

First Joint Technical Workshop of the IEEE Wuhan Section

Technical and Student Branch Chapters of the IA, IE, PE and PEL Societies

The joint technical annual workshop of IEEE IAS, IES, PES and PELS Wuhan Chapters was held on June 16, 2019 in the electrical building of Huazhong University of Science and Technology (HUST), Wuhan, China. The workshop invites leading international and domestic scholars to present and discuss the technological development trends and key academic challenges in the electrical field. The workshop is co-sponsored by HUST and IEEE Wuhan Section Technical and Student Branch Chapters of the IA, IE, PEL, PE societies.

The conference appealed more than 200 representatives from IEEE international organizations, scientific research institutions, systems and equipment enterprises to discuss hot academic issues, exchange new technologies and achievements, and jointly promote the development of systems and equipment under the new situation.

Conference Photos



Opening Ceremony



Brief Introduction of the Joint Conference: **Prof. Ronghai Qu.**



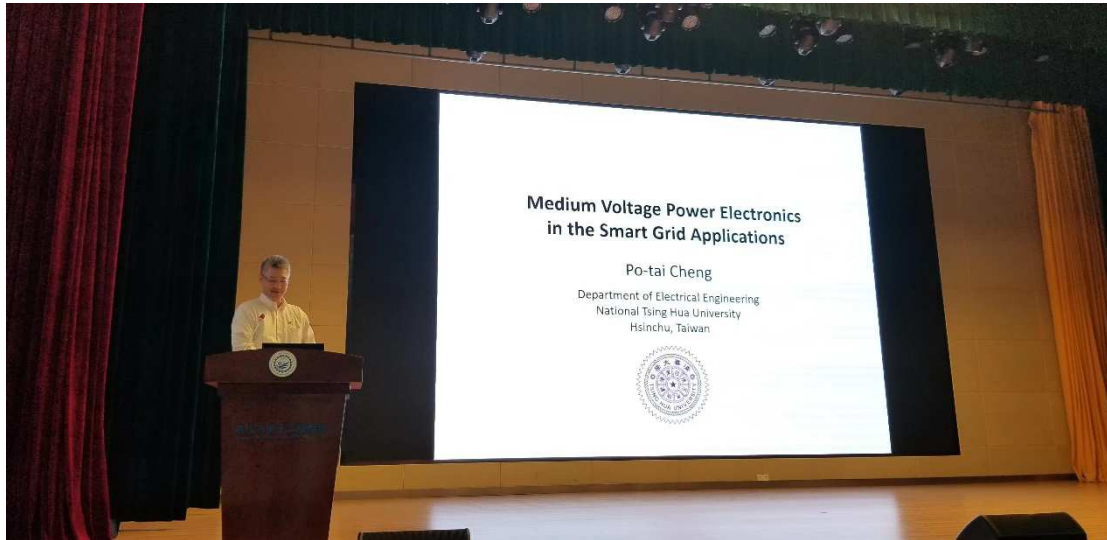
Welcome Speech, Official, Huazhong University of Science and Technology: **Prof. Jinyu Wen.**



IAS Welcome Address: **Dr.-ing. Peter Magyar.**



Welcome Speech by Chairs of IEEE IAS, IES, PES and PELS Wuhan chapters: **Prof. Ronghai Qu, Prof. Dong Jiang, Prof. Xia Chen (secretary) and Prof. Wei Xu.**



Keynote Speech: “Medium Voltage Power Electronics in Smart Grid Applications” by **Prof. Po-tai Cheng**.



Keynote Speech: “Technical Challenges to the Coming Era of Electronified Power Systems” by **Prof. Jinjun Liu**.



Question-and-answer portion of the presentation.



Special Report: "Potential Applications of Stator-Excited Brushless Machines" by **Prof. Wei Hua**.



Special Report: “Sensorless Control of Permanent Magnet Synchronous Motor Drives” by **Prof. Gaolin Wang**.



Special Report: “Topology and Control of Three/ Multilevel Converter” by **Prof. Yongdong Li**.



Center for Advanced Electrical Machines and Drives (CAEMD) Laboratory Visit.



