua University, China Qixin Chen, Tsinghua University, China Michael Davidson, University of California, San Diego, USA

# Track 12: Optimal management and control of smart grid

Chairs:

Qiuye Sun, Northeastern University, China Yushuai Li, University of Oslo, Norway Rui Wang, Northeastern University, China

# Track 13: Fault diagnosis and protection of power system

Chairs:

Guobing Song, Xi'an Jiaotong University, China Qiteng Hong, University of Strathclyde, UK

# Track 14: Energy internet and cyber resilience

Chairs:

Lei Ding, Nanjing University of Posts and Telecommunications, China

Yan Xu, Nanyang Technological University, Singapore

## Track15: Forecasting of renewable energy and power demand

Chairs:

Dazhi Yang, Harbin Institute of Technology, China Tao Hong, University of North Carolina at Charlotte, USA Yi Wang, The University of Hong Kong

# Track 16: High-voltage and insulation technology

Chairs:

Guoming Ma, North China Electric Power University, China Joseph YAN, University of Liverpool, UK Li Zhang, Shandong University, China

# Track 17: Modern power system: stability and control

Chair:

Lei Chen, Tsinghua University, China Kai Sun, University of Tennessee - Knoxville, USA

# Track 18: Artificial intelligence in power systems

Chairs:

Yi Tang, Southeast University, China Qiuhua Huang, Utili Data Inc., USA Yujian Ye, Southeast University, China

### **Contact Methods**



Conference Secretary:

Mr. Cheney Zhu and Ms. Amy Lu



E-mail: secretary@icspies.org

























































