

## OPENING AND KEYNOTE SESSIONS ICMAAE '23 - DAY 1

Day 1: Tuesday 15 August 2023	
8.30 – 9.00	<b>Registration</b> <b>Venue – Lobby - Audi A, Kulliyah of Engineering</b>
<b>Opening</b> 9.00 – 10.00	<b>Opening Ceremony of the IIUM Engineering Congress 2023</b> <b>Welcoming Remarks</b> <b>by</b> <b>The Dean, The Rector and The President</b> <b>Venue - Audi A, Kulliyah of Engineering</b>
<b>Keynote 1</b> 10.15 – 11.15	<b>Title:</b> Engineering Education and Ethics Towards Sustainable Society <b>Presenter:</b> Prof. Emeritus Tan Sri Dato' Dzulkifli Abdul Razak <b>Venue:</b> <b>Audi A, Kulliyah of Engineering</b>
<b>Keynote 2</b> 11.30 – 12.30	<b>Title:</b> Innovating in Malaysian Industrial Ecosystems <b>Presenter:</b> Mr. Naguib Mohd Nor <b>Chairperson:</b> Prof. Dr. Meftah Hrairi, IIUM, Malaysia <b>Venue:</b> <b>Main Conference Room</b>
<b>Keynote 3</b> 14.00 – 15.00	<b>Title:</b> Research Trends in Sustainable Mobilities <b>Presenter:</b> Dr. Raja Mazuir Shah <b>Chairperson:</b> Prof. Dr. Waqar Asrar, IIUM, Malaysia <b>Venue:</b> <b>ICMAAE Room A</b>

## TECHNICAL SESSION ICMAAE '23 - DAY 1

Day 1: Tuesday 15 August 2023	
<b>Parallel Session 1</b> <b>Venue - ICMAAE Room A</b> <b>Chairman - Dr. Nabilah Ramli</b> Aerospace Propulsion <b>Paper ID: 23, 29, 34, 43, 5</b>	
Time	Paper ID, Title and Author(s)
15.15 – 15.35	23 - Computational Fluid Dynamics Analysis of Vertical Takeoff and Landing Aircraft Propeller Characteristics. <i>Mohamed Ali, Jaffar Syed*</i> ; <i>Kamaruddin, Hamdi; Aabid, Abdul.</i>
15.35 – 15.55	29 - Adaptive Nonlinear Model Predictive Control of Fuel Cell Starvation with Stochastic Robustness Metrics. <i>Idres, Moumen M*</i> ; <i>Abdullah, Muhammad; Tofrowaih, Khairul Amri.</i>
15.55 – 16.15	34 - Assessment of the Range of an Electric Aircraft. <i>Idres, Moumen M*</i> .
16.15 – 16.35	43 - Intelligent Refrigerant Based Battery Thermal Management System for EV: A Brief Review. <i>Mollik, Md Shohag; Rahman, Mohammed Ataur*</i> .
16.35 – 16.55	5 - The Effect of Coefficient of Friction Between Rail Vehicle Wheels And Rail Track on Operation Power Consumption. <i>Nur Shahibrahim Mahamudin*</i> .

## TECHNICAL SESSION ICMAAE '23 - DAY 1

Day 1: Tuesday 15 August 2023	
<b>Parallel Session 1</b> <b>Venue - ICMAAE Room B</b> <b>Chairman - Dr. Dwi Pebrianti</b> Structures & Materials I <b>Paper ID: 17, 18, 19, 26</b>	
Time	Paper ID, Title and Author(s)
15.15 – 15.35	17 - Hybrid Coating of Titanium Alloys Via Liquid Additive Manufacturing Method: A Review of Recent Advances. <i>Maleque, Prof Md. Abdul A*; Naping, Rosmia Binti; Sarifuddin, Norshahida ; Hassan, Masjuki; Bello, Kamilu Adeyemi ; Wahidah Mohd Zulkifli, Nurin.</i>
15.35 – 15.55	18 - Numerical Simulation on Multiphase Flow in Cross-Junction Microchannel for Mixing Performance. <i>Lai, Mun Fei; Majnis, Mohd Fadhil*; Lai, Li Sze.</i>
15.55 – 16.15	19 - Enhancing and Enriching an Existing 3-Axis CNC Machine for Teaching and Learning: A Case Study at IIUM. <i>Saleh, Tanveer*; Abdulrahman, Dakhel.</i>
16.15 – 16.35	26 - A Review of Electromechanical Impedance Technique for Damage Monitoring in Pipeline System. <i>Ab Razak, Nur Nadhirah; Mohd Yatim, Norfazrina*; Hrairi, Meftah.</i>

