RSCE2026
30th Regional Symposium on Chemical Engineering

UNIVERSITI MALAYA



30th Regional Symposium on Chemical Engineering

Programme Book

11TH-12TH NOVEMBER 2026
UNIVERSITI MALAYA

Organised by:

DEPARTMENT OF CHEMICAL ENGINEERING
FACULTY OF ENGINEERING

PROGRAMME

Day 1: 11 November 2026 (Wednesday)		
7.45 AM - 8.40 AM	**Registration**	Lobby, IPPP Universiti Malaya Institute of Research Management and Monitoring
8.40 AM – 8.50 AM	**Opening Ceremony** **National Anthem** **Doa Recitation**	Auditorium, IPPP Universiti Malaya Institute of Research Management and Monitoring
8.50 AM – 9.00 AM	**Welcome Remarks** **Dr. Muhamad Fazly Abd Patah** Chair, RSCE 2026 Universiti Malaya	
9.00 AM – 9.20 AM	**Opening Remarks & Officiation** **Universiti Malaya Management**	
9.20 AM – 10.00 AM	**Moderator:** **Prof. Emeritus Dato Ir. Dr. Wan Ramli Wan Daud** **Plenary Presentation 1:** **Prof. Dr. Mohamed Kheireddine Aroua** Chair Professor King Fahd University of Petroleum & Minerals	
10.00 AM – 10.40 AM	**Plenary Presentation 2:** **Prof. Dr. Motoaki Kawase** Professor Kyoto University	
10.40 AM – 11.00 AM	**Refreshment**	
11.00 AM – 11.40 AM	**Plenary Presentation 3** **Ir. Ts. Dr. Sang Yew Ngin** Undersecretary Ministry of Plantation and Commodities, Malaysia	
11.40 AM – 12.00 PM	**Break/ Group Photo Session**	

Day 1: 11 November 2026 (Wednesday) - *Continuation*		
12.00 PM – 1.00 PM	**Parallel Oral Presentation 1**	
	Session 1A	The Nest, IAS
	Session 1B	Seminar Room 1, IPPP
	Session 1C	Seminar Room 2, IPPP
	Session 1D	Auditorium, IPPP
1.00 PM – 2.00 PM	**Lunch** **Poster Viewing**	Exhibition Hall, IPPP
2.00 PM – 4.00 PM	**Parallel Oral Presentation 2**	
	Session 2A	The Nest, IAS
	Session 2B	Seminar Room 1, IPPP
	Session 2C	Seminar Room 2, IPPP
	Session 2D	Auditorium, IPPP
4.00 PM – 4.15 PM	**Refreshment**	
4.15 PM – 6.00 PM	**Parallel Oral Presentation 3**	
	Session 3A	The Nest, IAS
	Session 3B	Seminar Room 1, IPPP
	Session 3C	Seminar Room 2, IPPP
	Session 3D	Auditorium, IPPP
7.30 PM – 10.00 PM	**Welcoming Dinner &** **International Networking**	Armada Hotel Petaling Jaya

Day 2: 12 November 2026 (Thursday)		
8.30 AM – 9.10 AM	**Moderator:** **Professor Ir. Dr. Zainal Ahmad** **Plenary Presentation 4:** **Dr. Khairul Anuar Mohamad** National Water Research Institute Of Malaysia	Auditorium, IPPP Universiti Malaya Institute of Research Management and Monitoring
9.10 AM – 9.50 AM	**Plenary Presentation 5** **Ir. Dr. Siti Hajar binti Khalit** PETRONAS Research Sdn. Bhd.	
9.50 AM – 10.10 AM	**Refreshment**	
10.10 AM– 12.25 PM	**Parallel Oral Presentation 4**	
	Room 4A	The Nest, IAS
	Room 4B	Seminar Room 1, IPPP
	Room 4C	Seminar Room 2, IPPP
12.25 PM - 1.10 PM	**Poster Viewing & Evaluation**	Exhibition Hall, IPPP
1.00 PM – 2.00 PM	**Lunch**	
2.00 PM – 4.00 PM	**Parallel Oral Presentation 5**	
	Room 5A	Seminar Room 1, IPPP
	Room 5B	Seminar Room 2, IPPP
	Room 5C	The Cube, IPPP
4.00 PM – 6.00 PM	**Closing Ceremony**	Auditorium, IPPP Universiti Malaya Institute of Research Management and Monitoring

