

2024
IEM/SIE/E
2nd International Conference on Emerging Materials
for Sustainable Energy and Environment

SUNWAY
UNIVERSITY 
A CLASS ABOVE

Program Booklet

2nd International Conference on Emerging Materials for Sustainable Energy and Environment 2024

Sunway University, Malaysia
December 16th – 18th, 2024



IN COLLABORATION WITH:



ORGANIZED BY:

School of
**ENGINEERING &
TECHNOLOGY**

Sunway Centre for
**ELECTROCHEMICAL
ENERGY AND
SUSTAINABLE
TECHNOLOGY**

SUPPORTED BY:

Jeffrey Cheah
Foundation 
Nurturing the Seeds of Wisdom

SPONSORED BY:



Welcome Message President of Sunway University



I am pleased to welcome you to the 2nd International Conference on Emerging Materials for Sustainable Energy and Environment 2022 (EMSEE2024). We are honoured to host the EMSEE2024 this year at Sunway University, Malaysia. Sunway University's strategy is to work collaboratively with other academic institutions, industries, government, and the general population to address global challenges. This is also part of Sunway's ambition to create a sustainable, liveable and smart city with education at the centre of it all.

The organisers of EMSEE2024 have invited an all-star lineup of keynote speakers from around the world, all of whom are leaders and pioneers in their respective fields. The meeting sessions provide a one-of-a-kind platform for all prominent minds to present their ideas, envision new research, network with industry professionals, and advance their professional careers. During this event, there will be idea exchanges, knowledge sharing, and networking.

It will provide opportunities for all to work together, enrich young budding careers and address global challenges. I would like to take this opportunity to express my heartfelt appreciation to all individuals who have directly and indirectly contributed towards the successful organisation of this event, especially the EMSEE Chairman and organising committee members.

I cordially welcome you all to EMSEE2024 and hope you will find the meeting sessions intellectually stimulating as well as enjoyable. I trust that the outcomes of this intellectual collaboration and exchange of ideas will result in long-term solutions for some of the major global challenges and will contribute to the elevation of society. Sunway looks forward to working as an alliance partner and flag bearer to address these challenges by conducting more of these events in the future.

I extend my warmest greetings to all participants and invite the scientific community to join us in making this conference a success.

Professor Sibrandes Poppema
President of Sunway University,
Malaysia.

Welcome Message

Dean of School of Engineering and Technology



On behalf of School of Engineering and Technology, Sunway University, it is a true honor and pleasure to welcome you all to the inaugural International Conference on Emerging Materials for Sustainable Energy and Environment 2024 (EMSEE2024), hosted by the Sunway Centre for Electrochemical Energy and Sustainable Technology (SCEEST). This conference is made possible through the close collaboration of many esteemed governmental, academic, and industrial partners and sponsors.

EMSEE2024 aims to unite leading experts in the rapidly advancing fields of new materials and their applications, with a key focus on sustainability—an essential priority for both the present and future of our planet. The conference serves as a platform for sharing recent breakthroughs, promising research outcomes, and shaping future directions in the development of advanced materials. It is designed to bring together top scientists, researchers, engineers and scholars to exchange knowledge in sustainable, clean, and green energy. Additionally, it will highlight important discussions on addressing environmental sustainability, clean energy affordability, and urgent challenges related to air and water pollution. EMSEE2024 able to foster opportunities for fruitful collaboration across research groups, both locally and globally, creating pathways for future joint ventures in these critical areas.

I would like to take this opportunity to extend my heartfelt thanks to the members of Organising Committee, International Scientific Committee, and Technical Program Committee for their tireless efforts in bringing this conference to life. I also wish to express my sincere gratitude to our distinguished Plenary and Keynote Speakers, who despite their demanding schedules, have generously contributed their expertise to elevate the quality of this event.

I wish all attendees of EMSEE2024 a productive, engaging, and enjoyable experience.

Professor Denny Ng Kok Sum

Dean, School of Engineering & Technology
Sunway University.

Welcome Message EMSEE 2024 Chairman



Dear colleagues,

It is a great pleasure for me to welcome all the delegates to the 2nd International Conference on Emerging Materials for Sustainable Energy and Environment (EMSEE2024), hosted by Sunway University. The conference theme is aligned with the University's commitment to advancing sustainable solutions by adapting the underlying principles of the SDGs, where the core priorities focus on impact-driven and translational solutions to achieve sustainable development.

At EMSEE2024, we bring together young minds and researchers from academic institutions and industries to present up-to-date findings from theoretical and applied research of developing materials and their application in a wide range of fields such as solar energy conversion, electrochemical energy storage & management, thermal storage & management, gas catalysis, etc. I am particularly excited about the upcoming presentations from our plenary and keynote speakers to learn about the latest research developments, upcoming challenges and their potential solutions. Through this conference, we hope to strategically engage with and connect researchers around the world to align science, technology, and innovation with nanotechnology to address important global concerns related to energy and environment.

