



**TAYLOR'S  
UNIVERSITY**  
Wisdom · Integrity · Excellence

**SCHOOL OF  
ENGINEERING**



*"TRANSITION INTO A CLEAN AND  
SUSTAINABLE SOCIETY THROUGH  
MULTIDISCIPLINARY ENGINEERING AND  
TECHNOLOGIES"*

**2023**

**5TH JULY 2023  
9.00AM – 5.00PM  
TAYLOR'S UNIVERSITY,  
LAKESIDE CAMPUS**



# **Celebrating EURECA: Unveiling Engineering Brilliance at Taylor's University**

Taylor's University's School of Engineering proudly presents EURECA, a pivotal platform that showcases the remarkable research undertaken by our diligent engineering students.

First launched in 2010, EURECA has grown from humble beginnings to become a much-anticipated annual event that is now over a decade old. This conference not only provides an opportunity for our students to present their innovative research to external parties and industrial players, but it also serves as an excellent platform for them to gain insights into the latest advancements in technology.

As the conference has expanded and evolved over the years, we have been able to welcome external parties to EURECA, thus fostering an environment of academic exchange and collaborative discovery. This inclusivity gives participants the unique opportunity to engage with the broader engineering community, making EURECA more than just a showcase of student achievement, but a cornerstone event for innovation and technological progress.

The conference truly embodies the spirit of Taylor's School of Engineering, committed to fostering an atmosphere of innovation, exposure, and real-world relevance for all participants.



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**TAYLOR'S  
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# OPENING MESSAGE

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**PROFESSOR  
DR. DAVID ASIRVATHAM,  
EXECUTIVE DEAN FACULTY OF  
INNOVATION & TECHNOLOGY,  
TAYLOR'S UNIVERSITY**



I take immense pride and honor in welcoming you to the 19th edition of our esteemed conference, EURECA.

Born from humble beginnings over a decade ago, EURECA has grown into a beacon of technological innovation and academic brilliance, demonstrating the exceptional research capabilities of our dedicated engineering students. Yet, EURECA transcends the role of a simple conference—it's an embodiment of our commitment to cultivating a new generation of engineers who can deftly navigate the complexities of a rapidly evolving world.

This year, our theme is "Transition into a Clean and Sustainable Society through Multidisciplinary Engineering and Technologies." It is a powerful reminder that engineering and technology are not isolated fields, but are fundamental forces that shape our society. As we stand at the cusp of a green revolution, we invite all participants to engage in thoughtful dialogue, share innovative ideas, and collaborate to create sustainable solutions for our shared future.

Welcome to EURECA 2023. We look forward to witnessing the groundbreaking ideas and technologies that will be showcased, and the positive changes they will catalyse in our world.

# WELCOME MESSAGE

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**CHAIRPERSON OF  
ORGANIZING COMMITTEE  
DR LEE CHING HAO  
CHAIRPERSON, ORGANIZING  
COMMITTEE  
19TH EURECA 2023**



I am delighted to welcome you to the 19th edition of EURECA, hosted by the School of Engineering at Taylor's University. As Chairperson of the Organizing Committee, it is an absolute honor to greet you at this highly-anticipated event, which has been a platform for innovation and collaborative learning for over a decade.

The theme of this year's conference, "Transition into a Clean and Sustainable Society through Multidisciplinary Engineering and Technologies," is a testament to our collective commitment to tackling the pressing environmental challenges of our era. This theme inspires us to focus our innovative potential on creating solutions that respect our planet, promote sustainable practices, and foster multidisciplinary collaborations.

EURECA is more than just a platform for our talented engineering students to showcase their pioneering research; it is an opportunity for everyone to share knowledge, to explore emerging trends, and to push the boundaries of what is achievable through engineering and technology.

As we come together for this significant event, I encourage you to embrace the opportunities for networking, to engage actively in the sharing of ideas, and to partake in the wealth of knowledge this conference promises. Let us harness the power of our collective intellect and creativity to generate solutions that will help transition us into a clean and sustainable society.