PARALLEL ORAL PRESENTATION

Time	Session 1A	Session 1B	Session 1C	Session 1D
12.00 PM – 12.15 PM	48	5	50	105
12.15 PM – 12.30 PM	60	72	25	122
12.30 PM – 12.45 PM	83	73	142	138
12.45 PM – 1.00 PM	92	9	119	151
Time	**Session 2A**	**Session 2B**	**Session 2C**	**Session 2D**
2.00 PM – 2.15 PM	69	57	6	106
2.15 PM – 2.30 PM	87	1	58	118
2.30 PM – 2.45 PM	133	11	64	126
2.45 PM – 3.00 PM	135	44	65	141
3.00 PM – 3.15 PM	147	78	76	143
3.15 PM – 3.30 PM	149	96	79	144
3.30 PM – 3.45 PM	7	103	125	150
3.45 PM – 4.00 PM	30	111	134	139
Time	**Session 3A**	**Session 3B**	**Session 3C**	**Session 3D**
4.15 PM – 4.30 PM	2	23	13	117
4.30 PM – 4.45 PM	4	38	16	123
4.45 PM – 5.00 PM	20	93	158	127
5.00 PM – 5.15 PM	37	95	43	132
5.15 PM – 5.30 PM	46	160	67	145
5.30 PM – 5.45 PM	70	116	86	146
5.45 PM – 6.00 PM	137	32	109	148

PARALLEL ORAL PRESENTATION

Time	Session 4A	Session 4B	Session 4C
10.10 AM – 10.25 AM	124	10	140
10.25 AM – 10.40 AM	131	12	8
10.40 AM – 10.55 AM	40	28	39
10.55 AM – 11.10 4M	129	45	49
11.10 AM – 11.25 AM	136	55	53
11.25 AM – 11.40 AM	52	61	71
11.40 AM – 11.55 AM	59	82	128
11.55 AM – 12.10 PM	89	91	101
12.10 PM – 12.25 PM	47	107	102
Time	**Session 5A**	**Session 5B**	**Session 5C**
2.00 PM – 2.15 PM	114	115	68
2.15 PM – 2.30 PM	51	85	94
2.30 PM – 2.45 PM	62	120	156
2.45 PM – 3.00 PM	63	90	66
3.00 PM – 3.15 PM	157	80	153
3.15 PM – 3.30 PM	77	81	56
3.30 PM – 3.45 PM	108	54	121
3.45 PM – 4.00 PM	36	34	113

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 1A: THE NEST, IAS
PROCESS SYSTEMS ENGINEERING

Session chair: Prof. Dr. Jidon @ Adrian Janaun (UMS)		
12.00 PM – 12.15 PM	48	Quantitative Evaluation of Mixing State and Fluid Deformation Behavior in Twin-Screw Mixers
12.15 PM – 12.30 PM	60	A Graphical Coefficient Of Refrigeration (Cr)-Based Method For The Design And Optimization Of Multi-Stage Refrigeration Systems
12.30 PM – 12.45 PM	83	Assessing Life Cycle Carbon Footprint under Neutrosophic Uncertainty
12.45 PM – 1.00 PM	92	Energy Balance Dynamics, Dryer Thermal Response, and Fossil Carbon Mitigation in Integrated Coal-RDF Co-Firing Systems

AY 1 (11 NOVEMBER 2026)
SESSION 1B: SEMINAR ROOM 1, IPPP
AGRICULTURE AND FOOD SECURITY

Session chair: Assoc. Prof. Dr. Mufti Azis (UGM)		
12.00 PM – 12.15 PM	5	Definitive Screening Design for Evaluating Sporulation Parameters of Bacillus Subtilis Using Molasses As Substrate
12.15 PM – 12.30 PM	72	Effects of humic acid derived from agricultural residues on rice growth under salt stress
12.30 PM – 12.45 PM	73	Preparation of humic acid derived from agricultural residues and the structural evaluation of structural characterization
12.45 PM – 1.00 PM	9	Ultrasound-Assisted Extraction and Emulsifying Performance Of Faba Bean Protein Isolate

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 1C: SEMINAR ROOM 2, IPPP
ARTIFICIAL INTELLIGENCE IN ENGINEERING/RENEWABLE ENERGY

