



WREC 2023

WORLD RENEWABLE ENERGY CONGRESS XXII

MALAYSIA

JULY 16 - 20

Kuala Lumpur Convention Centre (KLCC)

PROGRAM SCHEDULE



Renewable Energy Technology



The Built Environment



E-Mobility Transport And Hydrogen Economy



Renewable Energy Governance, Policy, Economy, Education & Social Impact



www.wrec2023.com

Program Schedule

WORLD RENEWABLE ENERGY CONGRESS XXII (WREC2023)

Day 1 : Sunday (July 16th, 2023)

Venue	Kuala Lumpur Convention Centre, Malaysia	
09:00	Participants Registration Centre Core Registration Counter (09:00-16:00) Venue: Level 3F, Centre Core	WREN Council Meeting (Invitation only) (14:00-15:30) Venue: Meeting Room 304 & 305, Level 3F
14:00		
15:30		Tea Break
16:00	Welcome Reception	
	Plenary 1 Will PV and Wind Energy supply more than 50% of Global Electricity by 2030 Prof. Ali Sayigh <i>Director-General of the World Renewable Energy Network (WREN)</i> Chairperson: Prof. Dato' Dr. Kamaruzzaman Sopian <i>Universiti Teknologi Petronas (UTP), Malaysia</i> Venue: Conference Hall 3, Level 3F	
18:00	End of Day 1	

WORLD RENEWABLE ENERGY CONGRESS XXII

16th – 20th JULY 2023

KUALA LUMPUR CONVENTION CENTRE

Program Schedule

Day 2 : Monday (July 17th, 2023)

Venue	Kuala Lumpur Convention Centre, Malaysia
08:30	<p align="center">Forum 1 Global Energy Scenario Net Zero Energy (NZE)</p> <p align="center">Prof. Ir. Ts. Dr. Zainuddin Abd Manan <i>Academy of Science Malaysia (ASM) / Universiti Teknologi Malaysia (UTM)</i></p> <p align="center">Dato' (Dr.) Ir. Guntor Tobeng <i>Gading Kencana Sdn. Bhd.</i></p> <p align="center">Mr. Adlan Ahmad <i>Gentari Hydrogen Sdn. Bhd., PETRONAS Subsidiary</i></p> <p align="center">Mr. Hanif Siraf <i>TNB Renewables Sdn. Bhd.</i></p> <p align="center">Moderator: Mr. Kamaradzaman Bin Mohd Bakri <i>Malaysian Green Technology and Climate Change Corporation (MGTC)</i></p> <p align="center">Venue: Plenary Theatre, Level 3F</p>
09:30	<p align="center">Plenary 2 Unitized Regenerative Proton Exchange Membrane Fuel Cells: A Revolutionary and Sustainable Energy Storage Device for Renewable Energy</p> <p align="center">Prof. Dato' Ir. Dr. Wan Ramli Wan Daud <i>Universiti Malaya (UM)</i></p> <p align="center">Chairperson: Prof. Ali Sayigh <i>Director-General of the World Renewable Energy Network (WREN)</i></p> <p align="center">Venue: Plenary Theatre, Level 3F</p>
10:00	<p align="center">Coffee Break Sharing Session by UDA Dayaurus Sdn. Bhd.</p> <p align="center">Venue: Conference Hall 2, Level 3F</p>
10:30 - 12:30	<p align="center">Official Launching of World Renewable Energy Congress XXII (WREC 2023) and Signing Ceremony Hydrogen Refuelling Station (HRS) Project PETRONAS-UMW-MGTC-MOSTI</p> <p align="center">Officiated by YB Chang Lih Kang Ministry of Science, Technology and Innovation Malaysia</p> <p align="center">Venue: Conference Hall 3, Kuala Lumpur Convention Centre</p>

Program Schedule

Day 2 : Monday (July 17th, 2023)

