



UNIVERSITI MALAYSIA PAHANG
AL-SULTAN ABDULLAH



AiGEV 2026

7th International Conference

AUTOMOTIVE INNOVATION & GREEN ENERGY VEHICLE

Theme : Scientific Innovation for Global Sustainability

PROGRAM BOOKLET

@The Ship Campus Penang
Malaysia



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AiGEV 2026

The 7th International Conference on Automotive Innovation & Green Energy Vehicle (AiGEV 2026) is a premier platform uniting researchers, engineers, and industry leaders to share breakthroughs in sustainable mobility, EV technology, and green energy solutions. Organized by AEC and UMPSA Advanced, the 2026 edition in Penang emphasizes innovation, collaboration, and practical pathways toward a greener automotive future.

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Steering Committee

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Dr. Noor Am Zura Binti Abdullah

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Professor Madya Ts. Dr. Mohamad Heerwan Bin Peeie

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Khairul Anuar Bin Rani

Proceeding and Journals Publication:

Professor Dr. Wan Azmi Bin Wan Hamzah (Head / Editor-in-Chief)

Professor Ir. Ts. Dr. Wan Sharuzi Bin Wan Harun

Professor Madya Dr. Ahmad Salihin Bin Samsudin

Professor Madya Dr. Mohamad Firdaus Bin Basrawi

Dr. Noor Am Zura Binti Abdullah

Dr. Juliana Binti Jumadi

EVENT TENTATIVE

Conference Day	2 September 2026 (Wednesday)
8:30 a.m. – 9:00 a.m.	Registration
9:00 a.m. – 9:15 a.m.	Arrival of VIPs
9:15 a.m. – 10:00 a.m.	Opening Ceremony • Singing Of National Anthem • Doa Recitation • Welcoming Speech By Ir. Ts. Dr. Muhammad Ikram Bin Mohd Rashid (Director Aec) • Montage Video Presentation • Opening Speech By Professor Dr. Mohd Hasbi Bin Ab Rahim (Assistant Deputy Vice-Chancellor Research & Innovation) • Presentation Of Appreciation Gift To The Keynote Speaker • Photo Session
10:00 a.m. – 10:30 a.m.	Morning Coffee Break
10:30 a.m. – 11:30 a.m.	Keynote Speaker 1 : Profesor Ir. Ts. Dr. Wan Sharuzi Bin Wan Harun
11:30 a.m. – 12:30 p.m.	Keynote Speaker 2 : Mr. Wong Sai Hoe
12:30 p.m. – 2:00 p.m.	Lunch
2:00 p.m. – 5:00 p.m.	Parallel Session
5:00 p.m. – 6:30 p.m.	Hi-Tea Networking Session

KEYNOTE SPEAKER #1



Academic Representative

Profesor Ir. Ts. Dr. Wan Sharuzi Bin Wan Harun
Professor, Faculty of Mechanical and Automotive Engineering
Technology,
Universiti Malaysia Pahang Al-Sultan Abdullah
(UMPSA)

Topic :

**'Beyond Intelligent Printing' Trustworthy AI +
Additive Manufacturing for Sustainable Electric Mobility**



Industry Representative

Mr. Wong Sai Hoe
Operation Manager
EV Plus Mobility Solutions Sdn Bhd

Topic :

**"Plugging into Reality: Commercializing R&D to
Solve Malaysia's EV Infrastructure Challenges"**

KEYNOTE SPEAKER #2

PRESENTATION SCHEDULE

Physical
2.00pm - 5.00pm
2 September 2026 (Wednesday)
Compass Room, Level 2
Ship Campus, Penang

Chairperson: Prof Madya Ts Dr Heerwan

2.00-2.10 pm	P-012	Three-dimensional root-locus screening of droop-assisted damping in photovoltaic virtual synchronous generators
2.10-2.20 pm	P-032	Comparative Performance Analysis of Power Management Circuits for Indoor Light Energy Harvesting Using Series and Parallel Amorphous Silicon Solar Panels
2.20-2.30 pm	P-016	Purification Of Ibuprofen Using Polylactic Acid (PLA) Membrane
2.30-2.40 pm	P-020	S-Version Finite Element Modeling of Fatigue Crack Propagation in AL7075-T6 Aluminum Alloy Structures
2.40-2.50 pm	P-014	Human-Centred Evaluation of Automotive Dashboard Interfaces: Effects of Layout and Brightness on Driver Visual Performance
2.50-3.00 pm	P-018	Comparative Performance Evaluation of Skyhook, PID and Sliding Mode Controllers for a 3-DOF Semi-Active Engine Mount System
3.00-3.10 pm	P-019	Driving Simulators in Road Safety Research: A Review of Equipment and Experimental Tasks