# OUR

# KEYNOTE SPEAKERS

## IR. PROFESSOR DR. RAJKUMAR DURAIRAJ

Currently the Dean (Academic Quality Assurance and Audit), Division of Quality Assurance and Audit at Universiti Tunku Abdul Rahman (UTAR) and Associate Director (Manufacturing and Materials), Engineering Accreditation Department (EAD), Board of Engineers Malaysia (BEM) and lead-auditor for MyRA. He graduated B.Eng (Hons) Manufacturing Engineering from University of Salford, UK and PhD in Electronics Manufacturing from University of Greenwich, UK.



He was appointed as the Head of Department, Mechanical and Materials Engineering from 2012-2019, Chairman of the University Accreditation Committee (2017-2019) and MyRA Committee (2017-current). He has served as a Visiting Professor to OTH Regensburg, Germany (2017- Present) and Vellore Institute of Technology (VIT), India (2017- 2018).

Prof. Rajkumar was the recipient of UTAR Research Excellence Award in 2017. He was also awarded Young Members Award by the Institution of Mechanical Engineers, UK in 2011. He was awarded the Wighton Titular Fellowship of Engineering in 2010 by the Association of Commonwealth of Universities, United Kingdom. His research interest includes rheology, development of electronic interconnection materials and nanocomposites.

Prof. Rajkumar is a registered Professional Engineer with the Board of Engineers Malaysia and Corporate Member of The Institution of Engineers Malaysia (IEM). He was elected as a Fellow to ASEAN Academy of Engineering and Technology (AAET) in 2022.

# OUR KEYNOTE SPEAKERS

**DR.  
SUNIL KUMAR  
RAMAMOORTHY**

Dr. Sunil Kumar Ramamoorthy is a distinguished researcher at the Swedish Center for Resource Recovery, where he specializes in polymer technology. His professional journey includes tenure as a scientist at a research institution in Sweden and as a visiting professor at an Indian university.



Dr. Ramamoorthy is actively involved in academia, teaching and supervising students at various levels from bachelor's to PhD, in diverse disciplines such as mechanical engineering, chemical engineering, textile engineering, and resource recovery. He also contributes his expertise and leadership as a board member at the University of Borås in Sweden and as a guest editor for several academic journals.

His primary research focus is on the development of bio-based polymer materials and biocomposites. He also works on characterizing materials based on their various properties. Dr. Ramamoorthy's notable contributions to the field of renewable plastics and his passion for teaching exemplify his commitment to advancing the field of sustainable materials.

# PROGRAM ITINERARY

8.30am- 9.00am	Delegate Registration	LT 19, Level 1
9.00am- 9.10am	Opening speech & Official Launch of 19th EURECA 2023 Prof. Dr. David Asiruatham Executive Dean Faculty of Innovation and Technology	LT 19, Level 1
9.10am- 9.20am	Speech by Chairperson of Organizing Committee of 17th EURECA 2022 Dr. Lee Ching Hao Chairperson, Organzsing Committee for the 19th EURECA 2023	LT 19, Level 1
9.20am- 9.50am	1st Keynote Speaker Professor Ir. Dr. Rajkumar Durairaj Dean (Academic Quality Assurance and Audit) Lee Kong Chian Faculty of Engineering and Science Department of Mechanical and Material Engineering Universiti Tunku Abdul Rahman	Online, via Zoom
9.50am- 10.00am	Group photo session	LT 19, Level 1
10.30am - 12.15pm (ORAL SESSIONS)	A1 (FYP2) A2 (FYP2) A3 (FYP2) A4 (FYP2) A5 (FYP2)	D8.01 D8.08 D8.09 D8.10 D8.11