13:00	<p style="text-align: center;">Lunch Sharing Session by TNB Renewables Sdn. Bhd. Venue: Conference Hall 2, Kuala Lumpur Convention Centre</p>	
14:00	<p style="text-align: center;">Forum 2 New Energy - Innovation in Hydrogen Technology</p> <p style="text-align: center;">Mdm. Sandra Liz Ai Ling Hon <i>H2 Energy Sdn. Bhd.</i></p> <p style="text-align: center;">Dr. Rezal Khairi Bin Ahmad <i>NanoMalaysia Berhad</i></p> <p style="text-align: center;">Prof. Dr. Siti Kartom <i>Universiti Kebangsaan Malaysia</i></p> <p style="text-align: center;">Mr. Colin Patrick <i>Petroleum Nasional Berhad (PETRONAS)</i></p> <p style="text-align: center;">Moderator: Dr. Yusrizam Sharifuddin <i>National Nanotechnology Centre, MOSTI</i></p> <p style="text-align: center;">Venue: Plenary Theatre, Level 3F</p>	
	<p style="text-align: center;">Session 1 Topic A: Renewable Energy Technology Chairperson: Prof. Hussein A Kazem <i>Sohar University, Oman</i> Venue: Plenary Theatre, Level 3F</p>	<p style="text-align: center;">Session 2 Topic C: Mobility Transport, New Energy and Hydrogen Economy Chairperson: Dr. Athikom Bangviwat <i>King Mongkut's University of Technology Thonburi, Thailand</i> Venue: Conference Hall 3, Level 3F</p>
15:00	<p style="text-align: center;">Keynote Recent Progress in Photovoltaic Thermal Solar Collectors</p> <p style="text-align: center;">Prof. Dato' Dr. Kamaruzzaman Sopian <i>Universiti Teknologi Petronas (UTP), Malaysia</i></p>	<p style="text-align: center;">Keynote Crafting a Hydrogen Roadmap for Malaysia: Challenges and Opportunities</p> <p style="text-align: center;">Assoc. Prof. Dr. Ruslinda A. Rahim <i>National Nanotechnology Centre, Malaysia</i></p>
15:25	<p style="text-align: center;">Invited Wind Energy in Morocco: Tangier And Lagouira In Comparative Perspective</p> <p style="text-align: center;">Prof. Nfaoui Hassan <i>Mohammed V University of Rabat, Morocco</i></p>	<p style="text-align: center;">Invited 100% Renewable Energy: A Stand-alone Hybrid Solar PV -Hydrogen-Battery Power Systems Feasibility for Homeland Communities in Regional Western Australia</p> <p style="text-align: center;">Furat Dawood <i>Murdoch University, Australia</i></p>

Program Schedule

Day 2 : Monday (July 17th, 2023)

15:45	Design and Performance Evaluation of an Omni-Directional Deflector Integrated Cross-Axis-Wind-Turbine Christopher Clement Rusli <i>University of Malaya</i>	15:45	Towards Sustainable Energy Storage Technologies: Biomass of Oil Palm Mesocarp Fiber (OPMF) based Hard Carbon as anode for Na-Ion Batteries Assoc. Prof. ChM. Dr. Siti Aminah Mohd Noor <i>Universiti Pertahanan Nasional Malaysia</i>
16:00	Use of Deep Geothermal Energy to Supply Hot Water to a Village in Scotland Dr. Firdaus Muhammad-Sukki <i>Edinburgh Napier University, UK</i>	16:00	Techno-Economic evaluation of a hybrid power generation and green hydrogen production for AlMazyunah in Oman Dr. Ahmed AlBusaidi <i>Nizwa University, Oman</i>
16:15	<p style="text-align: center;">Tea Break Architecture Competition Award Presentation and Sharing Session by Isza Trade Sdn. Bhd. Venue: Conference Hall 2, Kuala Lumpur Convention Centre</p>		
17:00	<p style="text-align: center;">ACS Publication Workshop (by tickets) Venue: Secretariat Room 309</p>	<p style="text-align: center;">EQ KL Gold Certified GBI Tour (by tickets) Meeting Point: Registration Counter</p>	<p style="text-align: center;">Sustainability Tour by KLCC (by tickets) Meeting Point: Registration Counter</p>
18:00	Free and Easy		
19:00	WREC2023 Gala Dinner (By tickets) Venue: Conference Hall 2, Kuala Lumpur Convention Centre		
22:00	End of Day 2		

