



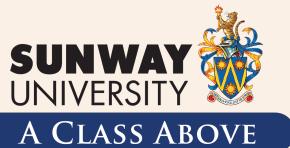
# International Conference on Engineering and Advanced Technology 2025

23<sup>rd</sup> – 24<sup>th</sup> July 2025

## Sponsor



## Organizers



## Partners



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## Sponsors, Organizers, and Partners

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### Sponsors

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Ministry of High Education and Scientific Research, Iraq



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### Organizers

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University of Al-Qadisiyah, Iraq



Sunway University, Malaysia



## Sponsors, Organizers, and Partners

### **Partners**

University of Mosul, Iraq



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Technology, Dubai



Warith Foundation for Technical  
Education, Iraq



Iraqi Engineers Union, Iraq



University of Kufa, Iraq



## Conference Programme

### Day 1 (23<sup>rd</sup> July 2025)

9:00	Registration & Breakfast
9:30	Keynote Address <b>Advanced Materials for energy storage and heat transfer applications</b> Prof. Dr. Saidur Rahman
10:30	Session 1 <b>Toward 2035: Renewable Energy Innovations Transforming Our Future</b>
11:45	Lunch Time
13:00	Session 2 <b>Revolutionizing Concrete: From Self-Healing to 3D</b>
14:30	Session 3 <b>Smart Computing Solutions: Engineering Tomorrow Today</b>
17:00	End of Day 1

### Day 2 (24<sup>th</sup> July 2025)

9:00	Networking Coffee
9:30	Keynote Address <b>Advanced Technology Vehicles</b>
10:30	Session 1 <b>Energy Innovation: From Academia to Industry</b>

## Conference Programme

11:45	Lunch Time
13:00	Session 2 <b>Solar Innovation: Powering Sustainable Energy Solutions</b>
14:30	Workshop and Closing Panel <b>Engineering Innovation: From Control to Creativity</b>
17:00	End of Day 2

## Technical Sessions

### Technical Session 1

### **Functional Materials and Nanotechnology in Chemical Engineering**

Chaired by **Professor Nishanth Gopalakrishnan Chemmangattuvalappil**

23 July, 2025 from 10:00 to 12:30

10:00	Paper ID 20 Improving The Properties Of Thermoplastic Materials Using Polyester Resin With Nanoparticles: The State-Of-The-Art
10:15	Paper ID 45 A Review of Novel Nanocomposite Adsorbents for Ultra-Deep Desulfurization of Diesel Fuel: Recent Advances and Future Perspectives
10:30	Paper ID 117 A Metal-Free Electrocatalyst for Efficient Hydrogen Production
10:45	Paper ID 119 Impact of Nanomaterials Concentrations on the Stress-Strain Behavior and Elastic Modulus of Resin Coatings under an Applied Load
11:00	Paper ID 130 Optimization of CO <sub>2</sub> -Assisted Gravity Drainage Operational Parameters: Insights from a 2D Hele-Shaw Model
11:30	Paper ID 163 Drilling Fluid Enhancement via Nanoparticle Addition
11:45	Paper ID 168 Characterization and Properties of Reaction Majnoon Field rock stone with Carbon Dioxide

## Technical Sessions

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- 12:00 Paper ID 175  
Advanced Multiple Sclerosis Data Analysis Using Intensity-Guided Skull Removal and Level Set Method for Enhanced Accuracy
- 12:15 Paper ID 205  
A comprehensive overview of carbon dioxide separation technologies for post-combustion capture

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### Technical Session 2

#### **Intelligent Power and Communication Systems for Smart Infrastructure**

Chaired by **Ts. Dr Nor Akmar Mohd Yahya**  
23 July, 2025 from 10:00 to 12:45

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- 10:00 Paper ID 8  
Three-Phase Seventeen-Level Cascaded Switched-Capacitor Multilevel Inverter for Grid-Connected PV Systems
- 10:15 Paper ID 177  
Safety-Oriented Design and Analysis of Dielectric Materials and Plate Geometry in Capacitive Wireless Power Transfer Systems
- 10:30 Paper ID 47  
Adaptive Algorithm for Transmission Images in 3D LTE Wireless Communication System Channel Based on MIMO-OFDM
- 10:45 Paper ID 108  
Advancements in Fault Location Techniques for Modern Electrical Power Systems: A Comprehensive Review and Future Directions
- 11:00 Paper ID 34  
A High-Performance, Low-Cost Solution for Enhancing Capacity in Urban 5G Small Cells

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### Technical Sessions

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11:30	Paper ID 166 Design and Implementation of a Reconfigurable Dual Band Low Noise Amplifier for Modern Receiving Systems
11:45	Paper ID 140 Enhancing Radiation for a Helical Linear Array Antennas at x-band
12:00	Paper ID 112 Band Pass Filter Utilizing a Stepped Impedance Resonator for Modern Wireless Communication System
12:15	Paper ID 29 Intelligent Power and Communication Systems for Smart Infrastructure
12:30	Paper ID 200 Bit Error Rate Analysis of Adaptive Modulation Techniques in Power Line Communication Channels

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### Technical Session 3 **Composite Materials, Structural Mechanics, and Manufacturing Innovations**