I am grateful to Sunway University, our conference partners, academia, and sponsors for their continued support. I also thank the EMSEE2024 conference committee, which worked tirelessly to ensure the success and smooth running of the conference. Additionally, I would like to express my sincere gratitude to our distinguished speakers, as well as all presenters and participants. We believe this conference will promote research collaborations that can contribute to restoring the progressive role via research finding dissemination and networking with other researchers and academic institutions.

I hope you will enjoy the conference, make new friends, brainstorm new ideas, and above all, take this opportunity to visit beautiful Malaysia and have a good time.

With my best regards,

Assoc. Prof. Numan Arshid
Conference Chair
EMSEE2024

Tentative Program– EMSEIE2024

Time

Tentative (Day I)

Monday, 16-12-2024

08:00 –09:00	Registration & Morning Refreshments			
Opening Ceremony (JC3, Sunway University) <i>Zoom Link: https://sunway-edu-my.zoom.us/j/97795085473</i>				
09:00–09:05	Arrival of guest			
09:05–09:10	National Anthem & Recitation of Du'aa by Dr Muhammad Norhaffis			
09:10–09:15	Welcoming Remarks by Assoc. Prof. Dr. Numan Arshid <i>Acting Head of Sunway Centre for Electrochemical Energy and Sustainable Technology (SCEEST)</i>			
09:15–09:30	Opening Remarks by Professor Sibrandes Poppema <i>President of Sunway University</i>			
09:30–09:45	Opening Ceremony & Group Photography Session			
09:45–10:15	Morning Break			
Plenary Session I (JC3, Sunway University)				
10:15–11:15	Professor Husam Alshareef <i>Professor & Chair, Center of Excellence for Renewable Energy and Storage Technologies (CREST), KAUST.</i> Topic: MXene for Energy Harvesting and Storage Applications			
Keynote Session I (JC3, Sunway University)				
11:15–12:00	Assoc. Prof. Dr. Stefano Cinti <i>Associate Professor at the Department of Pharmacy, University of Naples "Federico II"</i> Topic: Tailoring Electrochemical (Bio)Sensors with the Help of Sustainability			
12:00–13:20	Lunch Break			
Presentation Session I				
Time	Theme: Energy Conversion (EC) Chair: Dr. Christin Brings <i>(Lecture Theatre 5, LT5)</i>		Theme: Energy Storage (ES) Chair: Assoc. Prof. Dr. Stefano Cinti <i>(Lecture Theatre 6, LT6)</i>	
	<i>Zoom Link LT5:</i> https://sunway-edu-my.zoom.us/j/91971110441		<i>Zoom Link LT6:</i> https://sunway-edu-my.zoom.us/j/96602796319	
13:20–13:40	Invited Speaker EC-015	Assoc. Prof. Dr. Wong Wai Yin Oral Presentation <i>Controlled Particle Size and Pore Structure in Fe-ZIF-8-Derived Catalysts for Enhanced Oxygen Reduction Reaction and Durability in Acidic Medium</i> Universiti Kebangsaan Malaysia, Malaysia	Invited Speaker ES-001	Dr. Huaiyu Shao Oral Presentation <i>Hydrogen Energy Storage vs. Lithium Ion Batteries, -from Mobile to Stationary Applications</i> University of Macau, China
13:40–14:00	EC-027	Assoc. Prof. Bashir Ahmmad Arima Oral Presentation <i>Visible Light Driven Hydrogen Evolution from Water by Organic Molecules Embedded CdS Nanocomposites</i> Yamagata University, Japan	ES-023	Dr. Yi-Shiuan Wu Oral Presentation <i>Taylor-Flow Synthesis-Driven and Functional Surface-Modified Ni-Rich NCMA Cathodes for Stability-Improved Lithium Metal Batteries</i> Ming Chi University of Technology, Taiwan
14:00–14:20	EC-010	Prof. Shahbaz Ahmed Siddiqui Oral Presentation <i>Fabrication Strategies, Developments and Challenges in Perovskite Solar Cells</i> Manipal University Jaipur, India	ES-012	Dr. Ravi Kumar Sharma Oral Presentation <i>Development of a form-stable phase transition material obtained by valorization of spent coffee for thermal energy storage</i> Manipal University Jaipur, India
14:20–14:40	Sponsor	Dr. Isyraf Aznam Application Specialist AFM <i>Beyond Surface Mapping: Advanced AFM Approaches in Material Science</i> Gaia Science (M) Sdn. Bhd., Malaysia	ES-026	Dr. Eslam Aboelazm Oral Presentation <i>Enhanced Electrochemical Energy Storage through MXene-Cobalt Carbide Composites Derived from Coordination Polymers</i> Universiti Teknologi Petronas, Malaysia