Session chair: Assoc. Prof. Dr. Ir. Teguh Ariyanto (UGM)		
12.00 PM – 12.15 PM	50	An Integrated White-Box Machine Learning, Techno-Economic, and DFT Framework for High-Throughput Discovery of Hydrogen-Storage Metal–Organic Frameworks
12.15 PM – 12.30 PM	25	Numerical investigation of the crystal particle behavior in Taylor-Couette flow developed during segregation separation process
12.30 PM – 12.45 PM	142	Valorization of Plastics and Agricultural Biomass into Certified Fuels, Lubricants and Specialty Chemicals: Product Diversity, Applications, and Scale-Up Challenges
12.45 PM – 1.00 PM	119	Cement Precursor Production in Single Chamber Electrochemical Cell

DAY 1 (11 NOVEMBER 2026)
SESSION 1D: AUDITORIUM, IPPP
ENVIRONMENTAL AND SAFETY ENGINEERING

Session chair: Assoc. Prof. Dr. Hanee Farzana Hizzadin (UM)		
12.00 PM – 12.15 PM	105	Why Rules Alone Are Not Enough: A Human-Factors Model of Machinery Safety Behaviour
12.15 PM – 12.30 PM	122	Major Accident Hazard Assessment of Methanator Overheating Integrating HAZOP And LOPA For Safeguard Adequacy Evaluation
12.30 PM – 12.45 PM	138	Sustainable Safety and Health Guideline for Tourism Industry in Riyadh And Alula, Saudi Arabia
12.45 PM – 1.00 PM	151	From Vulnerability to Proactive Preparedness: Integrating Safety Culture and Local Governance in Sulawesi for Asean Disaster Resilience

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 2A:THE NEST, IAS
ADVANCED SCIENCE AND MATERIALS

Session chair: Prof. Ir. Dr. Ching Yern Chee (UM) / Dr. Sharifah Shahira Syed Putra (UM)		
2.00 PM – 2.15 PM	69	Fabrication of Capillary Suspensions Using Aqueous Two-Phase Systems with hydroxyapatite and their application
2.15 PM – 2.30 PM	87	Mechanistic Investigation Of Spray Pre-Oiled Polypropylene Micro/Nanofibre Adsorbents For Oil Removal From Oily Wastewater Through Surface Characterization And Adsorption Modelling
2.30 PM – 2.45 PM	133	Titanium Dioxide-Based Paints for Passive Daytime Radiative Cooling in Tropical Climates: An Experimental Validation
2.45 PM – 3.00 PM	135	Enhancing Chitosan Yield from Black Soldier Fly (BSF) Pupal Shell via Study of Response Surface Methodology (RSM) Optimiaation and Structural Characterization
3.00 PM – 3.15 PM	147	Electrodynamic Fabrication and Real-Time Electrochemical Dissolution Kinetics of Ascorbic Acid in Electrospun K-Carrageenan/Polyvinyl Alcohol Oral Dispersible Nanofibers
3.15 PM – 3.30 PM	149	Swelling Optimization and Characterization of Sodium Alginate/ Humate Hydrogels for Potential Biomaterial
3.30 PM – 3.45 PM	7	Fabrication And Characterization of Cellulose Nanocrystal (CNC)/Carbon Nanotubes (CNT) – Reinforced Poly(3,4-Ethylenedioxythiophene) Polystyrene Sulfonate (PEDOT:PSS) Hybrid Films for Solar Cell Applications
3.45 PM – 4.00 PM	30	Adsorption and Filtration Performance of Polysulfone-$NiFe_2O_4$ Membranes for Cu^{2+} Removal from Concentrated $CuSO_4$ Solution

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 2B: SEMINAR ROOM 1, IPPP
PETROLEUM, OIL & GAS PROCESSING/ CARBON CAPTURE & UTILISATION