# PROGRAM ITINERARY

10.30 am -12.15 pm (POSTER SESSIONS)	PA1 -PA6 (FYP1) PB1 - PB3 (FYP1)	LT10 LT11
12.00 pm – 1.15 pm (SESSIONS)	B1 (FYP2) B2 (FYP2) B3 (FYP2) B4 (FYP2) B5 (FYP2) B6 (PG01)	D8.01 D8.08 D8.09 D8.10 D8.11 D8.11
1.00 pm - 2.00 pm	Networking Lunch	
2.00 pm - 2.45 pm	2nd Keynote Speaker Dr. Sunil Kumar Ramamoorthy (Researcher and Senior Lecturer, University of Borås, Sweden)	Online, via Zoom
2.45 pm - 3.00 pm	Closing Ceremony Speech Professor Dr. Sim Yee Wai Head of School School of Engineering Faculty of Innovation and Technology	LT 19, Level 1
3.00 pm - 3.30 pm	Awards and Certificate Distribution	LT 19, Level 1
3.30 pm - 3.45 pm	Wrap Up and Handover Speech Ts. Nurhazawani Ismail Conference Chair 20th EURECA 2023	LT 19, Level 1

# Oral Presentations

<b>Session A1 (D8.01)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	2CE01	AP Ir. Dr. Chong Chien Hwa (University of Nottingham Malaysia) TBC	Ir. Dr. Wan Yoke Kin (University of Nottingham Malaysia)	Dr. Pang Ming Meng (Taylor's University)
1045 - 1100	2CE02			
1100 - 1115	2CE04			
1115 - 1130	2CE08			
1130 - 1145	2CE11			
1145 - 1200	2CE12			
<b>Session A2 (D8.08)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	2EE01	Ts. Dr. Low Foo Wah (UTAR)	Ir. Dr. Mun Hou Kit (UTAR)	Dr. Nohaidda Sariff (Taylor's University)
1045 - 1100	2EE02			
1100 - 1115	2EE03			
1115 - 1130	2EE05			
1130 - 1145	2EE06			
1145 - 1200	2EE09			
<b>Session A3 (D8.09)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	2ME02	Dr. Lee Yap Chen (Swinburne University of Technology)	Dr. Ku Pei Xuan (Taylor's University)	Dr. Yong Leng Chuan (Taylor's University)
1045 - 1100	2ME03			
1100 - 1115	2ME07			
1115 - 1130	2ME10			
1130 - 1145	2ME23			
1145 - 1200	2ME26			

<b>Session A4 (D8.10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	2ME01	Assoc Prof Wan Nurshazwani Wan Zakaria (UiTM)	Ir. Dr. Denesh Sooriamoorthy (Taylor's University)	Dr. Praveena Nair (Taylor's University)
1045 - 1100	2ME06			
1100 - 1115	2ME16			
1115 - 1130	2ME17			
1130 - 1145	2ME18			
1145 - 1200	2ME20			
<b>Session A5 (D8.11)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	2ME04	Dr. Soon Kok Heng (Swinburne University of Technology )	Dr. Ali Mohammed Hussein Mohsen (Taylor's University)	Ir. Dr. Amares Singh (Taylor's University)
1045 - 1100	2ME05			
1100 - 1115	2ME21			
1115 - 1130	2ME24			
1130 - 1145	2ME25			
1145 - 1200	2ME27			

<b>Session B1 (D8.01)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	2CE03	Dr. Masniroszaima M Zain (Petronas)	Ts. Ong Thai Kiat (TARUMT)	Ts. Nurhazwani (Taylor's University)
1215 - 1230	2CE05			
1230 - 1245	2CE07			
1245 - 1300	2CE09			
<b>Session B2 (D8.08)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	2EE04	Ms. Anis Fariza (SEGi University)	Ms. Farhana Halil (SEGi University)	Dr. Puteri Nor Aznie Fahsyar (Taylor's University)
1215 - 1230	2EE07			
1230 - 1245	2EE08			
1245 - 1300	2EE10			
<b>Session B3 (D8.09)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	2ME12	Assoc Prof Dr. Ammar Abdulaziz Majeed Al- Talib (UCSI University)	Ir. Dr. Shamini Janasekaran (SEGi University)	Ir. Noor Zafirah (Taylor's University)
1215 - 1230	2ME15			
1230 - 1245	2ME19			
1245 - 1300	2ME22			