Time		Theme: Energy Conversion (EC) Chair: Dr. Christin Brings <i>(Lecture Theatre 5, LT5)</i>		Theme: Environmental Technologies (E), Machine Learning (ML) and Energy Storage (ES) Chair: Assoc. Prof. Dr. Stefano Cinti <i>(Lecture Theatre 6, LT6)</i>	
		Zoom Link LT5: https://sunway-edu-my.zoom.us/j/91971110441		Zoom Link LT6: https://sunway-edu-my.zoom.us/j/96602796319	
14:40–15:00	EC-019	Dr. N.S.K. Gowthaman Oral Presentation <i>N-doped carbonized wood supported 3D Ni-Se-P microflakes fused CuFe composite: Electron channeled electrokinetics in a trifunctional catalyst in sensing and energy conversion</i> Monash University, Malaysia	E-015	Dr. Rahul Goyal Oral Presentation* <i>Possibility of Waste Cooking Oil Biodiesel as Alternative Fuel in an IC Engine</i> Manipal University Jaipur, India	
15:00–15:20	EC-030	Dr. Anuj Kumar Oral Presentation <i>Molecular MN4- and Atomically Dispersed MN4- Active Sites Towards Oxygen Reduction Reaction</i> GLA University, India	ML-002	Dr. Rakesh Kumar Oral Presentation* <i>Machine Learning Algorithm in Response to Physiological Loading for the Prediction of Mineral Apposition Rate</i> Manipal University Jaipur, India	
15:20–15:40	EC-003	Dr. Muhiddin Ahmad Sheriff Oral Presentation <i>Deposition of silicon dioxide thin films on black silicon nanowires by liquid phase deposition process for photovoltaic applications</i> Federal Polytechnic Damaturu, Nigeria	E-020	Dr. Ashish P. Unnarkat Oral Presentation* <i>Investigating Porous and Non-Porous Catalysts in the Selective Oxidation of Cyclohexane</i> Pandeet Deendayal Energy University, India	
Tea Break					
16:00–16:20	EC-013	Maryam Bahaeldin Mohamed Hassan Oral Presentation <i>Technical and Economic Feasibility of On-Grid Photovoltaic Systems for a Residential Building in Cairo</i> Taylor's University, Malaysia	ES-018	Usman Ahmed Oral Presentation <i>From Biomass to Supercapacitors: UAE-Sourced Biochar Composites for Superior Energy Storage</i> United Arab Emiratad University, UAE.	
16:20–16:40	EC-005	Raja Rafidah Binti Raja Sulaiman Oral Presentation <i>Unveiling The Active Phases of Hydrothermally-grown 1-dimensional (1D) NiMo Electrocatalysts for Alkaline Hydrogen Evolution Reaction</i> Universiti Kebangsaan Malaysia, Malaysia	ES-021	Karthic Natarajan Oral Presentation <i>Influence of the Electrolyte Salts on Lithium Plating in Anode-free Li Metal Batteries (AFLMBs)</i> Ming Chi University of Technology, Taiwan	
16:40–17:00	EC-024	Vikas Tomar Oral Presentation <i>Analysis of a combined High-Temperature Proton Exchange Membrane Fuel Cell and Organic Rankine Cycle system for waste heat recovery</i> Indian Institute of Technology Jammu, India	ES-005	Tahir Rahim Oral Presentation <i>Towards advantages and challenges of hydrogen storage for on-board mobility application</i> Universiti Malaya, Malaysia	
17:00–17:20	EC-025	Deeksha Paliwal Oral Presentation <i>Performance assessment of a thermally coupled proton exchange membrane fuel cell with vapour absorption refrigeration system</i> Indian Institute of Technology Jammu, India	ES-009	Ajay Pratap Singh Oral Presentation <i>Comparative study of PCM and nanoparticles embedded PCM on the performance of solar pond</i> Shiv Nadar Institution of Eminence, India	

End of Day I

Time

Tentative (Day II)

