

PARALLEL SESSION A1

Sustainable and Renewable Energy, Energy Efficiency, and Energy Management

Venue: BALLROOM 1

Chairperson 1: Dr. Siti Nurhaida Binti Khalil (UTeM)

Chairperson 2: Prof. Ir. Dr. Symasul Hadi (UNS)

Time	ID	Presenter	Affiliation	Title
11:00	56	Datuk Khalilur Rahman Ebrahim (Invited Speaker)	Executive Chairman, System Consultancy Services Sdn Bhd (SCS), Malaysia	Accelerating the Shift: Current and Emerging Strategies for Sustainable Energy
11:20		Aslam Hadi Bin Hamzah (Sponsor)	ORS Technologies	Shaping Innovation Through Simulation and Additive Manufacturing
11:35	19	Imanul Irfan bin Saifuddin	Universiti Teknikal Malaysia Melaka	Preparation of a Graphene Nanoplatelet Nanofluid for the Improvement of a Photovoltaic Thermal System
11:47	23	Siti Norsyahirah binti Awang	City University Malaysia	Performance of Stainless Steel 316L Gyroid Shape Heat Exchanger
11:59	50	Prof. Ir. Dr. Symasul Hadi	Universitas Sebelas Maret	Performance of Single Slope Solar Still with Beef Tallow Phase Change Material: An Experimental and Economic Analysis
12:11	51	Ir Dr. Eko Budiana	Universitas Sebelas Maret	Performance Single Slope Solar Still with Hollow Glass: An Experimental and Economic Analysis
12:23	73	Dr. Noor Ayuma Mat Tahir	Universiti Teknologi Malaysia	Friction Behavior Comparison of Beeswax Grease with Different Base Oils
12:35	94	Irwanbudiana bin Amsah	Universiti Teknikal Malaysia Melaka	Design and Fabrication of ATV Regenerative Suspension System

PARALLEL SESSION A2

Advanced and Sustainable Materials and Manufacturing Processes

Venue: BUNGA MELATI

Chairperson 1: Ts. Dr. Nur Rashid Bin Mat Nuri @ Md Din (UTeM)

Chairperson 2: Ts. Dr. Shamsul Faisal Bin Mohd Hussein (UTeM)

Time	ID	Presenter	Affiliation	Title
11:00	77	Maziah Mohamad (Invited Speaker)	Chief Executive Officer, DK Composites Sdn Bhd, Malaysia	Sustainable Composites in Marine and Architecture: Bio-Resins, Recycled Foams, and Lifecycle Advantages Over Aluminium and Concrete
11:20	8	Ir. Dr. Asriana Ibrahim	Universiti Teknikal Malaysia Melaka	Effects of Steering Angle and Array Elements in Welding Inspection Using Phased Array Ultrasonic Testing
11:32	12	Dr. Arif Wahjudi	Institut Teknologi Sepuluh Nopember	Sustainable Natural Fiber Composites for Additive Manufacturing: A Statistical Study on Kenaf-Polypropylene Reinforced Structures
11:44	26	Munirah binti Othman	Universiti Teknikal Malaysia Melaka UTeM	Variations in Microhardness of SLM SS316L XZ Plane at Different Energy Densities
11.56	28	Nadirul Hasraf Mat Nayan	Universiti Tun Hussein Onn Malaysia	Sustainable Biocomposite Medical Sutures from Banana Trunk Fibre Coated with Graphene Oxide: Elucidating Physicochemical and Antibacterial Properties
12:08	44	Dr. Nurul Hanim binti Razak	Universiti Teknikal Malaysia Melaka	Optimizing Mechanical Performance in PLA/EFB/Glycerol Plasticizer Biocomposites
12:20	59	Dr. Abdulghapur Athani	Universiti Teknikal Malaysia Melaka	Development of 3D-Printed Normal Aorta and Aortic Aneurysm Arteries for Enhancing Medical Education: A Novel Approach to Teaching Vascular Anatomy and Pathology to Undergraduate Medical Students

12:32	60	Prof. Ir. Dr Dody Ariawan	Universitas Sebelas Maret	Physical and Mechanical Characterization of Poly (Lactic Acid) (PLA)/Microcrystalline Cellulose (MCC) Biocomposites Reinforced with Luffa Cylindrica Fiber (LCF)
12:44	104	Dr. Aiman Roslizar	Universiti Teknikal Malaysia Melaka	Hydrophobic Glass Coatings for PV Modules: Optical Viability and Field Durability Assessment