## TECHNICAL SESSION ICMAAE '23 - DAY 2

Day 2: Wednesday 16 August 2023	
<b>Parallel Session 2</b> <b>Venue - ICMAAE Room A</b> <b>Chairman - Dr. Muhammad Hanafi</b> Aerodynamics & Aeroelasticity I <b>Paper ID: 7, 8, 36, 44</b>	
Time	Paper ID, Title and Author(s)
9.00 – 9.20	7 - Effect of Implementing a Side Flap to a Van Model. <i>Omar, Ashraf*; Hachimy, Fatima-Zahra; Elsayed, Omer A; Bouchaala, Kenza.</i>
9.20 – 9.40	8 - Numerical Study on the Effect of Engine Location on the Aerodynamic Characteristics of a Wing. <i>Mohamed Ali, Jaffar Syed*.</i>
9.40 – 10.00	36 - Aerodynamic Analysis of Circular Planform Wings at Low Reynolds Numbers. <i>Begovic, Merjem; Aldheeb, Mohammed A*; Altaf, Afaq; Asrar, Waqar.</i>
10.00 – 10.20	44 - Aerodynamics of Oblique Wing Configuration. <i>Mohamed Ali, Jaffar Syed*; M. Shaari, Muhammad Hafiz.</i>

## TECHNICAL SESSION ICMAAE '23 - DAY 2

Day 2: Wednesday 16 August 2023	
<b>Parallel Session 2</b> <b>Venue - ICMAAE Room B</b> <b>Chairman - Dr. Sanisah Saharin</b> Aerospace & Structures <b>Paper ID: 9, 11, 21, 22, 24</b>	
Time	Paper ID, Title and Author(s)
9.00 – 9.20	9 - The Use of Heart Rate Measures to Evaluate Stress Level Among Air Traffic Controllers. <i>Abdul Rahman, Siti Mariam*; Saini, Muhammad Haziq; Jaafar, Siti Ainun Izzati.</i>
9.20 – 9.40	11 - Advancements in the Repair of Damaged/Cracked Structures Using Piezoelectric Actuators: A Comprehensive Review. <i>Abdulla, Mohammed *</i>
9.40 – 10.00	21 - Effect of Material Properties on the Behaviour of Cross-Ply Laminated Cylindrical Shells Under Thermal Load. <i>Mohamed Ali, Jaffar Syed*; Pakry, Nur Amalina; Shaik Dawood, Mohd Sultan Ibrahim; Mokhtar, Hanan.</i>
10.00 – 10.20	22 - Optimization of Composite Fuselage Frame Under Crash Loading. <i>Mohamed Ali, Jaffar Syed*; Mohd Jamil Aris, Muhammad Nazri.</i>
10.20 – 10.40	24 - Educational Software for Stress Analysis of Thin Walled Structures. <i>Mohamed Ali, Jaffar Syed*; Che Basir, Haqmal Aqif ; Mad Nasib , Wan Muzamir.</i>

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<b>Parallel Session 3</b> <b>Venue - ICMAAE Room A</b> <b>Chairman - Dr. Adib Hamdani</b> Structures & Materials II <b>Paper ID: 12, 13, 14, 15, 35</b>	
Time	Paper ID, Title and Author(s)
11.15 – 11.35	12 - Analysis of Damage Detection Performance in a Concrete Structure Using the Finite Element Method. <i>Anjum, Asraar*; Hrairi, Meftah; Aabid, Abdul; Mohd Yatim, Norfazrina; Ali, Maisarah.</i>
11.35 – 11.55	13 - Examining the Efficacy of Finite Element Method For Detecting Damage in Aluminium Structures. <i>Anjum, Asraar*; Hrairi, Meftah; Aabid, Abdul; Mohd Yatim, Norfazrina; Ali, Maisarah.</i>
11.55 – 12.15	14 - Passive Repair of a Cracked Structure Under Thermo-Mechanical Loading. <i>Abdulla, Mohammed*.</i>
12.15 – 12.35	15 - Effect of Piezoelectric Actuator on Stress Intensity Factor of a Cracked Structure. <i>Abdulla, Mohammed*.</i>
12.35 – 12.55	35 - Minimizing Contamination in Automotive Painting Booths: Identifying Factors and Strategies for Improved Efficiency and Quality Focusing on Dust Contamination and Airflow Dynamics. <i>Yosri, Muhammad Hafizan*; Mohd Yatim, Norfazrina; Muhamad, Pauziah.</i>