Tuesday, 17-12-2024

08:00–09:00	Registration			
Plenary Session II (JC3, Sunway University) Zoom Link: https://sunway-edu-my.zoom.us/j/97795085473				
09:00–10:00	Assoc. Prof. Dr Michael Naguib <i>Associate Professor, Department of Physics and Engineering Physics, Tulane University, New Orleans, Louisiana, USA</i> Topic: 2D Materials for Electrochemical Energy Storage and Conversion			
Keynote Session II (JC3, Sunway University) Zoom Link: https://sunway-edu-my.zoom.us/j/97795085473				
10:00–10:45	Dr. Christin Brings <i>Scientific consultant at VDI/VDE/IT GmbH, Berlin, Germany.</i> Topic: Success of Green Deal through Ensuring the sustainable innovations in renewable energies by Promotion of Industry-Science-Collaboration as Global Competition with a Main Focus on Battery Technologies			
10:45–11:00	Morning Break			
11:00–11:45	Fireside Chats			
11:45–12:00	Interval for Presentation Sessions			
Presentation Session II				
Time	Theme: Energy Conversion (EC) & Environmental Technologies (E) Chair: ChM Dr. Muhammad Norhaffis Mustafa <i>(Lecture Theatre 5, LT5)</i>		Theme: Energy Storage (ES) & Environmental Technologies (E) Chair: Dr. Nur Najwa Abdul Talib <i>(Lecture Theatre 6, LT6)</i>	
	Zoom Link LT5: https://sunway-edu-my.zoom.us/j/91971110441		Zoom Link LT6: https://sunway-edu-my.zoom.us/j/96602796319	
12:00–12:20	Invited Speaker EC-006	Dr. Arulraj Arunachalam Oral Presentation <i>Harnessing the Potential of 2D Chalcogenides as Nanocatalysts for Efficient Hydrogen Generation</i> Universidad Tecnológica Metropolitana,, Chile	Invited Speaker ES-013	Dr. Jun Young Cheong Oral Presentation <i>Potential Impact of Employing Electrospun Nanofibers for Advanced Energy Storage Systems</i> University of Glasgow, United Kingdom
12:20–12:40	E-007	Dr. S. PratimaDevi Oral Presentation <i>Mechanism, adsorption characteristics of nitrate with LDH-modified biochar, and their role as electrodes for electrochemical feature</i> Ming Chi University of Technology, Taiwan	E-021	Assoc. Prof. Niraj S. Topare Oral Presentation <i>Potential Use of Woody and Nonwoody Agro-Wastes as Efficient Adsorbents for Removal of Dyes and Heavy Metals</i> Bharati Vidyapeeth (Deemed to be University) College of Engineering, India
12:40–13:00	E-009	Dr. Sachin Kumar A/L Ashok Kumar Oral Presentation <i>Towards Sustainable Battery Recycling: Investigating Ammonium-Based Deep Eutectic Solvents for LNMCM Cathode Material Recovery</i> Taylor's University, Malaysia	E-025	Ir. Dr. Kalaimani Markandan Oral Presentation <i>Sustainable Lubrication: The Tribological Effects of Graphene in Peanut Oil</i> UCSI University, Malaysia
13:00–13:20	E-012	Ts. Dr. Lee Ching Hao Oral Presentation <i>Comprehensive Survey on Awareness of The Plastic Waste Environmental Impacts in Malaysia</i> Taylor's University, Malaysia	E-019	Assoc. Prof. Dr. Smitha Thankachan Oral Presentation (Virtual) <i>A Comparison on Ferrite and its Binary Nanocomposite Based on Their Efficacy in Photocatalytic Dye degradation</i> Mar Athanasius College (Autonomous), India
13:20–13:40	E-030	Lt Ts. Dr. Thachnatharen Nagarajan Oral Presentation <i>Enhancement of Rubber Seed Oil-Based Biolubricant Properties Using Amine-Functionalized Graphene Nanoparticles for Engine Applications</i> National Defense University of Malaysia, Malaysia	ES-004	Faiza Bibi Oral Presentation* <i>Microwave-assisted hydrothermal fabrication of hierarchical DTM MXene-MnO₂ heterostructure for supercapacitor application</i> Sunway University, Malaysia
13:40–14:20	Lunch Break			

Poster presentation (JC3 Concourse Area)

14:20–15:00	ES-020	Gokul Raj Deivendran Poster Presentation <i>Fast Catalytic Conversion of Polysulfides via rGONR/CNT on Porous N-Co₃O₄ Nanocages Composite for High-rate Li₂S-Based Lithium Sulfur Batteries</i> Ming Chi University of Technology, Taiwan.	ES-022	Ammaiyappan Anbunathan Poster Presentation <i>Advancing SPAN-Based Lithium-Sulfur Batteries with PP Separators Embedding a Single Crystal NCM811 Materials</i> Ming Chi University of Technology, Taiwan	ES-029	Ayman H. Alshareef Poster Presentation <i>Aqueous Zinc Metal Batteries Stabilized by Plasma Treatment</i> King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia
	E-018	Dr. Sathyadevi Palanisamy Poster Presentation <i>Impedimetric identification of heteroMOFs modified porous nickel foam self-supports as robust electrodes for CA 19-9 pancreatic tumor marker in human serum</i> National Taiwan Normal University, Taiwan	E-022	Dr. Priya Vijayaraghavan Poster Presentation <i>One-Pot Stepwise Hydrothermally Synthesized Gold Nanoparticles Supported Copper Metal-Organic Frameworks as an Impedimetric Immunosensor for the Ultrasensitive Detection of Pancreatic Cancer</i> National Tsing Hua University, Taiwan	E-024	Dr. Kavirajaa Pandian A/L Sambasevam Poster Presentation <i>An Optimization of Conducting Polymer-based Molecularly Imprinted Polymer for Facile Electrochemical Detection of 3-MCPD</i> Universiti Teknologi MARA, Malaysia

Time	Theme: Environmental Technologies (E) Chair: Dr. Huaiyu Shao (Lecture Theatre 5, LT5)		Theme: Energy Conversion (EC) Chair: Dr. Jun Young Cheong (Lecture Theatre 6, LT6)	
	Zoom Link LT5: https://sunway-edu-my.zoom.us/j/91971110441		Zoom Link LT6: https://sunway-edu-my.zoom.us/j/96602796319	