PARALLEL SESSION A3

Advanced and Sustainable Materials and Manufacturing Processes/ Vibration Control, Robotics, and Smart Systems

Venue: BUNGA MAWAR

Chairperson 1: Ir. Dr. Eko Prasetya Budiana (UNS)

Chairperson 2: Afiqah Hamzah (UTeM)

Time	ID	Presenter	Affiliation	Title
11:00	113	Prof. Ir. Ubaidillah (Invited Speaker)	Universitas Sebelas Maret	Control Strategies and Modeling Challenges in Magnetorheological Elastomer Applications: A Review
11:20	88	Muhammad Hariz Zuhairi bin Mohd Arif	Universiti Teknikal Malaysia Melaka	Effect of grinding parameters on surface roughness of carbide cutting tools
11:32	95	Dr. Mastura Binti Mohammad Taha	Universiti Teknikal Malaysia Melaka	Investigation on Physical and Biodegradability Properties of Sugar Palm Fiber Composite Filament of 3D Printing
11:44	96	Ahmad Syahrizi Bin Anuar	Universiti Teknikal Malaysia Melaka	Microstructural Evaluation of AA6061 Welds in Friction Stir Welding with In-Situ Cooling Using Varying Coolant Compositions
11.56	102	Siti Nurezati Ahadun	Universiti Teknikal Malaysia Melaka	A Study Review on Thermal Properties of Polylactic Acid (PLA) with Bio-Based Plasticizer
12:08	108	Assoc Prof. Dr Afriyanti Sumboja	Institut Teknologi Bandung	High-Capacity Dual-Ligand Zn-MOF Anode for Stable Sodium-Ion Battery Storage
12:20	37	Aiman Hakim Bin Azahari	Universiti Teknikal Malaysia Melaka	Latency on Motion Synchronization in Game Engine Driven Digital Twin Robotic Arms: Challenges and Techniques
12:32	55	Maryam Younus	Universiti Malaysia Pahang Al-Sultan Abdullah	Comparative Evaluation of Path Planning Algorithms for Autonomous Navigation in Simulated Agricultural Environment
12.44	78	Luqmanul Hakim Bin Zainuddin	Universiti Teknikal Malaysia Melaka	Vibration Transmissibility Of Sandwich Lattice Structure For Vibration Passive Isolator

PARALLEL SESSION B1

Thermal-Fluid Engineering and Energy Optimization

Venue: BALLROOM 1

Chairperson 1: Ts. Mohd Syafiq Bin Abd Aziz (UTeM)

Chairperson 2: Prof.Ir Dr Dody Ariawan (UNS)

Time	ID	Presenter	Affiliation	Title
14:30	85	Prof. Dr.-Ing. Alexander Mattes (Invited Speaker)	Kiel University of Applied Sciences, Germany	Additive Manufacturing of Multi-Material Molding Tool using Artificial Intelligence
14:50	29	Abdul Rahim Bin Ishak	Universiti Teknikal Malaysia Melaka	Effect of Resonator's Length and Stack Position on Thermoacoustic Pressure Wave
15:02	101	Dr. Noor Saffreena Hamdan	Universiti Teknikal Malaysia Melaka	Bubble Breakup Visualization in Aerated Venturi Tube Under Subsonic and Supersonic Flow Conditions
15:14	107	Prof. Dr. Abdul Mutalib Bin Leman	Universiti Tun Hussein Onn Malaysia	Comparative Design and Development of Burner for Small Scale Activated Carbon Production
15:26	109	Dr. Nazrul Azlan Abdul Samat	Universiti Sultan Azlan Shah	Comparative Numerical Analysis on Carbon- and Metallic-Based Nanofluids Flow over a Stretching Sheet

PARALLEL SESSION B2

Computational Modelling, Simulation, and AI in Engineering

Venue: BUNGA MELATI

Chairperson 1: Assoc Prof. Dr Afriyanti Sumboja (ITB)

Chairperson 2: Ts. Muhammed Noor Bin Hashim (UTeM)