Session chair: Ir. Dr. Zulhelmi Amir (UM)		
2.00 PM – 2.15 PM	57	Experimental Investigation of Saponin Adsorption on Sandstone and Carbonate for Geological CO_2 Storage: Effects of Temperature, pH, and Salinity.
2.15 PM – 2.30 PM	1	Development of Ultrasound-Assisted UIO-66/MEA Nanofluid for CO2 Absorption
2.30 PM – 2.45 PM	11	Development of gas-liquid multiphase flow model to simulate reactive mass transfer at high Péclet number
2.45 PM – 3.00 PM	44	Isotherm Modelling Of Nitrogen And Carbon Dioxide Adsorption onto MOF-177
3.00 PM – 3.15 PM	78	Solar Water Disinfection as a Low-Carbon Pre-treatment Strategy for Microalgae-Based Carbon Capture Systems
3.15 PM – 3.30 PM	96	Biogas Enhancement via Microbial Electrosynthesis
3.30 PM – 3.45 PM	103	Synthesis And Characterization Of Titanium Carbide Mxene By Etching Method
3.45 PM – 4.00 PM	111	Efficient Electrochemical Conversion of Captured CO_2 to CO Using Bimetallic MOF Catalysts in Optimized Amine Electrolytes

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 2C: SEMINAR ROOM 2, IPPP
ENVIRONMENTAL AND SAFETY ENGINEERING

Session chair: Dr. Eng. Raden Darmawan (ITS)		
2.00 PM – 2.15 PM	6	Definitive Screening Design for Evaluating Effects Of DC Voltage And Chitosan Dosage In Reducing Turbidity Through Dc Electric Field Flocculation
2.15 PM – 2.30 PM	58	Divergent Morphological Scaling of Ganoderma lucidum and Pleurotus ostreatus Composites: Utilizing Optical Topography to Predict Biofilter Nitrification Kinetics
2.30 PM – 2.45 PM	64	Effect Of Degradation-Promoting Bio-Additives On The Biodegradability Of Polypropylene-Based Plastics
2.45 PM – 3.00 PM	65	Nickel Cobaltite (NCO) as Benchmark Cathode for Evaluating the Performance of Nickel-Cobalt-Manganese (NCM) and Nickel-Cobalt-Zinc (NCZ) Ternary Oxides in Hybrid Membrane Capacitive Deionization
3.00 PM – 3.15 PM	76	Improving the quality of flexible packaging plastic waste through optimised sustainable de-inking pre-treatment
3.15 PM – 3.30 PM	79	Comparative Evaluation Of Polyurethane, Polyethylene And Polypropylene Foams For Reusable Oil Recovery From Simulated Palm Oil Mill Effluent
3.30 PM – 3.45 PM	125	From Governance To Performance: An Integrated Waste Governance Framework For Industrial Waste Transformation. A Case Study Of Ecomove At Pt Pupuk Kalimantan Timur
3.45 PM – 4.00 PM	134	Nano-Enabled Photocatalytic Degradation of Pharmaceutical and Personal Care Products in Wastewater: Performance, Reusability, and Process-Scale Challenges

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 2D: AUDITORIUM, IPPP
PROCESS SYSTEMS ENGINEERING/ REACTION ENGINEERING AND CATALYSIS

Session chair: Assoc. Prof. Ir. Dr. Fathiah Mohamed Zuki (UM)		
2.00 PM – 2.15 PM	106	A Lyapunov approach to entropy production shaping for control of homogeneous reaction systems
2.15 PM – 2.30 PM	118	Transient CFD Modelling of Lignocellulosic Biomass Combustion in a Grate-Fired Furnace
2.30 PM – 2.45 PM	126	From 1983 to Net Efficiency: How PKT-2 Ammonia Revamp Achieved 4.22 GJ/t (4 MMBTU/t) Ammonia Energy Reduction
2.45 PM – 3.00 PM	141	Assessment of Plastic-Derived Oil as a Potential Feedstock for Lubricant-Range Base Oil Production
3.00 PM – 3.15 PM	143	Catalytic Solvothermal Liquefaction of Polystyrene to Crude Oil Using Novel Metallic Mesh Catalysts
3.15 PM – 3.30 PM	144	In-Situ Hydrothermal Liquefaction of Natural Rubber Latex into Bio-Crude Oil
3.30 PM – 3.45 PM	150	Functional Durability Assessment of Irradiated Biofilm Carriers at Different Absorbed Doses for Wastewater Treatment
3.45 PM – 4.00 PM	139	Biogasoline Synthesis from Cracking Reaction of Waste Cooking Oil Using Calcined Eggshell: Effects of Temperature, Stirring Speed and Catalyst Loading

