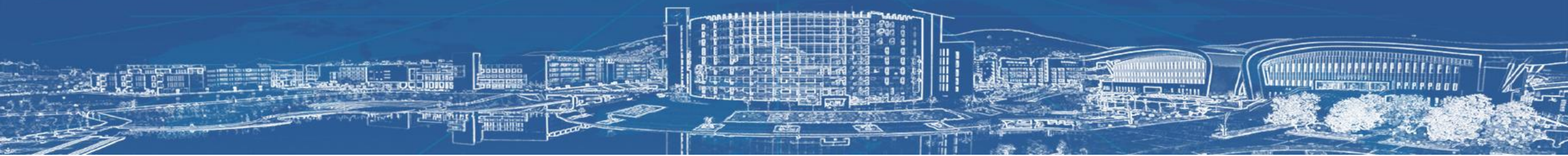
# 矿大全球讲坛—新能源与电驱系统控制技术

时间：2025年09月14日

线下报告：文昌校区教四楼101

欢迎全校师生参加！



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中国矿业大学 CHINA UNIVERSITY OF MINING AND TECHNOLOGY

| 报告人 | 时间 | 报告主题 | 报告简介 |
| --- | --- | --- | --- |
| Damir Žarko | 9：00-9：50 | Application of Conformal Mapping for Modelling of Electrical Machines | The lecture will explore the application in the context of permanent magnet electrical machines, focusing on the precise calculation of air gap flux density by mapping slot geometries, analysis of back EMF, cogging torque and electromagnetic torque, and analysis of saturated machines under load. The lecture will also introduce the concept of complex relative air gap permeance as a tool for calculating both radial and tangential field components in the air gap. |
| Damir Žarko | 9：55-10：45 | Development of an interior permanent magnet motor for a low-floor tram | The lecture will show the development process of an interior permanent magnet motor for the Končar TMK 2200 low-floor tram as a replacement for the existing induction motor, which has a 50 % higher torque with the same external dimensions of the motor, allowing the tram to be operated with four SMPMs instead of six induction motors. |

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| --- | --- | --- | --- |
| Yassen Gorbounov | 10：50-11：40 | Sequential Logic for Algorithm Implementation: From Memory Elements to State Machines | This presentation introduces the foundations of sequential logic design, bridging the gap between hardware building blocks and algorithmic control. . |
| Yassen Gorbounov | 14：00-14：50 | SystemVerilog for Advanced Verification: From Hardware Synthesis to UVM | This presentation presents advanced verification techniques for hardware design, highlighting SystemVerilog’s role in the digital design workflow. |

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| Škrjanc Igor | 14：55-15：45 | Evolving Fuzzy Systems for On-the-Edge Online Knowledge Acquisition and Decision Making, Part1 | Evolving fuzzy systems (eFSs) provide a powerful framework for online knowledge acquisition and decision making by continuously updating their structure and parameters in response to incoming data streams. eFSs can adapt to changing operating conditions, uncertainties, and previously unseen scenarios, making them highly suitable for real-time, resource-constrained environments. |
| Škrjanc Igor | 15：50-16：40 | Evolving Fuzzy Systems for On-the-Edge Online Knowledge Acquisition and Decision Making, Part2 | It presents recent advances in evolving fuzzy modeling, highlighting mechanisms for incremental structure evolution, handling of uncertainty, and transparent decision support. Application examples will illustrate how evolving fuzzy systems enhance adaptability and trustworthiness in domains such as control, prediction, and decision support. |

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## 报告专家简介：

Damir Žarko, 萨格勒布大学教授, 现任萨格勒布大学电气工程与计算学院终身教授（2022-至今），曾任克罗地亚国家研究项目“牵引应用先进电驱动系统”首席科学家，并主导欧盟“地热与太阳能职业技能培训联盟” 等国际合作项目。克罗地亚科学与艺术学院技术发展科学委员会委员。发表论文106篇，其中WoS核心期刊论文34篇，h指数23，连续入选斯坦福大学“全球前2%顶尖科学家”。

Yassen Gorbounov，新保加利亚大学教授、新保加利亚大学人工智能、机器人和嵌入式系统实验室主任，国际知名的电机故障诊断及其控制系统专家，对电机故障诊断及其智能控制进行了长年卓有成效的研究和开发，在电机系统故障诊断与寿命预测方面已积累了丰富的研究开发经验。

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## 报告专家简介：

Igor Škrjanc博士，教授，斯洛文尼亚国家科学院院士。斯洛文尼亚卢布尔亚那大学（University of Ljubljana）先进电机及其控制系统研究中心教授，斯洛文尼亚国家Zois研究奖获得者，IET Fellow、IEEE Senior Member，IEEE Transaction on Neural Networks and Learning System副主编和IEEE Transaction on Fuzzy Systems副主编。国际知名的电机先进设计与控制技术专家，西门子、ABB等欧洲工业界先进电机技术顾问。对感应电机、无刷直流电机和永磁同步电机先进设计理论和控制技术进行了长年卓有成效的研究和开发，拥有数十项国际专利，出版专著2本，在国际上已发表学术论文120余篇，曾获IEEE International Conference on Cybernetics最佳论文奖。特别是，建立了无刷直流电机多目标优化设计理论，掌握了其驱动系统自适应控制技术，处于国际领先地位，得到了欧盟政府、ABB公司、西门子公司等欧洲工业界的长期资助。

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## 承办单位：

中国矿业大学国际合作与交流处

新能源电动车技术与装备中东欧国家国际联合研究中心

江苏省外国专家工作室

江苏省高校新能源发电与电动车国际合作联合实验室

中国矿业大学电气工程学院

**欢迎全校师生参加！**