

**ICAIN-2025**  
**International Conference on Artificial**  
**Intelligence and Networking**

Organised by  
**University of Stirling - RAK Campus, UAE**

**10th - 11th October 2025**

**\*\*\*\*\* CALL FOR PAPERS \*\*\*\*\***

**SPECIAL SESSION ON**

Empowering the Future of Transportation: Innovations in Power Electronic Systems, Cyber Security, Artificial Intelligent Control for e-mobility

**SESSION ORGANIZERS:**

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**SESSION DESCRIPTION:**

The rapid development of electric mobility (e-mobility) is revolutionizing the transportation industry, driving a shift toward sustainable and intelligent systems. This special issue, *Empowering the Future of Transportation: Innovations in Power Electronic Systems, Cybersecurity, and Artificial Intelligence (AI) Control for E-Mobility*, explores cutting-edge advancements shaping the future of electric vehicles (EVs). Power electronic systems, cybersecurity, and AI control are crucial in enhancing the performance, efficiency, and safety of modern e-mobility solutions. The demand for cleaner, more energy-efficient transportation is growing as the world seeks to reduce carbon emissions and transition to renewable energy sources. Electric vehicles offer a promising solution, but their widespread adoption depends on overcoming challenges in energy management, safety, and autonomous functionality. Innovations in power electronic systems, robust cybersecurity for connected vehicles, and the integration of AI for smart control provide essential tools to meet these challenges and accelerate the transition to a sustainable transportation ecosystem.

**RECOMMENDED TOPICS:**

Topics to be discussed in this special session include (but are not limited to) the following:

1. **Advanced Power Electronic Systems for EVs:** High-efficiency converters, wide-bandgap semiconductors, and energy optimization.
2. **Cybersecurity in E-Mobility:** Threat detection, secure communication protocols, and cryptographic solutions for connected EVs and autonomous vehicles.
3. **AI-Based Control for Electric Vehicles:** Machine learning algorithms for energy management, autonomous

driving, and predictive maintenance.

4. **Battery Management Systems and Charging Technologies:** Intelligent battery management and fast-changing technologies to extend vehicle range and lifespan.
5. **Vehicle-to-Grid (V2G) Integration:** Power electronic solutions and AI-driven control for seamless integration of EVs with smart grids.
6. **Autonomous Driving Systems:** AI-driven navigation, obstacle detection, and real-time decision-making for autonomous and semi-autonomous vehicles.
7. **Cyber-Physical Systems in E-Mobility:** Secure integration of hardware and software systems for enhanced vehicle performance and security.
8. **Sustainability and Lifecycle Optimization:** Innovations that enhance the environmental sustainability of electric vehicles throughout their lifecycle.

#### **SUBMISSION PROCEDURE:**

Researchers and practitioners are invited to submit papers for this particular theme session on **Empowering the Future of Transportation: Innovations in Power Electronic Systems, Cyber Security, Artificial Intelligent Control for e-mobility ] on or before [30th May 2025]**. All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE CONFERENCE'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at <https://www.icain-conf.com/downloads>. All submitted papers will be reviewed on a double-blind, peer-review basis.

NOTE: While submitting a paper in this special session, please specify [Session Name] at the top (above paper title) of the first page of your paper.

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