<b>Session B4 (D8.10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	2CE06	ChM Shazleen Saadon (Petronas)	ChM Liyana Salwa Bt Mohd Nazir (Petronas)	Dr. Nor Ilia Anisa (Taylor's University)
1215 - 1230	2CE10			
1230 - 1245	2CE13			
1245 - 1300	2CE14			
<b>Session B5 (D8.11)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	2ME09	Mr. Anand Ngranasekaran (Blue Star M&E Sdn Bhd)	Ir. Dr. Douglas Tong Kum Tien	Mr. Mohd Hardie Hidayat Mohyi (Taylor's University)
1215 - 1230	2ME11			
1230 - 1245	2ME13			
1245 - 1300	2ME14			
1300 - 1315	PG01			

# Poster Presentations

<b>Session PA1 (TBC)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1CE01	ChM Emily S Majanun (Petronas)	Dr. Wong Wai Yin (UKM)	AP. Dr. Chua Bee Lin (Taylor's University)
1045 - 1100	1CE02			
1100 - 1115	1CE03			
1115 - 1130	1CE04			
1130 - 1145	1CE05			
1145 - 1200	1CE06			
<b>Session PA2 (TBC)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1EE01	Ms. Anis Fariza (SEGi University)	Ms. Farhana Halil (SEGi University)	Dr. Phang Swee King (Taylor's University)
1045 - 1100	1EE02			
1100 - 1115	1EE03			
1115 - 1130	1EE04			
1130 - 1145	1EE05			
<b>Session PA3 (LT10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1ME04	Mr. Hazlan Meera Hussain (Proton)	Ir. Dr. Patrick Teo (SEGi)	Dr. Julian Tan (Taylor's University)
1045 - 1100	1ME06			
1100 - 1115	1ME14			
1115 - 1130	1ME16			
1130 - 1145	1ME18			
1145 - 1200	1ME19			

<b>Session PA4 (LT10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1ME07	Assoc Prof Dr Ammar Abdulaziz Majeed Al-Talib (UCSI University)"	Mr. Anand Nganasekaran (Blue Star M&E Sdn Bhd)	AP Dr. Choo Hui Leng (Taylor's University)
1045 - 1100	1ME08			
1100 - 1115	1ME17			
1115 - 1130	1ME20			
1130 - 1145	1ME25			
1145 - 1200	1ME32			
<b>Session PA5 (LT11)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1ME05	Dr. Koay Seong Chun (UTAR)	Ir. Dr. Shamini Janasekaran (SEGi University)	Ir. Ts. Dr. Nagentrau Muniandy (Taylor's University)
1045 - 1100	1ME21			
1100 - 1115	1ME23			
1115 - 1130	1ME26			
1130 - 1145	1ME33			
1145 - 1200	1ME34			
<b>Session PA6 (LT11)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1030 - 1045	1ME01	Mr. Alexander Wong Hsien Min (Daikin R&D) Malaysia Sdn Bhd	Dr. Chin Wai Meng (Daikin R&D) Malaysia Sdn Bhd	Mr. Mohd Hardie Hidayat Mohyi (Taylor's University)
1045 - 1100	1ME10			
1100 - 1115	1ME11			
1115 - 1130	1ME24			
1130 - 1145	1ME27			
1145 - 1200	1ME35			
1200 -1215	1ME28 (Private)			