Time	ID	Presenter	Affiliation	Title
14:30	83	Dr. Jack Febrian Rusdi (Invited Speaker)	Universitas Teknologi Bandung (UTB), Indonesia	From Sensors to Safety: A Multisectoral Earthquake Early Warning Framework for ASEAN
14:50	22	Iman 'Imran b. Salahuddin	Universiti Teknikal Malaysia Melaka	Blood Flow Analysis on Mechanical Heart Valve with Groove using Computational Fluid Dynamics
15:02	41	Dr. Jack Febrian Rusdi	Universitas Teknologi Bandung	Digital Transformation of Liquid Handling: An IoT Framework for Automated Dispensing with Tracking Technology
15:14	47	Dr. Syahibudil Ikhwan Abdul Kudus	Universiti Teknikal Malaysia Melaka	Structural and Finite Element Analysis of Bio-Inspired Wrist Splints Fabricated via Fused Deposition Modelling
15:26	48	Ir. Dr. Fudhail Bin Abdul Munir	Universiti Teknologi Petronas	Finite Element Analysis of Five Bladed Polycrystalline Diamond Compact Drill Bit Cutter Efficiency Designed for Interbedded Formation Drilling

PARALLEL SESSION B3

Computational Modelling, Simulation, and AI in Engineering

Venue: BUNGA MAWAR

Chairperson 1: Dr. Mizah Binti Ramli (UTeM)

Chairperson 2: Dr. Noryani Binti Muhammad (UTeM)

Time	ID	Presenter	Affiliation	Title
14:30	70	Nur Atikah Binti Arbain	Universiti Teknikal Malaysia Melaka	Integrating Power BI and Time Series Forecasting for Intelligent Energy Consumption Monitoring
14:42	75	Dr. Shamsul Anuar Shamsudin	Universiti Teknikal Malaysia Melaka	Analysis of the Frame for an Electric Grass Cutter
14:54	79	Assoc Prof Ir Dr Md. Fahmi Abd. Samad	Universiti Teknikal Malaysia Melaka	Identification of ARX models using Parameter Magnitude-Based Information Criterion
15:06	110	Ir. Dr. Abdul Muhaimin Bin Mahmud (Invited Speaker)	Jabatan Kerja Raya (JKR) Malaysia	Embedding Green Energy in Malaysia's Parliament as a Regional Model for National Institutional Decarbonisation

PARALLEL SESSION C1

Eco-Friendly Vehicle Science and Future Mobility Technologies/Green and Intelligent Mechanical Systems Design

Venue: BUNGA MELATI

Chairperson 1: Assoc. Prof. Ir. Ts. Dr. Mohd Azli Bin Salim (UTeM)

Chairperson 2: Ir. Ts. Dr. Asriana Binti Ibrahim (UTeM)

Time	ID	Presenter	Affiliation	Title
16:00	87	Ir. Ts. Dr. Mohd Zaid Bin Akop (Invited Speaker)	Universiti Teknikal Malaysia Melaka	New Framework in Evaluating ASEAN NCAP Frontal and Side Impact Test Critical Location using Post-accident Secondary Data Analysis
16:20	32	Assoc Prof Dr Muhd Ridzuan Mansor	Universiti Teknikal Malaysia Melaka	Development of Retrofit Chassis Frame for Electrifying Conventional Tractors
16:32	53	Amrina Rasyada Binti Zubir	Universiti Teknikal Malaysia Melaka	Design and Fabrication of Rollover Warning Device for Military Trucks
16:44	54	Ahmad Zaki Yaacob	System Consultancy Services Sdn. Bhd (SCS)	Performance Evaluation of a Converted Electric Off-Road Vehicle
16:56	92	Nur Raudhah Yip Abdullah	Universiti Teknikal Malaysia Melaka	The Effectiveness of Car Cabin Temperature with Tinted and Variable Heat Absorbent Material Composition Under Direct Sun
17:08	97	Dr. Nur Rashid Bin Mat Nuri @ Md Din	Universiti Teknikal Malaysia Melaka	Monitoring of High-Voltage Components Operation using Diagnostic Device in Hybrid Electric Vehicle
17:20	91	Assoc Prof Dr Tee Boon Tuan	Universiti Teknikal Malaysia Melaka	Improving Indoor Airflow and Thermal Comfort in Naturally Ventilated Factory Using CFD Modelling
17:32	64	Dr. Aliza Che Amran	Universiti Teknikal Malaysia Melaka	Development of an Electric Food Waste Composter Machine for Household Applications

17:44	81	Mohd Syazwan Solah	Malaysian Institute of Road Safety Research	Enhancing Light Commercial Vehicle Safety: The Development of ASEAN CVAP as a Regional Benchmark
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PARALLEL SESSION C2

Sustainable and Renewable Energy, Energy Efficiency, and Energy Management/ Surface Engineering, Tribology, and Smart Coatings