15:00–15:20	E-016	Sapna Gawali Oral Presentation <i>The combined effects of ZIF-8 and (PEGMA-co-AA) copolymer on PSF ultrafiltration membrane for the possible mitigation of environmental pollutants</i> Pandeet Deendayal Energy University, India	EC-028	Engr. Luvisminda D. Marcelo Oral Presentation <i>Power-Generating Waste Heat Recovery System In An Absorption Refrigerator</i> National University, Philippines
15:20–15:40	E-004	Ryan Yeo Yow Zhong Oral Presentation <i>Influence of Catalyst Loading Rates in Multi-array Air-Cathode Microbial Fuel Cell-based Biosensor</i> Universiti Kebangsaan Malaysia, Malaysia	EC-002	Elsa George Oral Presentation <i>Reduction of thermal conductivity and increasing the electrical conductivity in CoSb thermoelectric material by incorporating Ag nanoparticles</i> Sunway University, Malaysia

15:40–16:00 Tea Break

16:00–16:20	E-013	Teh Jia Leang Oral Presentation <i>Biolubricant Performance of Palm Kernel Expeller-derived Antioxidants in Fractionated Water Cooking Oil</i> Taylor's University Malaysia, Malaysia	EC-004	Ahmed Ali Oral Presentation <i>Effect of acid and alkali etching on electro catalytic behavior of Ti₂C₃ MXene for green hydrogen generation</i> University of Malaya, Malaysia
16:20–16:40	E-005	Bhargavsinh Kosamia Oral Presentation <i>Selective Conversion of CO₂ into Methanol Using a Cu-ZnO-Based Catalyst</i> Pandeet Deendayal Energy University, India	EC-029	Ranjit Dandapani Mohili Oral Presentation <i>MXene based hybrid nanostructures by HF free route as Highly Stable Electrocatalyst for Electrochemical Hydrogen Generation</i> Pandeet Deendayal Energy University, India
16:40–17:00	E-006	Ubaid Ullah Jan Oral Presentation* <i>2D bimetallic MXene for electrochemical nitrate reduction to green nitrogen fuels</i> Ming Chi University of Technology, Taiwan	EC-026	Wong Weng Pin Oral Presentation <i>Development of bismuth sulfide/graphene oxide nanocomposite with improved thermoelectric properties</i> Sunway University, Malaysia
17:00–17:20	E-002	Wu Ruiting Oral Presentation <i>A Comprehensive Bibliometric Review of Voluntary Carbon Markets: Key Players, Trends, and Future Directions</i> University of Malaya, Malaysia	EC-001	Abdul Hanan Oral Presentation <i>DTM MXene (Mo₂Ti₂C₃) integrated CoS₂: As an active electrocatalyst for HER in alkaline media</i> Sunway University, Malaysia

18:30–21:30	Conference Dinner Sunset Terrace @Sunway Resort Hotel
18:30–18:45	Arrival of Guests
18:45–21:00	Dinner & Networking
21:00–21:30	Photography Session

End of Day II

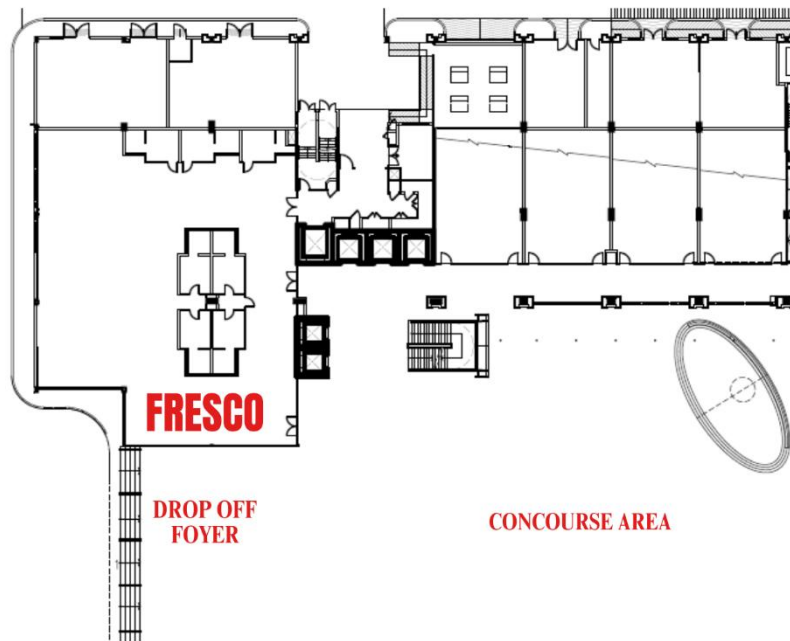
Time

Tentative (Day III)