<b>Session PB1 (LT10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	1EE06	Ts. Dr. Low Foo Wah (UTAR)	Ir. Dr. Mun Hou Kit (UTAR)	Dr. Chew Wei Jen (Taylor's University)
1215 - 1230	1EE07			
1230 - 1245	1EE08			
1245 - 1300	1EE09			
<b>Session PB2 (LT10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	1ME02	Assoc Prof Dr. Wan Nurshazwani Wan Zakaria (UiTM)	Ir.Ts. Dr. Nagentrau (Taylor's University)	Dr. Ali Mohammed Hussein Mohsen (Taylor's University)
1215 - 1230	1ME12			
1230 - 1245	1ME15			
1245 - 1300	1ME22			
1300 - 1315	1ME30			
<b>Session PB3 (LT10)</b>				
	<b>Code</b>	<b>Judge 1</b>	<b>Judge 2</b>	<b>Standby Judge</b>
1200 - 1215	1ME3	Dr. Soon Kok Heng (Swinburne University of Technology)	Dr. Lee Ching Hao (Taylor's University)	Dr. Ku Pei Xuan (Taylor's University)
1215 - 1230	1ME9			
1230 - 1245	1ME13			
1245 - 1300	1ME29			
1300 - 1315	1ME31			



# Project Titles

<b>Session A1</b>	
2CE01	Investigation of blood viscosity equation models for blood analogue fluid.
2CE02	Investigation of kinetic studies on PHA production using uncoupled carbon and nitrogen strategy as enrichment of mixed culture
2CE04	Optimisation of removal of methyl orange in wastewater by adsorption-coagulation combined system with Artocarpus Heterophyllus as the coagulant.
2CE08	The effect of preservative addition towards the viscosity and density of blood mimicking fluid.
2CE11	Application of Hibiscus Sabdariffa as the coagulant in treating electroplating wastewater
2CE12	Synergistic Effect of Poly(vinyl alcohol) and Black Tea Extract as Eco-Friendly Active Packaging Films
<b>Session A2</b>	
2EE01	Utilization of Digital Substation Control System based on IEC 61850 standards
2EE02	E-gen textile
2EE03	Double busbar Substation Simulator Panel
2EE05	Modelling a PV panel embedded with Phase Change Material
2EE06	IoT-based Fault Detection and Remote Monitoring for Underground Cable
2EE09	Design and performance analysis of Electric Vehicle Battery State of charge

<b>Session A3</b>	
2ME02	Performance comparison of High Temperature optimised serpentine and parallel PEMFCs using CFD
2ME03	Design and numerical analysis of a wind energy harvesting system with piezoelectric generator.
2ME07	A detailed comparison of the efficacy of a variety of antifouling topographies in turbulent and laminar flow using Computational Fluid Dynamics (CFD)
2ME10	PEMFC bipolar plate optimisation using computational fluid dynamics.
2ME23	Design and numerical analysis of a raindrop energy harvesting system with piezoelectric generator.
2ME26	Design and numerical analysis of an acoustic energy harvesting system with piezoelectric generator.
<b>Session A4</b>	
2ME01	Development of different fin designs and material and its effect to the thermal efficiency on an automotive electronic product.
2ME06	Analyses of mechanical properties and lead time of different metal joining method in electronic industry for the use in electronic control units.
2ME16	Study on the concept and design on a sprained ankle rehabilitation device
2ME17	Failure analysis on loads and wear of the hip prosthesis design using finite element analysis
2ME18	Analysis of fatigue characteristics on piston by using finite element method
2ME20	Analysis on the energy absorption and its cost reduction using an alternate material for electronic product's packaging.

<b>Session A5</b>	
2ME04	Stormwater solid waste and debris removal system
2ME05	IOT based Vibration Monitoring of Compressor for Predictive Maintenance
2ME21	Design and develop an Apartment Door-to-Door Delivery Robot
2ME24	Additively Manufactured Cranioplasty Implants with Antibacterial Properties
2ME25	Design and analysis of a flywheel energy storage system
2ME27	Development of Delamination Failure Prediction Tool in High-Performance Concrete (HPC) Strengthened Reinforced Concrete (RC) Beam using Machine Learning