Venue: BUNGA MAWAR

Chairperson 1: Prof. Ir. Dr. Ubaidillah (UNS)

Chairperson 2: Dr. Abdulgaphur Abdulkhadar Athani (UTeM)

Time	ID	Presenter	Affiliation	Title
16:00	90	Ts. Dr Sharif Bin Mohd Zaki (Invited Speaker)	Universiti Teknikal Malaysia Melaka	Influence of Polyvinylether Lubricants on the Performance of R513a, R1234yf and R134a Refrigerants in Automotive Air Conditioning Systems
16:20	99	Sarah Naziha Ahmad	Universiti Teknikal Malaysia Melaka	Integrated Taguchi Method and Artificial Neural Network Approach for Optimizing Non-edible Biodiesel Yield
16:32	100	Afiqah Hamzah	Universiti Teknikal Malaysia Melaka	Palm biodiesel-diesel blends fuel spray characterisation using MATLAB-based image processing
16:44	58	Norasra Binti A.Rahman	Universiti Teknikal Malaysia Melaka	Optimizing the Extreme Pressure Performance of Bio-Grease Formulated from Non-Edible Vegetable Oils using Taguchi Method: A study on Last Non-Seizure Load (LNSL)
16:56	93	Dr. Nortazi Sanusi	Universiti Teknikal Malaysia Melaka	An Initial Study on Thermal Comfort Analysis in KMKM, UTeM
17:08	111	Nurul Nazmin Zulkarnain	PETRONAS	Innovating Thermal Insulation with Coating Technology: Performance and Practicality in Industrial Environments
17:20	112	Nurul Athirah Ismail	PETRONAS	NDT-Based Inspection of Pipe Integrity Beneath Thermal Insulation Coatings: Challenges and Method Selection
17:32	25	Dr. Mohd Haizal Bin Mohd Husin	Universiti Teknikal Malaysia Melaka	Mechanical and Physical Properties of Plastic Waste Mixture in Concrete

ONLINE PARALLEL SESSION D1

Chairperson 1: Assoc. Prof.Ir. Ts. Dr. Sivakumar A/L Dhar Malingam (UTeM)

Chairperson 2: Dr. Abdulkabir Aliyu (UTeM)

Time	ID	Presenter	Affiliation	Title
10:30	6	Ganjar Pramudi	Universitas Sebelas Maret	An Overview of The Thermal Characteristics of Composites Reinforced with Waste Tire Powder as an Environmentally Friendly Material
10:42	7	Ganjar Pramudi	Universitas Sebelas Maret	Analysis of the Effect of Styrene-Butadiene Rubber Addition on the Thermal Stability of Polypropylene (PP)
10:54	21	Ms. Tirza Sandi Rutyasti	National Research and Innovation Agency (BRIN)	Double-layered Paraffin Composite for EV Battery Thermal Management
11:08	18	Sularman	Universitas Sebelas Maret	Influence of Recycled Content Ratio and Environmental Exposure on the Mechanical, Physical, and Thermal Properties of Acrylonitrile Butadiene Styrene (ABS) in Injection Molding: Prospects for Future Applications
11:20	27	Jordan Hinduarta Pangestu	Bina Nusantara University	Experimental Study on Aluminum Trihydrate Content in Paraffin-Based Composite Phase Change Materials for Mitigating Flammability Issues
11:32	31	Dr. Hammar Ilham Akbar	Universitas Sebelas Maret	Agitation Analysis on Hardness of Novel Aluminium Composite AA6061-Sea sand
11:44	34	Dr. Hammar Ilham Akbar	Universitas Sebelas Maret	Evaluation of Agitation Processes on Tensile Strength of the Aluminium Composite AA6061-Sea sand
11:52	74	Rahma Fauziah	Universiti Teknologi Bandung	Evaluating Service Quality in Smart Energy Services Using SERVQUAL: A Case Study of Smart Meter Users in Indonesia

ONLINE PARALLEL SESSION D2

Chairperson 1: Dr. Shamsul Anuar Bin Shamsudin (UTeM)

Chairperson 2: Hairul Bin Bakri (UTeM)