Chaired by **Assoc. Prof. Ir. Dr  
Sami Salama Hussen Hajjaj**

23 July, 2025 from 10:00 to 13:15

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10:00	Paper ID 170 A Review of Origami Structure According to Pattern, Manufacturing and Application
10:15	Paper ID 161 Study The Effect of Twin Wire Arc Spraying Parameters on Surface Properties of Stainless Steel
10:30	Paper ID 155 Buckling Analysis of Corrugated Plate Fuselage Under Uniform Pressure Loading Condition

## Technical Sessions

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10:45	Paper ID 154 An Analytical Review of Incremental Single Sheet Metal Forming Techniques
11:00	Paper ID 150 Numerical analysis of multi -layer composite under free vibration conditions
11:30	Paper ID 144 Effect of blades shape and duct geometrical parameters on Aerodynamic performance of a small-sized axial fan
11:45	Paper ID 132 Experimental and Computational Evaluation of Graphene-Enhanced Fiberglass/Polyester Nanocomposites
12:00	Paper ID 118 Development and Optimization of Recyclable GF-reinforced PLA Resin Composite for Renewable Energy Applications
12:15	Paper ID 120 Bibliometric Analysis on Smart Self-Healing Nanocoating for 316L Stainless Steel Biomedical Implants
12:30	Paper ID 109 Effect of Nano Silica Fillers on Dynamic Mechanical Performance and Accelerated Ageing Behavior of Carbon/Epoxy Composites
12:45	Paper ID 191 Designing a Structured Simulation and Project Based Learning Spine for Mechanical Engineering Education
13:00	Paper ID 213 Experimental Determination of the Influence of Perforation of Adherend to the adhesive bond strength

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**Technical Session 4**  
**AI-Driven Healthcare, Biometric Systems, and Smart Monitoring**

Chaired by **Dr Farrukh Hassan**

23 July, 2025 from 14:00 to 16:30

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14:00	Paper ID 68 Towards Accurate and Efficient Diagnosis of Celiac Disease Based Deep Learning Approach Using Biopsy Image Analysis
14:15	Paper ID 14 Design and Implementation of an IoT-Based System for Remote Monitoring of Vital Signs
14:30	Paper ID 106 Machine learning (ML) techniques for Prediction of Image-based Cell Phenotypes: A Review
14:45	Paper ID 114 Analyzing Power Plant Data Using Artificial Intelligence to Enhance Maintenance Strategy
15:00	Paper ID 180 Application of Kaplan Meier estimator model for validation of AURKC as an early biomarker for Kidney Cancer
15:30	Paper ID 92 Review paper: Deep Learning Based Biometric Recognition Model Using Finger and Palm Vein Images
16:00	Paper ID 25 SmartSARIMAX: An Advanced Model for Bandwidth Prediction in Data Networks
16:15	Paper ID 202 A Real-Time Fall Detection Framework using Vision Transformer and LSTM for Elderly People

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**Technical Session 5**  
**Mechanical Systems, Materials Engineering, and Thermal-Energy Applications**

Chaired by **Dr Shahrooz Eftekhari**

23 July, 2025 from 14:00 to 17:00

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14:00	Paper ID 82 PMMA/PEEKs/MFP Ternary Composites Mechanical /Morphological Assessment for dental application.
14:15	Paper ID 69 Corrosion Characterization of Al CrFe aAlloys Prepared by Using Powder Metallurgy
14:30	Paper ID 18 Surface Modification of Mg Alloys for Biomedical Applications Through the Electrospinning Process: A Review
14:45	Paper ID 105 Insights into Experimental and Numerical Evaluation of Liquid Desiccant Dehumidifier System Powered by Solar System
15:00	Paper ID 80 Investigation of the Effect of Layer Number and Plate Perforation on the Ballistic Performance of Armor: A Review
15:30	Paper ID 70 Numerical Investigation of Thermal - Hydraulic Performance of a Solar Air Heater Duct with transverse W-Shaped Rib Turbulators
15:45	Paper ID 50 Numerical Investigation about Diesel Engine Powered by Waste Plastic Oil Blends under Different Load and Engine Speed
16:00	Paper ID 31 Design and analysis of a planetary geared five-bar slider mechanism for generating long dwell periods

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## Technical Sessions

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|-------|--|
| 16:15 | Paper ID 36<br>Study of 3D-Printed Honeycomb Orientation on Vibration Energy Harvesting  |
| 16:30 | Paper ID 178<br>Numerical analysis of perforation steel plates impacted by blunt, conical, hemispherical, and spherical projectiles                      |
| 16:45 | Paper ID 203<br>Evaluation of Mechanical and Thermal Properties of a Reinforced Thermosetting Polymer with Glass Fiber and Multi-Walled Carbon Nanotubes |
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### Technical Session 6

#### **Smart and Sustainable Materials in Civil Infrastructure Engineering**

Chaired by **Ts. Dr Tan Tee How**

23 July, 2025 from 14:00 to 17:00

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|-------|---|
| 14:00 | Paper ID 96<br>Experimental Investigation of Energy Performance in Double-Glazed Windows Utilizing Air and Phase Change Materials                                     |
| 14:15 | Paper ID 100<br>Effect of Soil Density on the Seismic Response of a Circular Shallow Foundation Using PLAXIS Analysis   |
| 14:30 | Paper ID 137<br>The aesthetics of techniques in contemporary interior design (Kingdom of Jordan News Channel studio as a case study)                                  |
| 14:45 | Paper ID 148<br>Lead Removal from Water Using CTAB-Enhanced Nanosilica-Coated Sand Barrier under Continuous Flow: Experimental Study and Breakthrough Curve Modelling |

