Special Session VI

Special Session Basic Information:

专栏题目 **Session Title**	中文：可再生能源电力系统的智能检测与辅助决策 英文：Intelligent Monitoring and Decision Support for Renewable-Integrated Power Systems

专栏介绍和征稿主题
Introduction and topics

中文：

本次主题旨在汇集可再生能源电力系统领域的前沿思想、创新与实践。主题深入探讨了智能检测技术的飞速发展，及其如何在可再生能源高比例接入的复杂环境下，为系统运行与管理提供关键的决策支持。核心在于研究传感器技术、人工智能、机器学习与大数据分析等领域的进步，如何革新电力系统对可再生能源发电的监测、预测、控制与维护方式。它着重强调了如何通过智能技术与决策流程的深度融合，有效应对可再生能源的波动性与不确定性，从而全面提升电网的可靠性、运行效率与可持续性。

征稿主题:

电力系统传感器技术进展
电力系统监测中的机器学习和人工智能
电网预测性维护的大数据分析
物联网在提升电力系统智能化中的作用
电网管理中的决策支持系统
智能电力系统中的网络安全挑战

英文：

The theme aims to convene cutting-edge ideas, innovations, and discussions in this critical field. This theme delves into the rapid advancement of intelligent monitoring technologies and their crucial role in facilitating informed decision-making for the management of power systems with high penetration of renewables. A central focus lies on exploring how progress in sensor technology, artificial intelligence, machine learning, and big data analytics is revolutionizing the monitoring, control, and maintenance of modern power systems. It emphasizes the integration of these technologies to enhance grid reliability, operational efficiency, and sustainability, particularly in addressing the challenges posed by the variability and uncertainty of renewable energy integration.

Keynote Topics:

Advances in Sensor Technologies for Power Systems.
Machine Learning and AI in Power System Monitoring.
Big Data Analytics for Predictive Maintenance in Power Grids.
The Role of IoT in Enhancing Power System Intelligence.
Decision Support Systems in Power Grid Management.
Cybersecurity Challenges in Intelligent Power Systems.

Special Session Chair(s):

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Organizer's Brief Biography

中文：教授，英国薄膜传感器影像研究所博士后，水电站动力设备专业负责人、能源与动力工程系主任，硕士研究生导师，“智能配电网测控与安全运行技术国家地方联合工程研究中心”核心成员。第四批“吉林省青年科技人才托举工程”被托举人，吉林省省域拔尖“D 类”人才，吉林省电工技术学会、吉林省仪器仪表学会会员。
主要研究方向为功能材料、光学薄膜、智能传感及其在能源电力领域的应用。近五年主持/参与科技部国家重点研发、国防科工委、吉林省科技厅重点研发、吉林省科协、国家电网技术开发等横纵项课题 20 余项，发表论文 40 余篇，授权发明专利 9 件，出版学术专著 3 部。

英文： Dr. Li is a Professor and Master's Supervisor at Changchun Institute of Technology, holding key positions including Head of Hydropower Station Power Equipment and Director of the Energy and Power Engineering Department. He is also a core member of the National-Local Joint Engineering Research Center for Intelligent Distribution Grid Monitoring, Control, and Secure Operation Technology.
His distinguished academic contributions have been recognized through several prestigious honors, including selection for the 4th Jilin Provincial Young Science and Technology Talent Support Program and designation as a Jilin Provincial Class D Distinguished Talented Professional. He is an active member of both the Jilin Provincial Electrotechnical Society and the Jilin Provincial Instrument and Instrumentation Society.
With a primary research focus on functional materials, optical thin films, and intelligent sensors, Dr. [Name] is dedicated to advancing their applications within the energy and power sector. Over the past five years, he has secured significant competitive funding, leading or participating in more than 20 national and provincial projects. These include initiatives from the Ministry of Science and Technology (National Key R&D Program), the National Defense Science and Technology Commission, the Jilin Provincial Department of Science and Technology, and the State Grid Corporation. His scholarly output is robust, comprising over 40 peer-reviewed publications, 9 authorized invention patents, and 3 academic monographs.

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Organizer's Brief Biography

中文：高级工程师。2011 年毕业于河海大学水动专业。先后发表论文 10 余篇，申请专利 12 项，申请软件著作权 10 项，申请公司科技立项 2 项，发表著作 3 部。获松辽委科技进步进步奖一、二等奖各 1 次，吉林省优秀工程设计三等奖 1 次；2019 年度中水东北公司模范员工 1 次；2015 年度省国资委优秀共青团员；国家能源集团（吉林公司）专家库成员；先后通过注册土木工程师（水工结构）、二级建造师（机电专业）的考试，并已完成注册。

英文： Senior Enginee, graduated from Hohai University, majoring in Hydrodynamics, in 2011. He has published over 10 papers, applied for 12 patents, and filed for 10 software copyrights. Additionally, he has applied for 2 company science and technology projects and published 3 works. He has been awarded the first and second prizes of the Science and Technology Progress Award of the Songliao Committee, and the third prize for Excellent Engineering Design in Jilin Province. In 2019, he was named Model Employee of China Water Northeastern Investigation Design & Research Co., Ltd., and in 2015, he was recognized as an Outstanding Communist Youth League Member of SASAC. He is a member of the National Energy Group (Jilin Company) expert database. He has passed the examinations for Registered Civil Engineer (Hydraulic Structure) and Grade II Construction Engineer (Mechanical and Electrical Major), and has completed registration.