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 3A: THE NEST, IAS
REACTION ENGINEERING AND CATALYSIS

Session chair: Ir. Dr. Chuah Chong Yang (UM)		
4.15 PM – 4.30 PM	2	Pilot-Scale Demonstration of Iron-Based Catalysts for CO2 Conversion into Sustainable Aviation Fuel via Direct Fischer–Tropsch Reaction
4.30 PM – 4.45 PM	4	Evaluation of catalytic properties of Pt/CeO2 prepared by supercritical CO2 antisolvent micronization process
4.45 PM – 5.00 PM	20	Effects of Ultrasonic Frequency on Particle Size and Polymerization Behavior in Suspension Polymerization via Ultrasonic Tandem Emulsification
5.00 PM – 5.15 PM	37	Acid hydrolysis behavior of cellulose in the presence of VOSO4
5.15 PM – 5.30 PM	46	Gas-phase hydrogenation of furfural over copper catalysts loaded on various carbon supports
5.30 PM – 5.45 PM	70	Kinetics of choline acetate-catalyzed glycolysis of polyethylene terephthalate in polycotton fabric at high diffusional limitation
5.45 PM – 6.00 PM	137	Valorisation of Oil Palm Frond into a Xylan-Lignin Composite Hydrogel for Drug Delivery Application

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 3B:SEMINAR ROOM 1, IPPP
RENEWABLE ENERGY

Session chair: Dr. Izzuddin Izzat Zainal Abidin (UM)		
4.15 PM – 4.30 PM	23	Effects of electrode diameter and ion concentration on bubble dynamics around microelectrode surface
4.30 PM – 4.45 PM	38	Synergistic Integration of Organosolvent Pretreatment And Carbonization On The Electrical Conductivity Of Biomass-Based Electrodes
4.45 PM – 5.00 PM	93	Apparent Gasification Kinetics of Regional Woody Biomass: A Comparative TGA Study on Gelam and Acacia
5.00 PM – 5.15 PM	95	Black Soldier Fly Oil to Sustainable Aviation Fuel via One-Step NiMo/SAPO-11 Catalysis
5.15 PM – 5.30 PM	160	Bio-Based Nanocellulose-Reinforced Starch Films for Sustainable and Functional Food Packaging
5.30 PM – 5.45 PM	116	A Study on Palm Kernel Shell as a Biomass Reductant for Limonite Ore: Reduction Behaviours and Kinetic Analysis
5.45 PM – 6.00 PM	32	Modelling, Simulation and Sensitivity Analysis of Omega-3 Encapsulation using Spray Dryer

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 3C: SEMINAR ROOM 2, IPPP
SEPARATION TECHNOLOGY

Session chair: Dr. Luqman Hakim Mohd Azmi		
4.15 PM – 4.30 PM	13	Coagulation Activity of a Nature-based Coagulant, Moringa Seed Extracts, in Seawater
4.30 PM – 4.45 PM	16	Performance of Hydrophobic Deep Eutectic Solvents for β Carotene Recovery from Nannochloropsis sp.
4.45 PM – 5.00 PM	158	Water Quality Assessment of Selected Water Bodies in Zoo Taiping, Perak, for Eutrophication Study
5.00 PM – 5.15 PM	43	Characteristics of two phases in stirred type emulsion-flow extractor
5.15 PM – 5.30 PM	67	Cellulose Generation from Rice Husk Using Subcritical Water Delignification
5.30 PM – 5.45 PM	86	Alkaline Subcritical Water Delignification of Oil Palm Empty Fruit Bunches: Effect of Temperatures on Cellulose Physicochemical Properties
5.45 PM – 6.00 PM	109	Nitrous Oxide Emissions and Nitrifying Microbial Communities in Tropical Wastewater Treatment Plants