## Technical Sessions

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15:00	Paper ID 149 Spatial analysis of noise pollution in the College of Engineering/ University of Basrah using (GIS) technology
15:30	Paper ID 165 A State-of-the-Art Review of Glazed Fenestration Systems for Enhanced Thermal Performance and Solar Heat Gain Mitigation in Building Envelopes
15:45	Paper ID 169 Enhancement of wall insulation and reduction of heat gain in buildings by different ways: review
16:00	Paper ID 147 An analysis of the environmental impacts of electronic waste and important precautions
16:15	Paper ID 190 Reactive Powder Concrete Reinforced with Manufactured Fibers or Recycled from Waste Tire
16:30	Paper ID 192 Valorization of Dredged Sediments from Cameron Highlands Reservoirs: Characterization and Pollution Risk Assessment for Sustainable Construction Materials Recovery
16:45	Paper ID 212 Behaviour of Fibre-Reinforced Lightweight Self-Compacting Concrete Containing Recycled Brick Aggregate and Silica Fume

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**Technical Session 7  
Hydraulic and Urban Sys-  
tems in Civil Engineering**

Chaired by **Associate Professor Ir  
Dr Ali Najah Ahmed Al Mahfoodh**

23 July, 2025 from 14:00 to 16:30

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14:00	Paper ID 57 Structural Performance of High Strength Self-Compaction Concrete Beam with Perforated Steel Box Shear Connectors
14:15	Paper ID 131 Hydrodynamic Based Model to Simulate Water Quality in Kufa River, Iraq
14:30	Paper ID 133 Long Term Degradation of Tigris River at Al-Nuhairat Bridge Location
14:45	Paper ID 135 Experimental and numerical study of eco-friendly corbels under static loadin
15:00	Paper ID 167 Towards Sustainability in Urban Spaces: Evaluating Applied Architectural Ideas
15:30	Paper ID 173 A Trial to Illustrate the Dependent Values of Water Depths Downstream the Rectangular Gabion Weir
15:45	Paper ID 176 Development of a Curve Number Map for the Ali Al-Gharbi District, Southern Iraq, Using GIS
16:00	Paper ID 181 Future Forecasts Of Rainfall Utilising The LARS-WG And CMIP6 Models

Technical Sessions

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- 16:15 Paper ID 84  
Development of a Nano-Sand Reactive Barrier for Lead Extraction: Performance Assessment in Synthetic and Real Groundwater Conditions
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Technical Session 8  
**Sustainable Structural Systems and Materials in Civil Engineering**

Chaired by **Professor Ir Mo Kim Hung**

24 July, 2025 from 09:00 to 11:45

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- 09:00 Paper ID 55  
Structural Behavior of One-Way Reinforced SCC Slabs Made with a Variety of Recycled Aggregates under Repeated Load
- 09:15 Paper ID 61  
Mechanical Properties of Modified Porous Concrete incorporating Different Types of Lightweight Aggregate
- 09:30 Paper ID 46  
Flexural Behavior of Hybrid Concrete Tee Beams Reinforced with GFRP Bars
- 09:45 Paper ID 49  
Investigation the Efficacy of Steel Section Reinforcement in Hybrid Deep Beam Applications
- 10:00 Paper ID 11  
Enhancing Metakaolin Reactivity in Geopolymers: A Comprehensive Review of Key Influencing Parameters
- 10:30 Paper ID 138  
Behavior of Recycled Aggregate Concrete Slab–Column Connection Strengthened by NSM GFRP bars

## Technical Sessions

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10:45	Paper ID 183 Influence of steel plate on enhancing the punching strength of voided slabs
11:00	Paper ID 185 Laboratory Study on the Combined Effect of Novolac and SBS Polymers on the Physical and Mechanical Properties of Hot Mix Asphalt
11:15	Paper ID 195 Criteria for Evaluating the Performance of Government Projects
11:30	Paper ID 210 Development of Sustainable Fibre Reinforced High Strength Lightweight Concrete with Recycled Fine Aggregate and Silica Fume

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## **Technical Session 9 Biofuels, Catalysis, and Resource Recovery**

Chaired by **Ir Dr Yoon Li Wan**

24 July, 2025 from 09:00 to 11:45

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09:00	Paper ID 15 Pyrolysis of Local Oil Seed for Biodiesel Production: A Review
09:15	Paper ID 44 Catalytic Deoxygenation of Hydrolyzed Animal Fat-Derived Oil Using a Zeolite Catalyst
09:30	Paper ID 67 Enhancing Sulphur Removal from Iraqi Qayyarah Crude Oil through Glass Waste-Based Adsorption at Varied Temperatures and Contact Durations
09:45	Paper ID 77 Optimization of Thermal and Temporal Parameters in Ethanol-Assisted Soxhlet Extraction of Bioactive Drugs: A Kinetic Comparison of Eugenol and Caffeine