Program Schedule

Day 3 : Tuesday (July 18th, 2023)

Venue	Kuala Lumpur Convention Centre, Malaysia	
08:30	<p align="center">Plenary 3 Amazing Photovoltaics: From Research Curiosity to Technology Reality</p> <p align="center">Prof. Lawrence Kazmerski <i>University of Colorado Boulder, USA / National Renewable Energy Laboratory (NREL), USA</i></p> <p align="center">Chairperson: Mr. Rainer Hinrichs-Rahlwes European Renewable Energies Federation (EREF) / German Renewable Energy Federation (BEE)</p> <p align="center">Venue: Plenary Theatre, Level 3F</p>	
9:00	<p align="center">Industry Talk 1 AMETEK: An Overview and Its Role in Renewable Energy</p> <p align="center">Mr. Kumar Saravanan <i>Interscience Sdn. Bhd.</i></p> <p align="center">Chairperson: Mr. Rainer Hinrichs-Rahlwes European Renewable Energies Federation (EREF) / German Renewable Energy Federation (BEE)</p> <p align="center">Venue: Plenary Theatre, Level 3F</p>	
9:30	<p align="center">Coffee Break Poster Presentation</p> <p align="center">Venue: Conference Hall 2, Level 3F</p>	
	<p align="center">Session 3 Topic A: Renewable Energy Technology</p> <p align="center">Chairperson: Prof. Marta Szabo <i>Hungarian University of Agriculture and Life Sciences, Hungary</i></p> <p align="center">Venue: Plenary Theatre, Level 3F</p>	<p align="center">Session 4 Topic D: Renewable Energy Governance, Policy, Economy, Education & Social Impact</p> <p align="center">Chairperson: Prof. Ananda Amarasekara <i>Prairie View A&M University, USA</i></p> <p align="center">Venue: Conference Hall 3, Level 3F</p>
10:00	<p align="center">Keynote Thermal Energy Storage: A Key Technology for Achieving Net Zero</p> <p align="center">Prof. Philip C Eames <i>Loughborough University, UK</i></p>	<p align="center">10:00 Keynote Regional Solar Photovoltaic Technologies and Applications Toward Net Zero Agenda</p> <p align="center">Assoc. Prof. Dr. Norasikin Ahmad Ludin <i>Universiti Kebangsaan Malaysia</i></p>

Program Schedule

Day 3 : Tuesday (July 18th, 2023)