PARALLEL ORAL PRESENTATION

DAY 1 (11 NOVEMBER 2026)
SESSION 3D: AUDITORIUM, IPPP
REACTION ENGINEERING AND CATALYSIS/ CARBON CAPTURE & UTILISATION

Session chair: Ir. Dr. Jegalakshimi Jewaratnam (UM)		
4.15 PM – 4.30 PM	117	Modeling and Simulation of Industrial Reactor of Lauryl Alcohol Ethoxylation
4.30 PM – 4.45 PM	123	From 1 Kg To 12 M^3: Development, Industrial Deployment, And Post-Service Evaluation Of The Pktb-Z10sz Desulfurizer
4.45 PM – 5.00 PM	127	Electrodeposited NiFe Alloy Catalysts for Industrial-Scale Alkaline Water Electrolysis: Sustaining >500 mA/cm2 with Enhanced Kinetic Efficiency
5.00 PM – 5.15 PM	132	Sustainable Waste Valorization and CO2 Mitigation through Mineral Carbonation of Phosphogypsum
5.15 PM – 5.30 PM	145	CO2 And N2O Solubilities in Monoethanolamine-Dimethyl Sulfoxide-Lithium Chloride Solutions As Potential Absorbent for CO2 Capture
5.30 PM – 5.45 PM	146	A System Dynamics-Based Carbon Management Framework Integrating Carbon Trading, Urban Energy Transition and Digital MRV For Low-Carbon Cities
5.45 PM – 6.00 PM	148	Bioactivity Evaluation of Hydroxyapatite in Simulated Body Fluid: Role of Temperature and Ionic Composition

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 4A: THE NEST, IAS
SEPARATION TECHNOLOGY/ ARTIFICIAL INTELLIGENCE IN ENGINEERING/ CARBON CAPTURE & UTILISATION

Session chair: Prof. Dr. Aileen Orbecido (DLSU)		
10.10 AM – 10.25 AM	124	Innovative And Integrated Technology Using Ultrafiltration Systems For The Removing Of Emerging Pollutants From A Variety Of Water Sources
10.25 AM – 10.40 AM	131	Photo-Activated Ring-Opening Metathesis Polymerization for Interfacial Fabrication of Thin-Film Composite Membranes
10.40 AM – 10.55 AM	40	Accelerating Fluid Simulations with PINN by Combining Pre-Trained Subdomain Models
10.55 AM – 11.10 4M	129	A Hybrid Time-Lag And Artificial Intelligent Framework for PM2.5 Forecasting
11.10 AM – 11.25 AM	136	Explainable Deep Learning Framework for Subgrid Drag Modeling in Fluidized Beds
11.25 AM – 11.40 AM	52	Boosting Integrated CO_2 Capture and Electrochemical Conversion through Rationally Designed Tin–Lead Interfaces in Amine Electrolytes
11.40 AM – 11.55 AM	59	Direct synthesis of dimethyl ether from CO_2 hydrogenation over $Cu–Al_2O_3–SiO_2$ catalysts prepared using the sol-gel method
11.55 AM – 12.10 PM	89	Preconcentration of 66 Trace Elements Using a Hollow-Fiber Forward Osmosis Membrane for Inorganic Elemental Analysis
12.10 PM – 12.25 PM	47	Development of a Fluorescent Particle-Tracking-Based Criterion for Determining the Just-Suspended Speed, Njs

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 4B: SEMINAR ROOM 1, IPPP
ADVANCED SCIENCE AND MATERIALS/ CARBON CAPTURE & UTILISATION

Session chair: Prof Dr Michael Francis D Benjamin (UST)		
10.10 AM – 10.25 AM	10	Spray Synthesis of Tunable Magnetic Cellulose Nanofiber/Iron Oxide Composite Microparticles for Magnetic Bead Applications: Effect of Fe3O4 Particle Size
10.25 AM – 10.40 AM	12	Design of nanostructured Nb-doped SnO2 supports for Ir-based OER catalysts in PEM water electrolysis
10.40 AM – 10.55 AM	28	Role of Particle Surface Softness in the Adhesion and Cellular Uptake of Biodegradable Nanoparticles
10.55 AM – 11.10 4M	45	Nitridation of Graphite by Irradiating MHz Ultrasound with Hydrazine as A Nitrogen Source
11.10 AM – 11.25 AM	55	Thermal and Mechanical Properties of Poly(lactic Acid)/Microwave-Modified Graphene Nanocomposites Plasticized with Polyethylene Glycol
11.25 AM – 11.40 AM	61	Numerical simulation of bubble covered with tin oxide in melted solder
11.40 AM – 11.55 AM	82	Characterization and Performance Evaluation of Activated Carbon-Nickel Hexacyanoferrate Composite Cathode in Hybrid Membrane Capacitive Deionization
11.55 AM – 12.10 PM	91	Performance Of A Two-Stage Wick-Based Interfacial Solar Vapor Generation System Under Variable Ambient Environmental Conditions
12.10 PM – 12.25 PM	107	Stearic-Acid-Modified Dolomite-Filled PES/PSf Mixed-Matrix Membranes Fabricated Using Green Solvent for Direct Contact Membrane Distillation

