

Special Session XIX

Special Session Basic Information:

专栏题目 Session Title	中文：“一带一路”沿线国家人工智能与可再生能源国际合作 英文：International Cooperation on Artificial Intelligence and Renewable Energy in Belt and Road Countries
专栏介绍和征稿主题 Introduction and topics	<p>中文：“一带一路”沿线国家拥有丰富的风能、太阳能等可再生资源；而中国在可再生能源发电系统控制、功率预测、人工智能算法等方面技术储备丰厚；通过国际合作可以带动相关国家技术与产业发展，同时推动中国相关产品、技术和标准出海应用，实现合作共赢。本次专题会议聚焦区域可再生能源系统设计方法；基于人工智能类方法的可再生能源发电预测；可再生能源系统健康检测与故障诊断；基于人工智能算法的可再生能源系统运行控制与调度；“一带一路”沿线国家国际合作成果介绍等内容，通过国际合作交流，促进人工智能与可再生能源前沿技术融合发展。</p> <ol style="list-style-type: none">1.区域可再生能源系统设计方法2.基于人工智能类方法的可再生能源发电预测3.可再生能源系统健康检测与故障诊断4.基于人工智能算法的可再生能源系统运行控制与调度5.“一带一路”沿线国家国际合作成果介绍 <p>Countries along the "Belt and Road" possess abundant renewable resources such as wind and solar energy; while China has a rich technical reserve in renewable energy power generation system control, power prediction, artificial intelligence algorithms, and other fields. Through international cooperation, it can drive the technological and industrial development of relevant countries, while promoting the overseas application of China's related products, technologies, and standards, achieving win-win cooperation. This special session focuses on regional renewable energy system design methods; renewable energy power generation prediction based on artificial intelligence methods; renewable energy system health detection and fault diagnosis; renewable energy system operation control and scheduling based on artificial intelligence algorithms; and introduction of international cooperation achievements in countries along the "Belt and Road". Through international cooperation and exchange, it promotes the integrated development of artificial intelligence and cutting-edge renewable energy technologies.</p> <ol style="list-style-type: none">1. Design method for regional renewable energy system2. Renewable energy generation forecasting based on artificial intelligence methods3. Health monitoring and fault diagnosis of renewable energy systems4. Operation control and scheduling of renewable energy systems based on artificial intelligence algorithms5. Introduction to the International Cooperation Achievements of Countries along the "Belt and Road"

Special Session Chair(s):


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Organizer's Brief Biography

中文：杨艳红，男，中国科学院电工研究所研究员，中国科学院青年创新促进会会员，IEEE PES 储能并网与运行技术委员会理事，中国电工技术学会交直流配电技术及装备专委会委员，国家科技部“中摩人工智能与可再生能源联合实验室”负责人，长期从事交直流电力系统运行控制、配用电理论、人工智能应用等方面的研究工作，发表SCI/EI学术论文60余篇，研究成果获得中国电工技术学会科技进步一等奖1项，中国仿真学会技术发明一等奖1项，中国电工技术学会科技进步二等奖2项。

英文：Yanhong Yang, male, is a professor at the Institute of Electrical Engineering, Chinese Academy of Sciences, a member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences, a director of the IEEE PES Energy Storage Grid Connection and Operation Technology Committee, a member of the AC/DC Power Supply and Distribution Technology and Equipment Specialty Committee of the China Electrotechnical Society, and the head of the "China-Morocco Joint Laboratory for Artificial Intelligence and Renewable Energy" under the Ministry of Science and Technology. He has long been engaged in research on AC/DC power system operation control, power distribution and utilization theory, and artificial intelligence applications. He has published more than 60 SCI/EI academic papers, and his research achievements have won one first prize for scientific and technological progress from the China Electrotechnical Society, one first prize for technological invention from the China Simulation Society, and two second prizes for scientific and technological progress from the China Electrotechnical Society.

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Organizer's Brief Biography

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英文：Shiwei Xia, male, is an associate professor and doctoral supervisor at the School of Electrical and Electronic Engineering, North China Electric Power University. He is a senior member of the Chinese Society of Electrical Engineering and an IEEE senior member. He ranks among the top 2% of world scientists and has long been engaged in research on grid-connected control of new energy power generation, active distribution networks, and load demand-side response. He has presided over two general projects funded by the National Natural Science Foundation of China and published more than 140 academic papers, including nearly 60 SCI top-tier journal papers. His research has been widely cited in the field of new power system dispatch and operation at home and abroad. His research achievements have won the second prize of Hebei Provincial Science and Technology Progress Award, the second prize of the Power Science and Technology Progress Award of the Chinese Society of Electrical Engineering, and he was honored as an Outstanding Young Worker by the China Energy Research Society in 2022.

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Organizer's Brief Biography

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英文：Tianyi Xu, male, is a Senior Engineer and Master's Supervisor at the College of Computer Science, Tianjin University. He is a member of IEEE and CCF, and serves as an Executive Member of the CCF Technical Committees on Internet of Things, Internet, and Network and Data Communications. His main research interests include the Industrial Internet of Things, blockchain, natural language processing, and data mining. In recent years, he has published more than 50 papers in international journals and conferences, and has been granted multiple national invention patents and software copyrights. He has been awarded one project from the National Natural Science Foundation of China (NSFC), one sub-project of a Major Research Plan, and one project from the Natural Science Foundation of Tianjin, and has participated in several NSFC and national key R&D projects. He was awarded First Prize of Tianjin Municipal Science and Technology Progress Award in 2022.

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Organizer's Brief Biography

中文：张玉敏，女，硕士生导师，山东科技大学电气与自动化工程学院副教授，研究生导师，IEEE 会员，中国电机工程学会会员，中国电工技术学会委员，IEEE PES 中国区运行规划经济技术委员会大电网规划技术分委会委员。长期从事电力系统经济运行、综合能源低碳优化、电力市场和配电系统及其自动化等方面的研究工作。发表 SCI/EI 学术论文 70 余篇，中国知网高被引学者 TOP1%；研究成果获山东省优秀硕士学位论文指导教师 2 项、中国电工技术学会科技进步三等奖 1 项、山东电力科技进步二等奖 1 项、三等奖 1 项；山东省高层次人才服务工作中表现突出个人等荣誉称号。

英文： Yumin Zhang , female, is an associate professor and Master's Supervisor at the College of Electrical Engineering and Automation, Shandong University of Science and Technology, She is a member of IEEE, the Chinese Society of Electrical Engineering and the China Electrotechnical Society. She also serves as a member of the IEEE Power & Energy Society (PES) China Technical Committee on Power System Operation Planning and Economics, specifically within the Subcommittee on Large Power Grid Planning. She has long been engaged in research on power system economic operation, integrated energy systems and low-carbon optimization, electricity markets, as well as distribution systems and automation. She has published more than 70 SCI/EI academic papers and ranks among the top 1% of highly cited scholars on CNKI. Her research achievements have earned her multiple honors, including two recognitions as Outstanding Supervisor of Shandong Provincial Excellent Master's Theses, the Third Prize for Science and Technology Progress from the China Electrotechnical Society Award, the Second Prize and Third Prize for Shandong Electric Power Science and Technology Progress Award, and the distinction of Outstanding Individual in Shandong Province's High-Level Talent Service.