PRESENTATION SCHEDULE

Physical
2.00pm - 5.00pm
2 September 2026 (Wednesday)
Compass Room, Level 2
Ship Campus, Penang

Chairperson: Prof Madya Ts Dr Heerwan

3.10-3.20 pm	P-003	AI Based Prediction of Properties in Sintered Hybrid $\text{Ti}_3\text{C}_2\text{T}_x$ MXene/Cr Reinforced Al Nanocomposites for High Efficiency Thermal Energy Systems
3.20-3.30 pm	P-015	Performance and thermal comparison of converted electric vehicle using continuous variable transmission on GT-Suite
3.30-3.40 pm	P-029	A Certification Readiness Framework for AC Wallbox EV Chargers: Integrating IEC Compliance with SIRIM Product Approval in Malaysia
3.40-3.50 pm	P-030	Developing a Framework for Integrating Malaysian User Preferences into Sustainable Electric Vehicle Design
3.50-4.00 pm	P-031	Range-Extended Electric Vehicles as a Bridging Technology: Market Trends, Technology, and Policy
4.00-4.10 pm	P-033	Experimental assessment of charge-discharge heat generation in a cylindrical sodium-ion battery

PRESENTATION SCHEDULE

Online
2.00pm – 5.00pm
2 September 2026 (Wednesday)

Chairperson: Dr Ahmad Faizrin Fuzlin

2.00–2.15 pm	IS-001	Effect of ZnO Nanoparticle Loading on cmc–Ammonium Thiocyanate Bioplastic Films for Sustainable Applications
2.15–2.30 pm	IS-002	Design and Development of an Image Acquisition System for Predicting CPO Beta-Carotene Using Support Vector Regression Machine Learning
2.30–2.45 pm	IS-003	Development of Functional Materials for Dye-Sensitized Solar Cells and Photocatalysis
2.45–3.00 pm	IS-004	Oligomer-Monomer Composition Studies of UV Curable Epoxidized Palm Oil Urethane Acrylate Bio-Coating
3.00 – 3.15 pm	IS-005	Understanding of Lithium-Ion Battery Failures through Material-Level Diagnostics
3.15 – 3.30 pm	IS-006	Investigation of Physical and Shielding Nature of Transition Metals–Bismuth–Tellurite Composites
3.30–3.40 pm	P-002	Influence of fluid transport on PEMFC performance
3.40–3.50 pm	P-007	Effect of Constrained Layer Damping on Drum Brake Noise and Vibration
3.50–4.00 pm	P-006	Effects of Center of Gravity In Vehicle Frontal Impact

PRESENTATION SCHEDULE

Online
2.00pm – 5.00pm
2 September 2026 (Wednesday)

Chairperson: Dr Ahmad Faizrin Fuzlin

4.00–4.10 pm	P-009	Modelling and Simulation of Biomass Gasification of Oil Palm Frond-Sugarcane Bagasse Pellets
4.10–4.20 pm	P-010	Analysis of a Sedan Structure In Multi-Vehicle Collisions Involving Two Heavy Duty Vehicles
4.20–4.30 pm	P-017	Renewable-Assisted Power Follower Control for Hybrid Amphibious Marine Vessel for Inter-Island Mobility
4.30–4.40 pm	P-021	Experimental Investigation of Al ₂ O ₃ – TiO ₂ /EG Hybrid Nano-coolant Performance and Formulation Effects for Automotive Engine Cooling Systems
4.40–4.50 pm	P-026	Humidity-Driven Ionic Conductivity Enhancement in PMMA-LiNO ₃ Gel Polymer Electrolytes for Sustainable Green Energy and Vehicle Applications
4.50–5.00 pm	P-027	Artificial Intelligence Driven Optimization for Integrated Electrical Hydrogen Energy System: An Overview



Organizer



**Centre for
Automotive Engineering**
Pusat Kejuruteraan Automotif

Event Manager

**UMPSA
ADVANCED**

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