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## Technical Sessions

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10:00	Paper ID 89 Experimental Investigation and optimization for desulfurization of diesel fuel using microwave irradiation and activated carbon
10:30	Paper ID 94 Catalytic Deoxygenation of Hydrolyzed Oil of Beef Tallow over Lanthanum-Embedded HZSM-5 Zeolite Catalyst to Produce Biofuels
10:45	Paper ID 157 Synthesis and Characterization of Niobium promoted Ni/Mesoporous MCM-41 for potential application in steam reforming of glycerol using a fixed bed reactor
11:00	Paper ID 164 Elucidating CO <sub>2</sub> adsorptivity of Ni-Co-Y/MCM-41 as a potential pathway for CO <sub>2</sub> reforming of ethanol
11:15	Paper ID 189 Screening of hydrophilic deep eutectic solvents for ultrasound probe-assisted extraction of rosmarinic acid from salvia officinalis with high-performance liquid chromatography analysis
11:30	Paper ID 198 Efficient Glycerol Removal from Biodiesel Using Deep Eutectic Solvents Combined with Activated Carbon

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## Technical Session 10 **Environmental and Wastewater Treatment Technologies**

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Chaired by **Ir Dr Ayu Haslija Abu Bakar**  
24 July, 2025 from 09:00 to 12:00

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09:00	Paper ID 4 Ozone-Based Advanced Oxidation Processes for Dye Removal: A Brief Review
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## Technical Sessions

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- 09:15 Paper ID 13  
Treatment of petroleum refinery wastewater by advanced oxidation process (AOPs) Minireview
- 09:30 Paper ID 19  
Treatment of Petroleum refinery wastewater by electrooxidation using anode composed of composite materials
- 09:45 Paper ID 23  
Assessment of Photocatalytic Process using composite photocatalysts for COD reduction for Al-Dewaniyah Petroleum refinery wastewater: RSM
- 10:00 Paper ID 38  
Hydrodynamic Characteristics of Two-Phase Systems in Tapered Bubble Columns (TBCs)
- 10:30 Paper ID 73  
Equilibrium Analysis and Adsorptive Removal of Lead (Pb) by Activated Carbon Derived from Ceratophyllum demersum: Effect of Activation Methods
- 10:45 Paper ID 97  
Adsorptive desulphurization of model diesel by activated carbon loaded with Ni oxide nanoparticles prepared from local Iraqi pomegranate
- 11:00 Paper ID 115  
Modeling of the adsorption process of the organic pollutant from synthetic wastewater using different adsorbents
- 11:15 Paper ID 127  
Effective Removal of Amoxicillin from Medical Wastewater Using an Eco-Friendly Modification of a Walnut Shell as an Adsorbent
- 11:30 Paper ID 129  
A Review of Natural Clay Ceramic Membranes: Manufacturing Techniques and Implementations in Industrial and Municipal Wastewater Treatment

## Technical Sessions

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- 11:45 Paper ID 143  
Kinetic model of Lead (Pb) Adsorption by Raw and Carbonized Ceratophyllum demersum: Mechanisms and Rate Analysis"

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### Technical Session 11 **Mechatronics, Robotics, and Smart Automation Systems**

Chaired by **Dr Richard Wong Teck Ken**  
24 July, 2025 from 09:00 to 11:00

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- 09:00 Paper ID 93  
Evaluation and Enhancement of Solar Energy-Enabled Intelligent Structural Systems
- 09:15 Paper ID 87  
Investigation of IMU Motion Effects based on MPU 6050 Using a Dynamic Motion Testing Device
- 09:30 Paper ID 62  
Design and development of IoT on smart poultry farms to improve chicken health
- 09:45 Paper ID 64  
Designing a Robotic System for Efficient Exam Paper Distribution Using Multi-Sensor Technology
- 10:00 Paper ID 52  
AI-Based Control of Brushless DC Motors: A Practical Approach to Performance Enhancement
- 10:15 Paper ID 171  
Sensor Technologies for Mining Pipeline Inspection Robots: A Preliminary Review and Evaluation
- 10:30 Paper ID 28  
A Novel Coupled-Inductor Boost Converter with ANN Control for High Step-Up PV Systems

## Technical Sessions

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- 10:45 Paper ID 174  
Artificial Neural Network-Based Control of Vienna Rectifier for Power Factor Correction and Capacitor Voltage Balancing

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### Technical Session 12 **Smart Computing, IoT Systems, and Intelligent Infrastructure**

Chaired by **Dr Nor Hafizah Binti Mohamed Halip**  
24 July, 2025 from 09:00 to 11:45

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- 09:00 Paper ID 35  
Evolutionary Algorithms for IoT Service Selection: A Review
- 09:15 Paper ID 48  
Intelligent Control for Video Broadcasting in Flying Ad Hoc Networks: A Simulation Study
- 09:30 Paper ID 90  
Patient-Specific 3D-Printed Cutting and Repositioning Guide for Mandibular Tumor Resection: Surgical Design and Validation
- 09:45 Paper ID 113  
Swarm Intelligence in Modern Engineering A Comprehensive Review of Applications, Performance, and Emerging Trends
- 10:00 Paper ID 134  
Developing a smart air quality monitoring system using Internet of Things technologies to detect hydrogen sulfide, methane, and ozone gases
- 10:30 Paper ID 136  
Learning About Syndrome Awareness and WMS Algorithm for Adaptive Neural Decoding for 6G LDPC Base Graph Enhancement

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## Technical Sessions

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- 10:45 Paper ID 153  
Design and Implementation of a Low Cost IoT-Based System for Enhanced Visual Feedback, Alert Systems, and Server Environment Tracking
- 11:00 Paper ID 194  
Leveraging Augmented and Virtual Reality for Enhancing Eco-Literacy: A Study on Sustainable Green Education Using Immersive Technologies
- 11:15 Paper ID 197  
Automated Greenhouse Management System with IOT Integration
- 11:30 Paper ID 199  
Developing a program to track the performance of multiple projects using Earned Value and Scorecard technology