## TECHNICAL SESSION ICMAAE '23 - DAY 2

Day 2: Wednesday 16 August 2023	
<b>Parallel Session 3</b> <b>Venue - ICMAAE Room B</b> <b>Chairman - Dr. Norfazrina</b> Structures & Materials III <b>Paper ID: 4, 6, 20, 27, 40</b>	
Time	Paper ID, Title and Author(s)
11.15 – 11.35	4 - The Effect of Preheating and Current on the Development of Mild Steel Clad Layers Via Stick Welding. <i>Md Idriss, Ahmed Nazrin*; Muhammad, Noorhafiza; Kamdi, Zakiah; Maleque, Prof Md. Abdul A; Azhari, Azmir.</i>
11.35 – 11.55	6 - The Influence of TIC Dispersion and Density on the Microstructural Features and Microhardness Fused By TIG Arc Process. <i>Md Idriss, Ahmed Nazrin; Maleque, Prof Md. Abdul A*; Naping, Rosmia Binti; Rahman, Md Mustafizur.</i>
11.55 – 12.15	20 - Analysis and Modelling of Laser-Micro Edm-Based Hybrid Micro Milling on Stainless Steel (Sus304) Using Box Behnken Design. <i>Saleh, Tanveer*; Noor Rashid, Mir Akmam.</i>
12.15 – 12.35	27 - Damage Monitoring of Pipeline Using PZT As Leak Detector Based on Negative Pressure Wave. <i>Jamaludin, Luqman Harith Azamuddin; Mohd Yatim, Norfazrina*; Hrairi, Meftah.</i>
12.35 – 12.55	40 - 2D and 3D CFD Modeling for Contraction and Expansion Geometries. <i>Baghdadi, Faical; Hrairi, Meftah *; Asrar, Waqar.</i>

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Day 2: Wednesday 16 August 2023	
<p style="text-align: center;"><b>Parallel Session 4</b> <b>Venue - ICMAAE Room A</b> <b>Chairman - Dr. Muhammad Abdullah</b> Structural Dynamics &amp; Controls <b>Paper ID: 25, 28, 33</b></p>	
Time	Paper ID, Title and Author(s)
14.00 – 14.20	25 - Modelling of Vehicle Longitudinal Dynamics for Speed Control. <i>Abdullah, Muhammad*</i>
14.20 – 14.40	28 - Study on the Development of AI Driveline for EV. <i>Rahman, Mohammed Ataur*; Hasan, Md Nurul; Ihsan, Sany I.</i>
14.40 – 15.00	33 - Pressing Mechanism Design and Performance Analysis for Brake Pedal System at Low-Speed Driving. <i>Norzaimi, Nor Iqmal*; Ahmad, Salmiah.</i>



## TECHNICAL SESSION ICMAAE '23 - DAY 2

Day 2: Wednesday 16 August 2023	
<b>Parallel Session 4</b> <b>Venue - ICMAAE Room B</b> <b>Chairman - Dr. Hanan Mokhtar</b> Structures & Materials IV <b>Paper ID: 37, 38, 39, 41, 42</b>	
Time	Paper ID, Title and Author(s)
14.00 – 14.20	37 - Numerical Study of Clinching Process Using Extendable Die. <i>Eshtayeh, Mohanna; Hrairi, Meftah*; Mokhtar, Hanan.</i>
14.20 – 14.40	38 - Investigation of Reshaped Clinching Joints. <i>Eshtayeh, Mohanna; Hrairi, Meftah*; Mokhtar, Hanan.</i>
14.40 – 15.00	39 - Different Reshaping Methods of Clinched Joints to Reduce the Protrusion Height. <i>Eshtayeh, Mohanna; Hrairi, Meftah*; Mokhtar, Hanan</i>
15.00 – 15.20	41 - Adhesive Bonding Quality Using EMI. <i>Ahmed, Zaheer; Hrairi, Meftah*.</i>
15.20 – 15.40	42 - Damage Identification of Metal-Composite Bonded Joints. <i>Ahmed, Zaheer; Hrairi, Meftah*.</i>