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 4C: SEMINAR ROOM 2, IPPP
ARTIFICIAL INTELLIGENCE IN ENGINEERING/ BIOTECHNOLOGY AND BIOENGINEERING

Session chair: Prof. Dr. Ir. Lailatul Qadariyah (ITS)		
10.10 AM – 10.25 AM	140	AI Based Performance Prediction and Autonomous Recycle Control of an Ultra Low Pressure Reverse Osmosis (ULPRO) Membrane System in Brackish Water Treatment
10.25 AM – 10.40 AM	8	Extraction of Protein and Lipid from Philippine Arabica Green Coffee Beans *(Coffea arabica)*
10.40 AM – 10.55 AM	39	Synthesis and Characterization of Bacterial Cellulose Functionalized with Fractionated *Amaranthus viridis L.* Extracts for Antimicrobial Wound Dressing Applications
10.55 AM – 11.10 4M	49	Simultaneous Carbon and Nitrogen Removal by *Pleurotus ostreatus* and *Ganoderma lucidum*: Deciphering the Metabolic Switch Between Heterotrophic Nitrification and Assimilation
11.10 AM – 11.25 AM	53	Integrated Flocculation–Flotation Approach for Enhanced Harvesting of Nannochloropsis sp.
11.25 AM – 11.40 AM	71	A Review of Bioreactor Applications for Wastewater Treatment Using Ganoderma Species
11.40 AM – 11.55 AM	128	Gluconate-Rich *Aspergillus niger* Metabolites Are Associated with Enhanced Rare-Earth Bioleaching from Coal Fly Ash
11.55 AM – 12.10 PM	101	Advanced stackable membrane microreactor for gas–liquid-solid reactions: Design, operation, and scale-up
12.10 PM – 12.25 PM	102	Beyond Temperature Matching: Reaction-Network-Guided Design of Peroxide Initiator Blends for High-Pressure Polymerization

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 5A:SEMINAR ROOM 1, IPPP
FOOD ENGINEERING AND TECHNOLOGY

Session chair: Prof. Dr. Sanggono Adisasmito (ITB)		
2.00 PM – 2.15 PM	114	Electrostatic Confinement Enables Regioselective C-H Functionalization of Polyethylene
2.15 PM – 2.30 PM	51	Encapsulation of Titanium and Cellulose Nanopowders in Alginate Beads for Enhancing Microalgae Cultivation
2.30 PM – 2.45 PM	62	Extraction of Essential Oil from Medicinal Plants Using Supercritical CO2 Method
2.45 PM – 3.00 PM	63	Encapsulation Optimization And Degradation Kinetics Of Marigold (*Tagetes Erecta L.*) Carotenoids Using A Maltodextrin–Gelatin Matrix
3.00 PM – 3.15 PM	157	Magnetic Activated Carbon from Chempedak Peels Carbonised at Different Temperatures for the Treatment of Wastewater
3.15 PM – 3.30 PM	77	Decarbonising Malaysia's Palm Oil Mills through On-Site Microalgae Cultivation: A Pathway Towards Carbon Market Readiness
3.30 PM – 3.45 PM	108	Impacts of Heat Treatment and Long-Term Storage on Methylaluminoxane Composition, Catalytic Activity, and Polyethylene Properties
3.45 PM – 4.00 PM	36	Analysis of the effect of variations in EPFB Biopellet Co-Firing on the Concentration and Reduction of Ambient Air Pollutants at a Coal-Fired Power Plant Using AERMOD