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### Technical Session 13

#### **Intelligent Systems, Cybersecurity, and Smart Infrastructure with AI**

Chaired by **Dr Farrukh Hassan**

24 July, 2025 from 09:00 to 10:30

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- 09:00 Paper ID 10  
Optimizing Operating Room Scheduling Using Artificial Bee Colony and Bat Algorithm: A Comparative Analysis
- 09:15 Paper ID 74  
A Multi-Kernel Convolutional Neural Network Model for Classifying Plant Leaf Diseases
- 09:30 Paper ID 104  
Machine Learning-Driven Meta surfaces for Adaptive 6G Beamforming in Dynamic Terahertz Channels
- 09:45 Paper ID 111  
Predicting Adult Income Utilizing Various Artificial Intelligence Models

## Technical Sessions

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10:00	 Paper ID 193 Leveraging AI for Customer Segmentation and Predictive Insights to Elevate E-Commerce Satisfaction
10:15	 Paper ID 201 PhisNet: Intelligent Detection of Phishing

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## Ordered by Paper ID

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Paper ID 4		Technical Session 10		09:00 - 09:15
Paper ID 8		Technical Session 2		10:00 - 10:15
Paper ID 10		Technical Session 13		09:00 - 09:15
Paper ID 11		Technical Session 8		10:00 - 10:15
Paper ID 13		Technical Session 10		09:15 - 09:30
Paper ID 14		Technical Session 4		14:15 - 14:30
Paper ID 15		Technical Session 9		09:00 - 09:15
Paper ID 18		Technical Session 5		14:30 - 14:45
Paper ID 19		Technical Session 10		09:30 - 09:45
Paper ID 20		Technical Session 1		10:00 - 10:15
Paper ID 23		Technical Session 10		09:45 - 10:00
Paper ID 25		Technical Session 4		16:00 - 16:15
Paper ID 28		Technical Session 11		10:30 - 10:45
Paper ID 29		Technical Session 2		12:15 - 12:30
Paper ID 31		Technical Session 5		16:00 - 16:15
Paper ID 34		Technical Session 2		11:00 - 11:15
Paper ID 35		Technical Session 12		09:00 - 09:15
Paper ID 36		Technical Session 5		16:15 - 16:30
Paper ID 38		Technical Session 10		10:00 - 10:15
Paper ID 44		Technical Session 9		09:15 - 09:30
Paper ID 45		Technical Session 1		10:15 - 10:30
Paper ID 46		Technical Session 8		09:30 - 09:45
Paper ID 47		Technical Session 2		10:30 - 10:45
Paper ID 48		Technical Session 12		09:15 - 09:30
Paper ID 49		Technical Session 8		09:45 - 10:00

## Technical Sessions

Paper ID 50	●	Technical Session 5	●	15:45 - 16:00
Paper ID 52	●	Technical Session 11	●	10:00 - 10:15
Paper ID 55	●	Technical Session 8	●	09:00 - 09:15
Paper ID 57	●	Technical Session 7	●	14:00 - 14:15
Paper ID 61	●	Technical Session 8	●	09:15 - 09:30
Paper ID 62	●	Technical Session 11	●	09:30 - 09:45
Paper ID 64	●	Technical Session 11	●	09:45 - 10:00
Paper ID 67	●	Technical Session 9	●	09:30 - 09:45
Paper ID 68	●	Technical Session 4	●	14:00 - 14:15
Paper ID 69	●	Technical Session 5	●	14:15 - 14:30
Paper ID 70	●	Technical Session 5	●	15:30 - 15:45
Paper ID 73	●	Technical Session 10	●	10:30 - 10:45
Paper ID 74	●	Technical Session 13	●	09:15 - 09:30
Paper ID 77	●	Technical Session 9	●	09:45 - 10:00
Paper ID 80	●	Technical Session 5	●	15:00 - 15:15
Paper ID 82	●	Technical Session 5	●	14:00 - 14:15
Paper ID 84	●	Technical Session 7	●	16:15 - 16:30
Paper ID 87	●	Technical Session 11	●	09:15 - 09:30
Paper ID 89	●	Technical Session 9	●	10:00 - 10:15
Paper ID 90	●	Technical Session 12	●	09:30 - 09:45
Paper ID 92	●	Technical Session 4	●	15:30 - 16:00
Paper ID 93	●	Technical Session 11	●	09:00 - 09:15
Paper ID 94	●	Technical Session 9	●	10:30 - 10:45
Paper ID 96	●	Technical Session 6	●	14:00 - 14:15
Paper ID 97	●	Technical Session 10	●	10:45 - 11:00
Paper ID 100	●	Technical Session 6	●	14:15 - 14:30
Paper ID 104	●	Technical Session 13	●	09:30 - 09:45
Paper ID 105	●	Technical Session 5	●	14:45 - 15:00
Paper ID 106	●	Technical Session 4	●	14:30 - 14:45
Paper ID 108	●	Technical Session 2	●	10:45 - 11:00
Paper ID 109	●	Technical Session 3	●	12:30 - 12:45
Paper ID 111	●	Technical Session 13	●	09:45 - 10:00
Paper ID 112	●	Technical Session 2	●	12:00 - 12:15
Paper ID 113	●	Technical Session 12	●	09:45 - 10:00