Group photo for the first Joint Technical Workshop of the IEEE Wuhan Section

Workshop Chairs:

Prof. Shijie Cheng, Huazhong University of Science and Technology, China

Prof. Ronghai Qu, Huazhong University of Science and Technology, China

Chairman's Resume



Shijie Cheng (M'86-SM'87-F'11-LF'17) received his B.Sc. degree from Xi'an Jiaotong University, Xi'an, China, in 1967, the M.Eng. degree from Huazhong University of Science and Technology, Wuhan, China, in 1981, and the Ph.D. degree from the University of Calgary, Calgary, AB, Canada, in 1986, all in electrical engineering. He has been a Professor at HUST since 1991. His research interests are power system control, stability analysis, application of artificial intelligence, and energy storage. Prof. Cheng is a member of the Chinese Academy of Sciences and IEEE Fellow.



Ronghai Qu (S'01-M'02-SM'05-F'18) received his B.E. and M.S. degrees from Tsinghua University, Beijing, China, and the Ph.D. degree from University of Wisconsin-Madison, all in electrical engineering. He had been with the General Electric (GE) Global Research Center (GRC), Niskayuna, NY as a Senior Electrical Engineer from 2003 to 2010. He was the recipient of 11 GE GRC awards including EPST Technical Achievement Award and Management Award. In 2010 he joined Huazhong University of Science and Technology, Wuhan, China as a titled professor. He is currently the member of academic degrees committee, director of State and Province Joint Engineering Research Center of Novel Electrical Machines, director of Center for Advanced Electrical Machines and Drives (CAEMD), and deputy director of State Key Laboratory of Advanced Electromagnetic Engineering and Technology. He is an IEEE fellow, IAS Distinguished Lecturer (2019-2020) and the chair of IEEE Industry Application Society (IAS) Wuhan Chapter. His research interests include Design, Drive and Control of Electrical Machines. He has published over 300 technical papers including 7 IEEE award papers and holds over 100 patents.

Technical Committee Chairs:

Prof. Chengxiong Mao, Huazhong University of Science and Technology, China

Prof. Dong Jiang, Huazhong University of Science and Technology, China

Conference Agenda:

Opening ceremony:

- **Welcome Speech**
Prof. Jinyu Wen, Dean of School Electrical and Electronics Engineering, Huazhong University of Science and Technology
- **Welcome Speech**
Dr. Péter Magyar, Director of Chapter Development & CMD Past Chair, IEEE IAS
- **Welcome Speech**
Prof. Guilin Zheng, Chair, IEEE Wuhan section
- **Welcome Speech**
Chairs, IEEE IAS, IES, PES and PELS Wuhan chapters

Keynote speeches:

- **Medium Voltage Power Electronics in Smart Grid Applications**
- Prof. Po-tai Cheng from National Tsinghua University
- **Robust Design Optimization for High Quality Mass Production of Electrical Drive Systems**
- **Prof. Jianguo Zhu** from University of Sydney
- **Power Grid Resilience Enhancement through Networked Micro-grids**
- **Prof. Jianhui Wang** who is the editor-in-chief of the IEEE Trans. on Smart Grid
- **Technical Challenges to the Coming Era of Electronified Power Systems**
- **Prof. Jinjun Liu** from Xi'an Jiaotong University

Session A: Power Systems (Chair: Prof. Xia Chen)

- **Research on Integrated Energy System**
Prof. Hongjie Jia from Tianjin University
- **Resiliency Analysis and Evaluation of Grid-Connected Power Converter**
Prof. Xiaoming Zha from Wuhan University
- **Combined Analysis for Cyber-Physical Power Systems**
Prof. Qinglai Guo from Tsinghua University
- **Generalized Short-circuit Ratio of Multi-infeed Power Systems: from LCC-HVDC to Renewable Energy**
Prof. Huanhai Xin from Zhejiang University
- **Cooperative Converter Control of Broadband Oscillating in Wind Power System**

Prof. Jin Ma from North China Electric Power University

- **Multi-time Scale Transients of Power Electronized Power Systems**

Prof. Jiabing Hu from Huazhong University of Science and Technology

Session B: Power Electronics and Motor Drives (Chair: Wei Xu)

- **Potential Applications of Stator-Excited Brushless Machines**

Prof. Wei Hua from Southeast University

- **Sensorless Control of Permanent Magnet Synchronous Motor Drives**

Prof. Gaolin Wang from Harbin Institute of Technology

- **Application of SiC MOSFET for High Performance Power Conversion**

Prof. Jun Wang from Hunan University

- **Topology and Control of Three/ Multilevel Converter**

Prof. Yongdong Li from Tsinghua University

- **High Power Converters for Renewable Generation Integration into Medium Voltage DC Grids**

Prof. Kai Sun from Tsinghua University

- **Advanced Electrochemical Energy Storage**

Prof. Kai Jiang from Huazhong University of Science and Technology