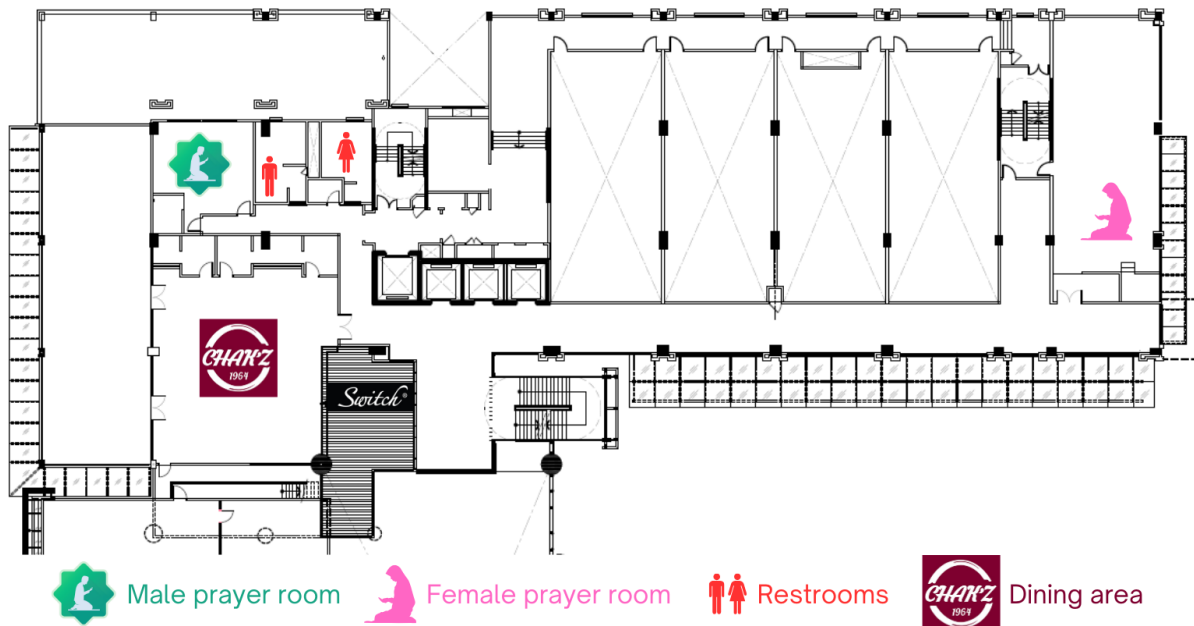
Wednesday, 18-12-2024

08:00–09:00	Registration			
Keynote Session III (JC3, Sunway University) Zoom Link: https://sunway-edu-my.zoom.us/j/97795085473				
9:00–10:00	Prof. Dr. A. Nirmala Grace (Virtual Presentation) Professor and Director at the Centre for Nanotechnology Research, Vellore Institute of Technology (VIT), Vellore, India Topic: Combined ML, DFT and Drift-diffusion Model for Fabrication and Optimization of DSSCs and PSCs			
10:00–10:20	Morning Break			
Presentation Session III				
Time	Themes: Energy Conversion (EC), Energy Storage (ES) Chair: Assoc. Prof. Dr. Wong Wai Yin (Lecture Theatre 5, LT5)		Themes: Energy Conversion (EC), Energy Storage (ES) & Environmental Technologies (E) Chair: Dr. Arulraj Arunachalam (Lecture Theatre 6, LT6)	
	Zoom Link LT5: https://sunway-edu-my.zoom.us/j/91971110441		Zoom Link LT6: https://sunway-edu-my.zoom.us/j/96602796319	
10:20–10:40	ES-019	Dr. Sanu Mathew Simon Oral Presentation (Virtual) <i>An Evolutionary Pathway of 2D Niobium Carbide MXenes in Energy Storage and Conversion: A Review</i> Mar Athanasius College (Autonomous)	E-011	Dr. Safa Senan Mahmod Oral Presentation (Virtual) <i>Hydrophilic/Underwater Oleophobic Composite Hydrogel for Efficient Oil/Water Separation in Environmental Remediation</i> Universiti Malaysia Perlis, Malaysia
10:40–11:00	EC-018	Khishn Kumar Kandiah Oral Presentation <i>A transparent hydrophobic coating with excellent self-cleaning and spectral response properties to enhance Photovoltaic (PV) panel efficiency</i> University of Malaya, Malaysia	E-017	Remya Ranjith Oral Presentation <i>Development of Promising Deep Eutectic Solvent Membranes for Energy Efficient CO₂ Separation Process</i> Pandit Deendayal Energy University, India
11:00–11:20	EC-022	Jarrar Ali Jaffri Oral Presentation <i>Sustainable Synthesis of MXene through Non-Toxic Solvent-Assisted Hydrothermal Etching Method</i> University of Malaya, Malaysia	ES-031	Fathima Ali Kayakool Oral Presentation <i>Synthesis of Lignin Sulfonate Derived Mesoporous Carbon as Sustainable Cathodes for High-Performance Aluminium Batteries</i> University of Hyderabad, India.
11:20–11:40	EC-020	Hairul Mardiah Hamzah Oral Presentation <i>The Influence of Calcination Temperature on The Spin Coating of Nickel Oxide Nanoparticles as HTL in Perovskite Solar Cells</i> University of Malaya, Malaysia	ES-027	Rewatkar Vrushali Vilasrao Oral Presentation <i>Carbon nanotubes (CNT) incorporated shape-stabilized eutectic phase change materials for thermal management of Li-ion batteries</i> University of Hyderabad, India
11:40–12:00	ES-014	Adriel Wong Jenkin & Wee Tze Sheng Oral Presentation (Virtual) <i>Design and Performance Analysis of a Formula SAE-EV Cooling System</i> Taylor's University Malaysia, Malaysia	ES-016	Nanthini Mohana Suntharam Oral Presentation <i>Fabrication of Anode for Sodium-Ion Batteries for High Performance and Stability</i> University of Malaya, Malaysia
12:00–12:20	Interval for closing ceremony			
Closing Ceremony (JC3, Sunway University) Zoom Link: https://sunway-edu-my.zoom.us/j/97795085473				
12:20–12:40	Awards Closing Ceremony & Photography Session			
12:40–13:00	Closing ceremony by The Dean of SET			
13:00–14:00	Lunch & Networking session			
End of Conference				

