

FEIAP ENGINEER OF THE YEAR AWARD 2022



Prof. Hongbin Sun is the Executive President of Taiyuan technology University, China; Chairman of Research Center of Energy Management and Control, Tsinghua University; Chairman of Academic Committee of Electrical Engineering Department, Tsinghua University; Member of Academic Committee of Tsinghua University; Deputy Chairman of Energy Committee of World Federal Engineering Organization (responsible for affairs in the Asian-Pacific region); Founding Chairman of IEEE PES Energy Internet Coordinating Committee; Deputy Chairman of CSEE Power System Automation Technical Committee; Deputy Chairman of CSEE Energy Internet Technical Committee; Deputy Chairman of Innovation and Entrepreneurship Education Steering Committee, Ministry of Education, China; Deputy Editor-in-chief of CSEE Journal of Power and Energy Systems; Founding Chairman of IEEE Conference on Energy Internet and Energy System Integration; Chairman of Lab of Smart Grid and Renewable Energy, Tsinghua-Berkeley-Shenzhen Institute; IEEE Fellow; IET Fellow; CSEE Fellow.

He is a pioneer of the system-wide automatic voltage control (AVC) for power grids in the world. In recent 25 years, He led the team at

Tsinghua University that developed the first commercial AVC system in the world, which has been widely applied and recognized as a milestone breakthrough in the global smart grid development. In China, 81% generation capacity of Fossil-fired/Hydro power plants and 56% generation capacity of Wind/PV farms have been close-looped controlled successfully by the innovative AVC, which made the operation of the China's power grid (the biggest power grid in the world) more reliable, more low-carbon, and more cost-effective. The innovative AVC has also been implemented in the control center of PJM interconnection, the largest regional power grid in USA. Thanks to his seminal contributions, AVC has become one of the fundamental wide-area control systems for power grids around the world. He is the inaugural recipient of Energy Internet Pioneer Award by IEEE Conference on Energy Internet and Energy System Integration, for his leadership contribution to promote development of Energy Internet in IEEE PES community. He established the Chinese Innovation and Entrepreneurship High Education Alliance as a founder in 2015, more than 200 universities in China became members of the alliance, which has been doing great contributions for Innovation and Entrepreneurship Education in China.

He has published more than 500 peer-reviewed papers and he is the co-author of a few professional books: "Energy Internet", "Automatic Voltage Control for Power Systems", "Master-Slave-Splitting Theory and Transmission-Distribution Coordinated Energy Management". His total Google citations is 17981, h-index is 66. He has been authorized more than 200 Chinese Patents and 30 US Patents.

He has won the First Prize of National Science and Technology Progress Award for successful development and applications of system-wide automatic voltage control system; won the Second Prize of China National Technology Innovation Award for successful development and applications of New Generation of Energy Management System for Modern Power Systems; won the First Prize of China National High Education Achievement Award for Constructing a Training Platform of Innovation and Entrepreneurship Education in China; won the First Prize of China National High Education Achievement Award for successful development of a series of Power System Courses in China.