## Technical Sessions

Paper ID 114	●	Technical Session 4	●	14:45 - 15:00
Paper ID 115	●	Technical Session 10	●	11:00 - 11:15
Paper ID 117	●	Technical Session 1	●	10:30 - 10:45
Paper ID 118	●	Technical Session 3	●	12:00 - 12:15
Paper ID 119	●	Technical Session 1	●	10:45 - 11:00
Paper ID 120	●	Technical Session 3	●	12:15 - 12:30
Paper ID 127	●	Technical Session 10	●	11:15 - 11:30
Paper ID 129	●	Technical Session 10	●	11:30 - 11:45
Paper ID 130	●	Technical Session 1	●	11:00 - 11:15
Paper ID 131	●	Technical Session 7	●	14:15 - 14:30
Paper ID 132	●	Technical Session 3	●	11:45 - 12:00
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Paper ID 137	●	Technical Session 6	●	14:30 - 14:45
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Paper ID 143	●	Technical Session 10	●	11:45 - 12:00
Paper ID 144	●	Technical Session 3	●	11:30 - 11:45
Paper ID 147	●	Technical Session 6	●	16:00 - 16:15
Paper ID 148	●	Technical Session 6	●	14:45 - 15:00
Paper ID 149	●	Technical Session 6	●	15:00 - 15:15
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Paper ID 153	●	Technical Session 12	●	10:45 - 11:00
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Paper ID 161	●	Technical Session 3	●	10:15 - 10:30
Paper ID 163	●	Technical Session 1	●	11:30 - 11:45
Paper ID 164	●	Technical Session 9	●	11:00 - 11:15
Paper ID 165	●	Technical Session 6	●	15:30 - 15:45
Paper ID 166	●	Technical Session 2	●	11:30 - 11:45
Paper ID 167	●	Technical Session 7	●	15:00 - 15:15

## Technical Sessions

Paper ID 168	●	Technical Session 1	●	11:45 - 12:00
Paper ID 169	●	Technical Session 6	●	15:45 - 16:00
Paper ID 170	●	Technical Session 3	●	10:00 - 10:15
Paper ID 171	●	Technical Session 11	●	10:15 - 10:30
Paper ID 173	●	Technical Session 7	●	15:30 - 15:45
Paper ID 174	●	Technical Session 11	●	10:45 - 11:00
Paper ID 175	●	Technical Session 1	●	12:00 - 12:15
Paper ID 176	●	Technical Session 7	●	15:45 - 16:00
Paper ID 177	●	Technical Session 2	●	10:15 - 10:30
Paper ID 178	●	Technical Session 5	●	16:30 - 16:45
Paper ID 180	●	Technical Session 4	●	15:00 - 15:30
Paper ID 181	●	Technical Session 7	●	16:00 - 16:15
Paper ID 183	●	Technical Session 8	●	10:45 - 11:00
Paper ID 185	●	Technical Session 8	●	11:00 - 11:15
Paper ID 189	●	Technical Session 9	●	11:15 - 11:30
Paper ID 190	●	Technical Session 6	●	16:15 - 16:30
Paper ID 191	●	Technical Session 3	●	12:45 - 13:00
Paper ID 192	●	Technical Session 6	●	16:30 - 16:45
Paper ID 193	●	Technical Session 13	●	10:00 - 10:15
Paper ID 194	●	Technical Session 12	●	11:00 - 11:15
Paper ID 195	●	Technical Session 8	●	11:15 - 11:30
Paper ID 197	●	Technical Session 12	●	11:15 - 11:30
Paper ID 198	●	Technical Session 9	●	11:30 - 11:45
Paper ID 199	●	Technical Session 12	●	11:30 - 11:45
Paper ID 200	●	Technical Session 2	●	12:30 - 12:45
Paper ID 201	●	Technical Session 13	●	10:15 - 10:30
Paper ID 202	●	Technical Session 4	●	16:15 - 16:30
Paper ID 203	●	Technical Session 5	●	16:45 - 17:00
Paper ID 205	●	Technical Session 1	●	12:15 - 12:30
Paper ID 210	●	Technical Session 8	●	11:30 - 11:45
Paper ID 212	●	Technical Session 6	●	16:45 - 05:00
Paper ID 213	●	Technical Session 3	●	13:00 - 13:15

## Keynote Speakers

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### **Prof. Dr. Saidur Rahman**

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Professor Saidur Rahman is currently working as a Distinguished Research Professor and Head of the Research Centre for Nano-Materials and Energy Technology (RCNMET) at Sunway University. He is also working with Lancaster University as a full Professor. Previously, he worked as a Chair Professor at the Center of Research Excellence in Renewable Energy at King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia. Prior to joining KFUPM, Prof. Saidur worked 18 years in University of Malaya, a premier University in Malaysia. He is ranked 1 in Malaysia according to top 2% Scientist by Stanford/Elsevier Analysis. He is also number 1 Scientist in Malaysia according to AD scientific, research.com and GPS scholar. Clarivate Analytics/Thomson Reuters awarded him highly cited researcher for being among the top 1% researchers for most cited documents in his research field for the eight consecutive years (2014-2021). In 2019 and 2024, Prof. Saidur won Vice Chancellor's award for achievement in Research, Sunway University. Prof. Saidur published more than 900 journal and conference papers. Majority of them are in top ranking high impact journals. His publications are cited more than 77,000 times with an h-index of 139 according to Google Scholar citation. He has supervised more than 80 postgraduate students so far and has secured and managed more than 25 million ringgit research grants as a PI and member. Prof. Saidur is working in the area of emerging nano-materials (MXenes) and their applications in energy storage, heat transfer, solar energy harvesting and environmental remediation.