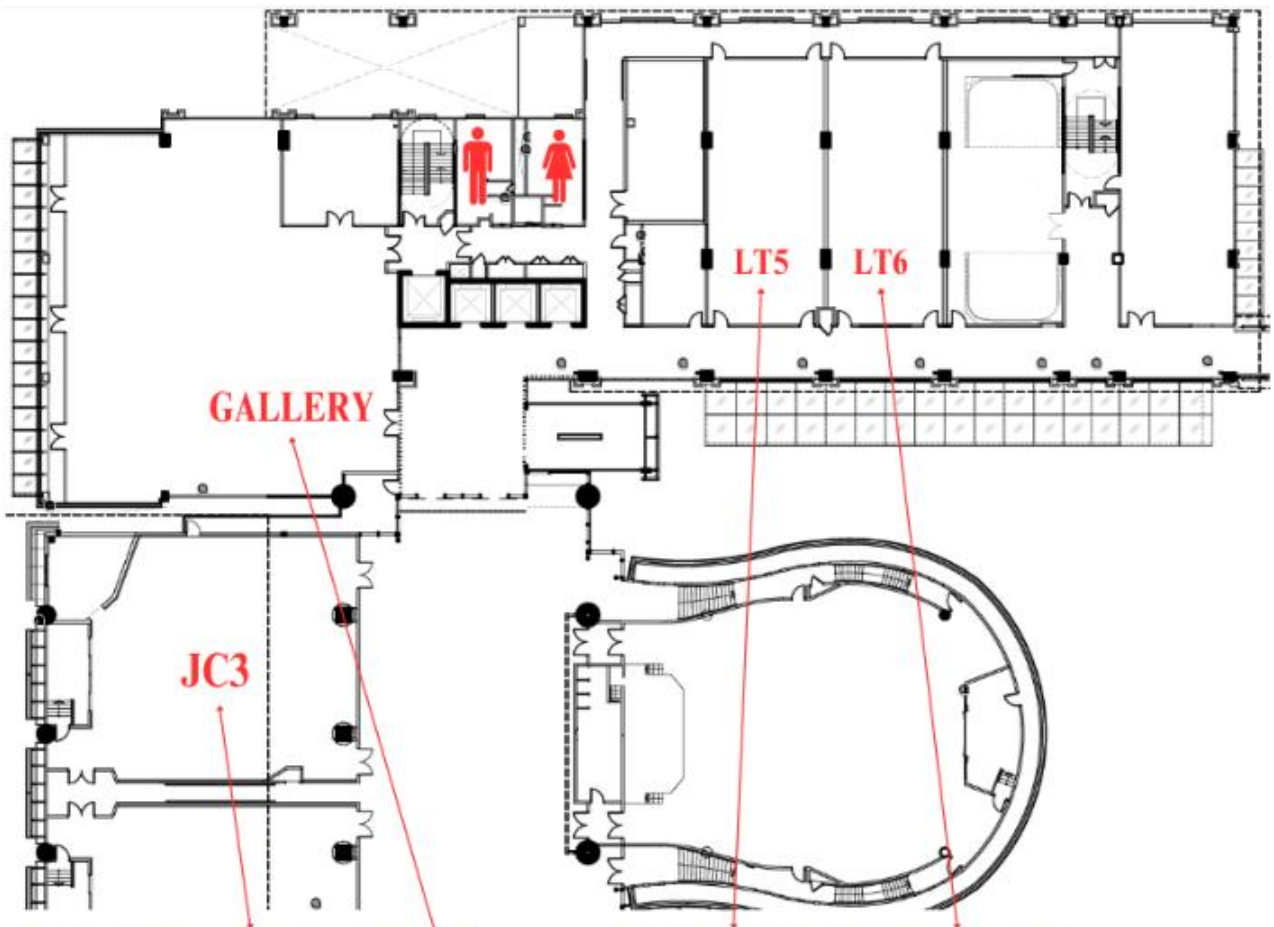
Ground Floor Layout (G, West wing)



Mezzanine Floor Layout (M, West wing)



First Floor Layout (L1)



Our Sponsors – EMSEIE2024



Official website: <https://amavenue.com/>

Contact e-mail: <http://Info@amavenuetrading.com/>



Official website:

<https://www.novatiqs.com/>

Email: enquiry@novatiqs.com



Official website:

<https://www.gaiascience.com.my/>

Email: info@gaiascience.com.my



Official website:

<https://www.innosintechlab.com.my/>

Email: lcw@innosinlab.com



Official website:

<https://www.aseptec.com.my/>

Email: info@aseptec.com.my



Official website: <http://www.solution.com.my/>

Email: sales@solution.com.my



<https://onlinelibrary.wiley.com/journal/25673173>



<https://www.rsc.org/journals-books-databases/about-journals/energy-advances/>



About Us

Group of Companies. Established in Malaysia HQ.
The Group is an upcoming, growth oriented Trade, FMCG and Retail group that believes in serving the needs and expectations of customers globally by supplying the best in class FMCG products of international standards at the most competitive prices.

We believe in anticipating and responding to customers' needs and preferences and serve them by building relationships with all our business partners by maintaining open communication lines to understand and adapt to the changing market dynamics and customer behaviour.

We are an employer that provides equal opportunities to all, maintain a friendly, fair and creative work environment to encourage and inspire innovation, nurture talent and promote employee involvement through recognition and providing growth opportunities.

We will always serve by upholding our principles of being an ethical, socially responsible and environmentally friendly corporate citizen in all the markets that we operate in without any compromise on our core values.





**Gaia
Science**

About us

We have a professional team with a collective & vast experience in the Scientific Industry, supplying scientific and laboratory equipment to the universities, research institutions and industries. We are recognized as a team who brings cutting-edge technologies from our partners and principals to our valued customers.

Our products are being used in application areas such as genomics, proteomics, cell biology, animal research, organic synthesis, nanotechnology, clean energy research, environmental analysis, imaging, and in educational areas. Besides providing Turnkey Laboratory Solutions to our customers, we are also involved in the design and manufacturing of bioengineering products such as mobile laboratories, modular BSL-3 laboratories, tissue trimming tables, necropsy tables and etc with international partners.

Bridging state-of-the-art laboratory products to the scientific community is our aim and providing service excellence is our goal. We see the scientific community as our partner in promoting scientific and technological advancement for a better world and better quality of life for all.



Dr. Isyraf Aznam (Gaia Science Sdn. Bhd.)

Dr. Isyraf Aznam, an experienced Application Specialist, merges technical knowledge with a passion for user-friendly solutions. He is a practical and versatile Mechanical Engineer with over eight years of experience in research and development. Additionally, he excels in a variety of characterization and analytical techniques, particularly in atomic force microscopy (AFM), yielding meaningful information. His proficient history encompasses various technical roles, ensuring a pragmatic approach to project or research implementation. Holding an advanced degree in material sciences, Dr. Isyraf aims to share with the audiences on utilizing AFM technology as an effective method for in-depth material analysis, catering to researchers with diverse backgrounds.

Official website: <https://www.gaiascience.com.my/>

Email: info@gaiascience.com.my



NOVATIQ SCIENTIFIC

Company Background

Novatiq Scientific group of companies, with over 30 years experience in dealing with scientific products, is a laboratory instrument provider in S.E.A. specialised in spectroscopy, elemental analysis, material characterisation, failure analysis, reliability, imaging and electron microscopy technique. We are representing well know high-end analytical instrument manufacturers to provide one stop lab solutions to customer.

Also specialising in laboratory furniture, we are able to provide customer consultancy in setting up analysis lab and providing supporting consumable parts.

Our products can be found in various key industries such as semiconductor front end and back end, general electronics, commercial laboratory, R&D department, government body and institutions.

Our company portfolio covers the following:

- Laboratory Imaging system
- Laboratory Furniture & Fume Cupboard
- Laboratory Platinumware
- Laboratory Analytical Services

Our Presence in Malaysia & Singapore



Official website: <https://www.novatiqs.com/>
 Email: enquiry@novatiqs.com

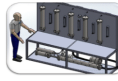
ENGINEERING YOUR SUCCESS

+603 8941 5634

+6012 302 1016

info@aseptec.com.my

ASEPTEC SDN BHD
YOUR LABORATORY PARTNER



Design



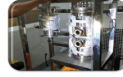
Fabricate



Install

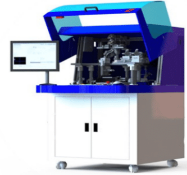


Testing



Commissioning

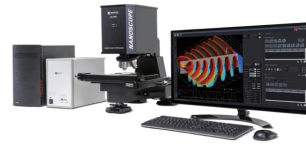
Tailored to your specific research needs from the top to the bottom



High-performance laser processing tool. Perfect in microfluidics, microelectronics, photonics and micromechanics applications.



Cutting-edge chemical reactors are designed to enhance efficiency and precision in various chemical processes.



Confocal laser scanning microscope, 3D measurements for semiconductor, FPD products, MEMS devices, and material surfaces.

ASEPTEC SDN BHD
YOUR LABORATORY PARTNER

sunwayuniversity.edu.my/emsee2024