<b>Session B1</b>	
2CE03	Extraction of antioxidants from the waste empty palm fruit bunch: A kinetic and thermodynamics studies.
2CE05	Synthesis and Characterization of Hydrophilic Deep Eutectic Solvent for Optimisation of Antioxidant Capacity and Extraction Yield of Rosmarinic Acid from <i>Salvia officinalis</i>
2CE07	Effect of natural antioxidants on the oxidative stability of the biodiesel from waste cooking oil during storage
2CE09	Extraction Optimisation of Eucalyptus Deglupta, Kinetics and Correlation Studies: Total Phenolic Compounds, $\alpha$ -pinene, p-cymene and Antioxidant Activity

<b>Session B2</b>	
2EE04	Mobile robot global path planning system in a static environment using Genetic Algorithm
2EE07	High resolution low altitude 2D map reconstruction using UAV
2EE08	Design and Implementation of a Security Systems for Delivery Drone
2EE10	The application of image processing for 3D printing failure detection

<b>Session B3</b>	
2ME12	A numerical analysis of a bioinspired antifouling topography that mimics the surface on a Carcinus Maenus crab.
2ME15	The Application of Computational Fluid Dynamics (CFD) to evaluate the impact of roughness induced by antifouling coatings on the efficiency of a ship's propeller.
2ME19	Effect of winglet design on aerodynamic characteristics of fixed-wing civil commercial aircraft – An optimisation approach
2ME22	Advanced design for a F1 rear wing for better performance.
<b>Session B4</b>	
2CE06	Recovery of hyaluronic acid produced by Streptococcus zooepidemicus using Aqueous Biphasic System
2CE10	Application of Natural Deep Eutectic Solvent-Based Aqueous Two-Phase System in Extraction of Pectin from Jackfruit Rind
2CE13	Effect of enrichment strategies and extraction technique on the characteristics of PHA produced from mixed culture and crude glycerol
2CE14	Enzymatic Hydrolysis and Characterization of Rice Milk
<b>Session B5</b>	
2ME09	Utilization of Used Face Mask for Polyester (PE) Thermoset Composite in Endemic
2ME11	Production of biochar from Sapindus Mukorossi (soap nuts) pericarp for water purification
2ME13	Removal of Emerging Pollutants in Wastewater using the Leaf Extract of Ocimum Sanctum (Holy Basil) and Azadiractha Indica (Neem)
2ME14	Study the Effect of Kenaf Fibre Reinforcement in PLA Polymer Composite for 3D Printing Filament
PG01	Pore Parameter Selection for Fused Deposition Modelling of Gas Diffusion Layers in Proton Exchange Membrane Fuel Cells

### Session PA1

1CE01	Optimization of antioxidants extracted from palm kernel cake using ultrasonic-assisted extraction: a study on oxidative stability and oil-solubility for food grade biolubricant
1CE02	Adsorption as an innovative approach for the treatment of oil and grease in wastewater
1CE03	Partial purification of hyaluronic acid derived from Streptococcus zooepidemicus using Aqueous Two-Phase System
1CE04	Parametric study on palm oil biomass as fuel source in molten carbonate direct carbon fuel cell
1CE05	Life cycle assessment (LCA) for the proton exchange membrane fuel cell (PEMFC)
1CE06	Graphene Nanoplatelets Coated Polyurethane Sponge for Separation of Oil-contaminated Water: Effect of (3-aminopropyl)triethoxysilane as Adhesion Promoter

### Session PA2

1EE01	Motor fault detection and reaction on multicopter UAV
1EE02	The computation analysis of potential synthesized oil in high voltage application
1EE03	Development of an automation system for chicken broilers
1EE04	Classification of mango ripeness using feature extraction from RGB and an artificial neural network
1EE05	Effective cell balancing circuit design for solar lighting system battery packs

### Session PA3

IME04	Design and numerical analysis of roll hoops structure using composite for FSAE vehicle
IME06	Comparison of Water-cooled and Air-cooled Cooling Systems on Lithium Ion Battery Pack Thermal Performance under High Speed Racing Conditions
IME14	Impact Attenuator Design for FSAE Vehicle
IME16	Strategy Development for Energy Efficient FSAE Car
IME18	Topology optimization of swing arm for FSAE EV racing cars
IME19	Optimization of Stiffness and Damping for FSAE Vehicle Suspension System