#### **Speech Sessions**

Advanced Materials for energy storage and heat transfer applications

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### **AP. Dr. Hj. Firas Basim Alnaimi**

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Dr. Firas Basim Ismail, Associate Professor and Head of the Smart Power Generation Research Center, Universiti Tenaga Nasional (UNITEN), Malaysia. Adjunct Professor, Sohar University, Oman. (Concurrent post)

Dr. Firas Basim Ismail holds a Ph.D. in Mechanical Engineering from Universiti Teknologi PETRONAS, Malaysia (2010), an M.Sc. in Mechanical Engineering from the University of Technology, Iraq (2003), and a B.Sc. in Mechanical Engineering from the University of Technology, Iraq (1999). He completed his secondary education at Baghdad College High School—American School, Baghdad, Iraq (1995).

He joined Universiti Tenaga Nasional in 2013, where he has been actively engaged in research and development in thermo-fluid dynamics, power plant performance optimization, and renewable-smart power generation technologies. He has successfully led over 25 research projects, authored more than 150 journal and conference papers, and received 61 international awards. Dr. Firas is a chartered engineer with IMechE, UK, and has been invited as a plenary speaker at several international conferences.

#### **Speech Sessions**

Toward 2035: Renewable Energy Innovations Transforming Our Future

Advanced Technology Vehicles

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**AP. Dr. Ali Sameer Muhsan**

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Dr. Ali S. Muhsan is a Senior Lecturer at the Mechanical Engineering Department, Universiti Teknologi PETRONAS (UTP), Malaysia. Dr. Ali Sameer Muhsan earned his PhD in 2014 from Universiti Teknologi PETRONAS. He completed his master's degree in 2010 at Universiti Sains Malaysia. In 2006, he received his bachelor's degree from Al-Mustansiriya University in Baghdad, Iraq.

His expertise lies in nanotechnology, advanced materials, and manufacturing technology, with a strong focus on Oil & Gas applications, including proppant coating technologies, enhanced oil recovery (EOR), and drilling fluid additives. He has contributed significantly to hydrogen storage systems, thermal management, and nanomaterial development for energy applications. With over 75 high-impact publications, multiple patents, and industry collaborations, his work has led to innovative solutions for hydraulic fracturing, thermal conductivity enhancement, and energy-efficient materials. Dr. Muhsan has secured over RM2 million in research funding and has been actively involved in industry-academia partnerships, consulting on hydrogen safety, nanotechnology, and energy-efficient solutions.

**Speech Sessions**

Hydrogen Storage and Safety: Innovations, Challenges, and Industrial Applications

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**Prof. Dr. Hakim S. Sultan Aljibori**

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Professor Dr. Hakim S. Sultan Aljibori, has more than 20 years' experience in teaching, training and scientific research. Dr. Hakim held several positions, head of the Research Centre, head of Mechanical Engineering Department, head of strategic Studies center and dean of Faculty of Engineering in University of Warith Al-Anbiyaa, Iraq. As well as Consulting and Professional Engineer with the Board of Engineers. He completed his Bachelor's degree in Mechanical Engineering from the University of Baghdad and his M. Sc., PhD in Mechanical Engineering from University Putra Malaysia (UPM). Dr. Hakim Aljibori also has post Doctorate in Energy Systems from UPM. Prof. Hakim worked 4 years at University of Malaya (UM) and 6 years at University of Technology and Applied Sciences, Oman. He supervised 15 Master and PhD students and has been responsible for many research funded projects. His Research interested in Applied Mechanics, Composite Material, Corrosion, FEA and Energy Systems, he published 5 Chapters in Books and more than 100 papers in peer cited journal indexing in Web of Science and Scopus and holds 3 patents. He has received several awards.

**Speech Sessions**

Advanced Materials in Aircraft Applications

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**Ir. AP. Dr. Bashar S. Mohammed**

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Ir. Dr. Bashar S. Mohammed currently serves as an Associate Professor in the Civil and Environmental Engineering Department at Universiti Teknologi PETRONAS. With a profound expertise in civil and construction engineering, his focus lies in the development of sustainable materials, particularly rubbercrete, geopolymers, interlocking bricks, and engineered cementitious composites. Dr. Bashar has demonstrated exceptional leadership, notably as the former Chair of the Civil and Environmental Engineering Department and as Head of the Offshore Engineering Centre of Excellence at UTP. His impressive credentials, which include being a Registered Professional Engineer (BEM), Fellow and Chartered Engineer (ICE), and Project Management Professional (PMP®), reflect his unparalleled technical proficiency. Renowned for his ability to promote collaboration between global leaders, Dr. Bashar has chaired multiple international engineering conferences and served as President of the Mygeopolymer Society. His academic and leadership achievements are complemented by over 194 SCOPUS-indexed publications and numerous international honours, including multiple gold awards in prestigious innovation exhibitions. Moreover, he has authored six influential books, among them the award-winning "Rubbercrete Interlocking Bricks," which received the Best Scientific Book Award 2021 from the Malaysian Scientific Publishing Council, as well as "Design of Reinforced Concrete Elements to Eurocode 2," which honoured with the National Book Award 2018 by the National Book Development Foundation, Malaysia.

