

Special Session VIII

Special Session Basic Information:

专栏题目 Session Title	中文：人工智能技术在电力市场中的应用 英文：Artificial Intelligence in Power Markets
专栏介绍和征稿主题 Introduction and topics	<p>全球能源系统正经历快速转型，电力市场结构日益复杂。随着新能源装机比例不断提升以及全国电力市场化程度加深，电力交易决策变得愈发复杂。人工智能技术，特别是时序大模型、深度学习和机器学习等，正成为应对这些挑战的关键工具。</p> <p>本专栏旨在汇聚全球研究人员、从业者和学者，共同探讨人工智能技术在电力市场领域的最新研究、实践应用和未来趋势。分会将重点关注人工智能在电力交易、市场预测、风险管理和政策影响等方面的创新解决方案，促进学术交流与产学研合作，推动电力市场智能化转型。</p> <p>征稿主题包括但不限于：</p> <ul style="list-style-type: none">• 人工智能驱动的电力市场预测技术• 人工智能在电力交易决策中的应用• 人工智能赋能电力市场风险管理• 人工智能模型在电力市场中的创新应用• 人工智能助理政策法规建设与能源治理 <p>The global energy system is undergoing a rapid transformation, with increasingly complex structures in electricity markets. As the proportion of installed renewable energy capacity continues to rise and the electricity market becomes more deeply commercialized nationwide, decision-making in electricity trading has grown increasingly intricate. Artificial intelligence technologies, particularly time-series large models, deep learning, and machine learning, are emerging as key tools to address these challenges.</p> <p>This session aims to bring together global researchers, practitioners, and scholars to explore the latest research, practical applications, and future trends of AI technologies in the electricity market. It will focus on innovative AI-driven solutions for electricity trading, market forecasting, risk management, and policy impacts, fostering academic exchange and industry-academia-research collaboration to promote the intelligent transformation of the electricity market.</p> <p>Topics of interest include, but are not limited to:</p> <ul style="list-style-type: none">• AI-driven forecasting technologies for electricity markets• Applications of AI in electricity trading decision-making• AI-enabled risk management in electricity markets• Innovative applications of AI models in electricity markets• AI-assisted policy and regulation development and energy governance

Special Session Chair(s):

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Organizer's Brief Biography

中文：季天瑶教授分别于 2003 年和 2006 年在西安交通大学获得双学士和硕士学位，于 2009 年在英国利物浦大学获得博士学位。2010 至 2011 年在利物浦大学担任副研究员，2012 年随千人计划吴青华教授团队至华南理工大学担任副教授。主要从事信号处理与人工智能及其在电力系统和电力市场中应用的科学研究工作，共发表 SCI 索引论文 100 余篇、EI 索引论文 130 余篇，参与撰写专著一本、双语对照教材两本，授权专利 20 余项，主持国家级科研项目 2 项、省部级项目 5 项。

英文：Prof. Tianyao Ji received BSc/BA and MSc degrees from Xi'an Jiaotong University in 2003 and 2006, respectively, and received a Ph.D. from University of Liverpool in 2009. From 2010 to 2011, she served as an associate researcher at University of Liverpool, and since 2012, has held positions as an associate professor and professor at South China University of Technology. Her research interests include signal processing and artificial intelligence, as well as their applications in power systems and electricity markets. To date, she has published over 100 SCI-indexed papers and more than 130 EI-indexed papers, contributed to one monograph and two textbooks, been granted over 20 patents, and led two national-level research projects and five provincial/ministerial-level projects.



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Organizer's Brief Biography

中文：戴思婷博士先后获得澳门大学经济学学士学位、美国纽约福特汉姆大学金融学硕士学位以及澳门城市大学金融学博士学位。现任广州城市理工学院教师。主要研究方向包括电力市场衍生品风险评估、可再生能源电力交易机制、中长期电力市场异常电价分析等。已发表多篇学术论文，研究内容涵盖电力市场保证金确定、氢能融合应用、光伏储能微电网商业模式等领域。此外，戴博士还担任澳门国际能源技术协会副秘书长，并积极参与产学研合作项目。

英文：Dr. Siting Dai received the Bachelor's degree in Economics from the University of Macau, Macau, China, the M.Sc. degree in Finance from Fordham University, New York, USA, and the Ph.D. degree in Finance from the City University of Macau, Macau, China. She is currently a faculty member at Guangzhou City University of Technology, Guangzhou, China. Dr. Dai's research focuses on risk assessment of electricity market derivatives, trading mechanisms for renewable energy-based electricity, and abnormal price analysis in medium-to-long-term power markets. She has published several papers, covering topics like electricity market margin determination, hydrogen energy integration, and business models for photovoltaic storage microgrids. In addition to her academic work, Dr. Dai serves as the Deputy Secretary-General of the Macau International Energy Technology Association and participates in industry-academia collaborations.