### Session PA4

IME07	Energy Assessment for a Low Carbon Sustainable Building
IME08	Development of IOT based Compressor Vibration Monitoring for Predictive Maintenance
IME17	Developing a Novel Measurement and Verification (M&V) Methodology for Chiller Energy Saving Computation using Machine Learning
IME20	Optimizing Flexural and Tensile Strength of 3D Printed Fixed Wing Drone Through Analysis of Fused Filament 3D Printing Layering Properties
IME25	Development of a device to aid in the removal of air bubbles from parental nutritional products
IME32	Flight Dynamics and Stability Analysis of a 3D Printed Modular Fixed-Wing UAV Design for Low Reynolds Number Operations

### Session PA5

1ME05	Potential of Coir Fibre Reinforced Polypropylene Composite in Printed Circuit Board (PCB)
1ME21	Biomimetic carbon dots-zeolite nanocomposite based on Moringa Oleifera seed extract
1ME23	Roll-hoop structure using hybrid glass/kenaf natural fibre/epoxy composite for FSAE vehicle by vacuum infusion method
1ME26	Recycling Powdered Fire-Extinguisher Waste
1ME33	Alkaline treatment effects on coconut coir waste natural fibres on polypropylene polymer composites
1ME34	Containerized portable water treatment plant for remote areas

### Session PA6

1ME01	Numerical Investigation on the Effects of Driver/Driven Length Ratio on the Compressible Highly Transient Flow Conditions in Shock Tubes
1ME10	A CFD study to compare the efficacy of three microfluidic channels of varied geometries for cell separation applications.
1ME11	Investigation on the effect of endplates of NACA airfoil for improving the performance of VAWT at low wind speeds.
1ME24	SafeBoat: Designing an Affordable and Effective Rescue Boat for the Safe Evacuation of Children and Babies During Floods.
1ME27	Numerical Investigation of Vortex-Induced Vibrations on Bluff Bodies for Power Generation
1ME35	Three-Dimensional Numerical Analysis of Pin Fin Effectiveness for Heat Transfer Enhancement in Double Pipe Heat Exchanger: Comparison of Conical and Cylindrical Pin Fins
1ME28	Air Purifier using Super Absorbent Polymer as a filter (SAP) - <i>Private</i>

### **Session PB1**

1EE06	The application of image processing for IC chip inspection
1EE07	Development of a plant weaning chamber for acclimatization of sensitive in vitro propagated plantlets
1EE08	Investigation on the effect of material of electrode and the use of membrane on the electrical energy efficiency of microbial fuel cells
1EE09	Tracking of moving obstacles with UGV in motion

### **Session PB2**

1ME02	Design and analysis of an automobile exhaust waste heat recovery system
1ME12	Power output optimization for parallel PEMFC by water mass transport study for prolonged operations in different thermal environment
1ME15	The application of Discrete Phase Model in Computational Fluid Dynamics to predict biofoulant accumulation on a biomimetic model of the lotus leaf in a microfluidic environment.
1ME22	Enhancing Heat Removal and H <sub>2</sub> O Retention Capability of Passive Air-Cooled Polymer Electrolyte Membrane Fuel Cells by altering Flow-Field Designs geometry
1ME30	Design an adjustable ankle controller for ankle-foot orthosis



### Session PB3

1ME03	Investigation on the hardness and tensile strength of low temperature tin(Sn)-bismuth(Bi) solder joint.
1ME09	Towards the development of 3D-printed food: A systematic engineering approach
1ME13	Design and Development of a Medication Monitoring and Reminder Device
1ME29	Investigation on the thermal and wetting properties of low temperature tin(Sn)-bismuth(Bi) solder.
1ME31	Development of a laboratory impedance tube for low frequency sound absorption.

# THE 19TH EURECA COMMITTEE

## STEERING COMMITTEE

Professor Dr. Sim Yee Wai  
Associate Professor Dr. Choo Hui Leng  
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