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 5B: SEMINAR ROOM 2, IPPP
CARBON CAPTURE & UTILISATION

Session chair: Prof Dr. Shuhaimi B Mahadzir (UTP)		
2.00 PM – 2.15 PM	115	Ultrasound-Assisted Esterification of Waste Cooking Oil for Biodiesel Production using Activated Zeolite Catalyst
2.15 PM – 2.30 PM	85	Elucidating The Effect Of Reactor Configuration On Xylan Recovery During Reductive Alkaline Hydrogen Peroxide Pretreatment System With Implications For Scale-Up
2.30 PM – 2.45 PM	120	Integrated Silica Leakage Control For Enhancing Water–Steam Quality And Operational Reliability In Ammonia Plant
2.45 PM – 3.00 PM	90	Moringa Seed Extract as Bio-Coagulant for Natural Organic Matter Removal in Seawater Reverse Osmosis Pretreatment
3.00 PM – 3.15 PM	80	Topsis Modelling Of E-Waste Collection In The Informal Sector For Enhancing Recycling Sustainability And Waste-To-Value Supply Chains
3.15 PM – 3.30 PM	81	Biodegradable $FeCl_3$-Impregnated PVA/Gelatin Biohydrogel for Sustainable Phosphate Removal and Resource Recovery
3.30 PM – 3.45 PM	54	Optimization Of Flavonoid Extraction From Durian Peel Waste Using Response Surface Methodology As An Effective Biopesticide
3.45 PM – 4.00 PM	34	Baseline Characterization of Municipal Solid Waste at Blang Bintang Landfill, Aceh Besar, Indonesia: Composition, Generation Rate, and Management Implications

PARALLEL ORAL PRESENTATION

DAY 2 (12 NOVEMBER 2026)
SESSION 5C: THE CUBE, IPPP

Session chair: Dr. Tan Sue Lyn		
2.00 PM – 2.15 PM	68	Photocatalytic Conversion of Dissolved Co_2 Into Various Value-Added Chemicals Using ZnO-ZnS Heterojunction Catalyst
2.15 PM – 2.30 PM	94	Development of Porous Geopolymer Pellets for Dye Adsorbent
2.30 PM – 2.45 PM	156	Direct Lithium Extraction from Real Oilfield Produced Water Using Multistage Continuous Adsorption Columns
2.45 PM – 3.00 PM	66	Process Optimization of Cold-Bonding Pelletization for Fly Ash-Based Geopolymer Aggregate Synthesis
3.00 PM – 3.15 PM	153	High-Pressure CO_2 Mineralization in Synthetic Hypersaline Produced-Water Brine: Optimization of Yield and Calcite Selectivity
3.15 PM – 3.30 PM	56	Antibacterial Performance of Starch-Based Composite Noodles: Influence of Nano-Processing and Garlic Addition as Bioactive Ingredients
3.30 PM – 3.45 PM	121	Membrane Technologies for CO_2 Separation: A Review
3.45 PM – 4.00 PM	113	Fabrication and Characterization of Polyethyleneimine-Modified Cellulose Acetate Membrane for Potential CO2 Separation

POSTER PRESENTATION

DAY 2 (12 NOVEMBER 2026)
TIME: 12.25 PM - 1.10 PM
LOCATION: EXHIBITION HALL, IPPP
NOTE: POSTERS WILL BE AVAILABLE FOR VIEWING STARTING ON DAY 1.

PAPER ID	TITLE
17	Development of Rate Constant Estimation Model for Ultrasonic Decomposition of phenol using TiO2 particles
18	Kinetic Analysis of Dissolved Oxygen Degassing Induced by Ultrasonic Irradiation
19	Development of New Chemical Process Utilizing Release Characteristics of Substances Encapsulated in External Stimulus-Responsive Capsules
21	Evaluation of CO2 Absorption Performance of Aqueous Morpholine/MDEA Blended Solvents
22	Integrated Process Design of High-Purity CO_2 Dehydration and Liquefaction for Ship Transport
24	Dynamic Simulation and Surrogate Optimisation of VPSA for Carbon Monoxide Recovery from Steelmaking Off-Gases
26	Evaluation of droplet size decrease and stability of O/W emulsions using two-stage ultrasonic irradiation
27	Effect of Reaction Conditions on Energy Efficiency in the Photocatalytic Degradation of Persistent Organic Matter
29	Effect of Droplet Size on Phenol Degradation using Microdroplets and UV Irradiation
33	Effect of Growth Media Composition using Food Industry By-Products on the Chemical and Nutritional Characteristics of Mycelium-Based Foods
42	Utilization of Supercritical Carbon Dioxide Extraction for Contaminant Removal from Semiconductor Manufacturing Equipment Components and Modeling of Extraction Behavior
155	Experimental Study for an Enhanced Interfacial Solar Vapour Generation System for Seawater Purification
159	Dispersion Control of Particles in Slurry and Its Application to Manufacturing