Time	ID	Presenter	Affiliation	Title
10:30	9	Eki Rovianto	Universitas Sebelas Maret	Metaheuristic-Based PID Controller for DC Motor Using Improved Pelican Optimization Algorithm
10:42	11	Riyadi Muslim	Universitas Sebelas Maret	PID Tuning for BLDC Motor Using Walrus Optimizer: A Performance-Driven Approach
10:54	15	Navik Puryantini	National Research and Innovation Agency (BRIN)	Preliminary Technical Feasibility Study of Ocean Thermal Energy Conversion: Study Case in Ambon Bay, Indonesia
11:08	16	Ir. Dr. Aditya Rio Prabowo	Universitas Sebelas Maret	Initial Assessment of Wave Energy Potential in the Coastal Waters of West Aceh, Indonesia
11:20	17	Ir. Dr. Aditya Rio Prabowo	Universitas Sebelas Maret	Hydrodynamic Analysis of an OTEC Ship with Varying Cold Water Pipe Configurations
11:32	13	Dr. Ristiyanto Adiputra	National Research and Innovation Agency (BRIN)	Coupled Motion Analysis of a Floating Ocean Current Power Plant with Various Hull Configurations
11:44	14	Dr. Ristiyanto Adiputra	National Research and Innovation Agency (BRIN)	Numerical Evaluation of Laminated Composite Ship Hulls under Impulse Loading for Lightweight Marine Structures
11:52	62	Zefania Mustika Adnya	Universitas Sebelas Maret	Analysis Of Railway Underframe Bumper Based on Auxetic Metamaterial With Finite Element Simulation

ONLINE PARALLEL SESSION D3

Chairperson 1: Dr. Norfadhilah Binti Hamzah (UTeM)
Chairperson 2: Dr. Najiyah Safwa Binti Khashi'ie (UTeM)

Time	ID	Presenter	Affiliation	Title
10:30	38	Prof. Dr. Eko Surojo	Universitas Sebelas Maret	Effect of Stirrer Blade Number and Diameter on the Mechanical Properties of AA6061-Sea Sand Composites Fabricated by Stir Casting
10:42	39	Prof. Dr. Ir Wahyu Purwo Raharjo	Universitas Sebelas Maret	The Influence of Different Soaking Solution on the Mechanical Properties of Mendong Fiber-Reinforced Acrylonitrile Butadiene Styrene Composites
10:54	43	Ganjar Pramudi	Universitas Sebelas Maret	The Effect of Printing Temperature on the Tensile Strength of Polypropylene-Waste Tire Powder Composite Filaments in 3D Printing
11:08	49	Amor Solideo G. Sihombing	Bina Nusantara University	Optimization of PCM Composition and Placement for Enhanced Thermal Management in EV Battery Module
11.20	52	Fahmi Novel Syeban	Bina Nusantara University	Comparative Performance of Carbon Types in Enhancing Thermal Dissipation of Battery Systems
11:32	61	Akbar Bayu Pamungkas Sutowijoyo	Universitas Sebelas Maret	Optimizing Simultaneous Double Side Friction Stir Welding: A Review on Tool Overlap Influence
11:44	84	Ai Nurhayati	Universitas Teknologi Bandung	Evaluation of Advanced Materials in Small-Scale Composting Systems: A Comparative Study of PVC and Aluminum from Engineering Perspectives

ONLINE PARALLEL SESSION D4

Chairperson 1: Profesor Madya Dr Fatimah Al-Zahrah Binti Mohd Sa'at (UTeM)

Chairperson 2: Ir. Dr. Rafidah Binti Hasan (UTeM)

Time	ID	Presenter	Affiliation	Title
10:30	24	Kenneth Nathan	Bina Nusantara University	Recent Technology Cooling System to Prevent Brake Fade: A Brief Literature Review
10:42	45	Riyadi Muslim	Universitas Sebelas Maret	Numerical Simulation of Natural Convection from a Vertically Oriented Finned Heat Sink for Battery Cooling System
10:54	57	Fawwaz Ibrahim	Universitas Sebelas Maret	A Brief Review of Anti-Corrosion Char/Polymer Coatings on Carbon Steel
11:08	71	Ari Mukti Wibowo	Universiti Muhammadiyah Surakarta	Dipole and Long Bowtie PCB Antenna Combination to Improve Partial Discharge Measurement Effectiveness in Gas Insulated Switchgear
11:20	80	Edi Supriyadi	Universiti Teknologi Bandung	A Comparative Analysis of VEO 2 and VEO 3
11:32	89	Nikhil Jayaraj	Regen Power Pty Ltd, Western Australia	Pathways to Adoption: Understanding Residential Demand for Solar Energy Storage Adoption in Australia
11:44	106	Nona Merry Merpati Mitan	Universitas Pertamina	Pyrolysis of Food Packaging Plastic Waste: Preliminary Study of the Role of Ende Natural Zeolite