**Speech Sessions**

Rubbercrete Bricks: Pioneering Sustainable Construction with Scrap Tire Innovation

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**Ir. Dr. Chua Yaw Long**

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Ir. Dr. Chua Yaw Long has 22 years of teaching experience, including transnational education involving HEIs in Malaysia, UK, and Dubai. His major expertise are Control System Engineering and Engineering Design Process. He has taught a wide range of modules for undergraduates and postgraduates, in-person and virtually. He has successfully mentored colleagues to be registered as Chartered Engineers with the Engineering Council as well as Professional Engineer with the Board of Engineers Malaysia. His research focus includes capacity building (Creativity and Thinking Skills, Learning Innovation, Complex Problem- Solving Skills) and engineering related areas (Robotics, Mechatronics, Automation, Control and Renewable Energy) to bring a new paradigm shift in engineering education-social sciences studies. He has supervised over 150 research projects in various areas in STEM and Engineering Education, Capacity Building, Creativity and Innovation Engineering. He has published 55 peer-reviewed journals and proceedings.

**Speech Sessions**

Engineering Innovation: From Control to Creativity

## **Committees**

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### **Chairmen**

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1. Prof. Dr. Ali A. Jazie, University of Al-Qadisiyah, Iraq.
2. Prof. Ir. Dr. Denny Ng Kok Sum, Sunway University, Malaysia.

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### **Steering Committee**

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1. Prof. Dr. Haitham Ali Bady, University of Al-Qadisiyah, Iraq.
2. AP Dr. Hoo Choon Lih, Sunway University, Malaysia.
3. Prof. Dr. Malik Jasim Farhan, Mustansiriyah University, Iraq.
4. Prof. Dr. Yousef Al Assaf, Rochester Institute of Technology of Dubai.
5. Prof. Dr. A.I. Al-Hadidy, University of Mosul, Iraq.

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### **Organizing Committee**

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1. Salih A. Rushdi, PhD, University of Al-Qadisiyah.
2. Richard Wong Teck Ken, PhD, Sunway University.
3. Husam Kareem Mohsin Al-Jothery, PhD, University of Al-Qadisiyah.
4. Wisam Jasim Kadhim Al-obaidi, PhD, University of Al-Qadisiyah.
5. Chua Bee Lin, PhD, Sunway University.
6. Hayder Miri Hamzah, PhD, University of Al-Qadisiyah.
7. Ali Najah Ahmed Al Mahfoodh, PhD, Sunway University.
8. Hasan Hamid Naji, PhD, University of Al-Qadisiyah.
9. Asaad Sasaa Agrab, MSc, University of Al-Qadisiyah.
10. Foo Jinny, MSc, Sunway University.

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### **Scientific Committee**

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1. Mohamed F. Al-Dawody, PhD, University of AL-Qadisiyah.(Chair)
2. Ali H. Abbar, PhD, University of Baghdad.
3. Isidro de Jesús Sánchez-Arce, PhD, Universidade de Trás-os-Montes e Alto Douro, Portugal. (Guest Editor)
4. Muhanad Dheyaa Hashim, PhD, University of AL-Qadisiyah.
5. Thair Shakir Mahmoud, PhD, Edith Cowan University, Australia. (Guest Editor)
6. Muhieddin Amer, PhD, Rochester Institute of Technology of Dubai, UAE.
7. Rafid Kadhim Abbas, PhD, University of AL-Qadisiyah.
8. Majid H. Majeed, PhD, University of Al-Mustaqbal.
9. Richard Wong Teck Ken, PhD, Sunway University, Malaysia.
10. Ali Samer Muhsan, PhD, Universiti Teknologi PETRONAS, Malaysia. (Guest Editor)
11. Dhafer A. Hamzah, PhD, University of AL-Qadisiyah.
12. Wael A. Samad, PhD, Rochester Institute of Technology of Dubai, UAE.
13. Musa H. Wali, PhD, University of AL-Qadisiyah.
14. Mohammad Shakir Nasif, PhD, Universiti Teknologi PETRONAS, Malaysia.
15. Mohammed Saleh Mohammed, PhD, University of Mosul.
16. Ali Najah Ahmed Al Mahfoodh, PhD, Sunway University, Malaysia.
17. Ali Hadi Ghawi, PhD, University of AL-Qadisiyah.
18. Sofyan Younis Kashmola, PhD, University of Mosul. (Guest Editor)
19. Hoo Choon Lih, PhD, Sunway University, Malaysia.
20. Dhuha Abdulgani Al-Kazzaz, PhD, University of Mosul.
21. Hamsa Abbas Nayyef Zubaidi, PhD, University of Al-Qadisiyah.
22. Aawag Mohsen Alawag, PhD, Universiti Teknologi MARA, Malaysia. (Guest Editor)
23. Thar M. Albarody, PhD, University of Technology.

## Committees

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24. Najib Al-Shaibani, PhD, University of Vermont, USA.
  25. Mazen Makki Ali, PhD, University of AL-Qadisiyah.
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## **IT Coordinators**

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1. Osama Majeed Hilal Almiah, PhD.
2. Mubeen Isam, MSc.
3. Ahmed Thabit Abed Al-Rubaye, MSc.
4. Hasanain Mohammed Jaafar, Eng.