10:25	<p>Invited</p> <p>Impact of Dust on The Photovoltaic Performance: History, A New Prospect And Beyond</p> <p>Prof. Hussein A Kazem <i>Sohar University, Oman</i></p>	10:25	<p>Invited</p> <p>Can Solar Energy Be Fully Exploited in Cities?</p> <p>Prof. Runming Yao <i>Chongqing University, China</i></p>
10:45	<p>Invited</p> <p>Processing Cellulosic Biomass for Sustainable Fuel and Chemical Feedstock Applications</p> <p>Prof. Ananda Amarasekara <i>Prairie View A&M University, USA</i></p>	10:45	<p>Invited</p> <p>Determination of Technical Potential of Rooftop PV in Thailand</p> <p>Dr. Athikom Bangviwat <i>King Mongkut's University of Technology Thonburi, Thailand</i></p>
11:05	<p>Experimental Investigation on Performance of Evacuated Tube Collector Using Thermal Oil for Cooking Applications</p> <p>Dr. Joseph Hassan Kihedu <i>University of Dar es Salaam, Tanzania</i></p>	11:05	<p>Transitioning towards low carbon: challenges and opportunities from city and campus perspectives</p> <p>Profesor Ts. Dr. Shanti Faridah binti Salleh <i>Universiti Malaysia Sarawak</i></p>
11:20	<p>Performance Comparison of a Low Power PV DC Electrical Cooker and a Parabolic Dish Solar Cooker</p> <p>Prof. Ashmore Mawire <i>North-West University, South Africa</i></p>	11:25	<p>Understanding Stakeholder's perspective on the Socio-technical Factors that influence the Adoption of Solar Energy Storage in Western Australia</p> <p>Nikhil Jayaraj <i>Curtin University, Australia</i></p>
11:35	<p>Optimal Sizing Techniques for Hybrid Photovoltaic Systems Using Artificial Neural Networks (ANN): A Review</p> <p>Asst. Prof. Dr. Ali H. A. Al-Waeli <i>American University of Iraq Sulaimani, Iraq</i></p>	11:40	<p>Distributed Market Clearing Mechanism with Home Energy Management System Considering Peer-to-Peer Energy Trading</p> <p>Associate Prof. Dr. Marizan Mubin <i>University of Malaya</i></p>
11:50	<p>Optimized Photovoltaic Ultra-short-term Forecasting: A Hybrid Algorithm Incorporating Improved Ant Colony Optimization and Neural Network</p> <p>Xinyi Liu <i>Shanghai Jiao Tong University, China</i></p>	11:55	<p>Influencing Factors on Biogas Production Adoption Behaviour Among Palm Oil Mills</p> <p>Dr. Amizawati Mohd Amir <i>Universiti Kebangsaan Malaysia</i></p>
12:05	<p>Numerical Modeling of a Novel PVT Collector Incorporated with PCM and CFM as a Cooling Method Compared with the Conventional One</p> <p>Mojtaba Dayer <i>Universiti Kebangsaan Malaysia</i></p>	12:10	<p>Energy Transition: Dynamics And Prospects</p> <p>Dr. Muhammad Asif <i>King Fahd University of Petroleum and Minerals, Saudi Arabia</i></p>

Program Schedule

Day 3 : Tuesday (July 18th, 2023)

12:25	Lunch Venue: Conference Hall 2, Kuala Lumpur Convention Centre	
14:00	Industry Talk 2 Fundamental principles towards achieving Net Zero (case study Plaza EQ) Mr. Nadaraja Sripragas <i>EQ Kuala Lumpur</i> Chairperson: Assoc. Prof. Dr. Norasikin Ahmad Ludin <i>Universiti Kebangsaan Malaysia</i> Venue: Plenary Theatre, Level 3F	
	Session 5 Topic A: Renewable Energy Technology Chairperson: Prof. Philip C Eames <i>Loughborough University, UK</i> Venue: Plenary Theatre, Level 3F	Session 6 Topic D: Renewable Energy Governance, Policy, Economy, Education & Social Impact Chairperson: Prof. Riadh Al-Dabbagh <i>Ajman University, UAE</i> Venue: Conference Hall 3
14:30	Keynote Performance of Bifacial PV Modules Under Different Operating Conditions in The State of Minas Gerais in Brazil Prof. Lawrence Kazmerski <i>University of Colorado Boulder, USA / National Renewable Energy Laboratory (NREL), USA</i>	Keynote Case study analysis of improving environmental ethics using a collaboration toolkit Prof. Jason Challender <i>University of Salford, UK</i>
14:55	Invited Solar Applications in Agriculture Prof. Marta Szabo <i>Hungarian University of Agriculture and Life Sciences, Hungary</i>	Invited Learn-to-Story-Tell Your Discovery for World Dr. Wong Woei Fuh <i>American Chemical Society (ACS)</i>

Program Schedule

Day 3 : Tuesday (July 18th, 2023)

15:15	<p>Invited</p> <p>Photoconductive Cells Based on Type-II Conical Quantum Dots for Thermo-Photovoltaic and Other Mid-Infrared Applications</p> <p>Prof. Karen Gambaryan <i>Yerevan State University, Armenia</i></p>	15:15	<p>Invited</p> <p>Organizational, societal, knowledge and skills capacity for a low carbon energy transition in a circular waste bioeconomy</p> <p>Prof. Anastasia Zabanitou <i>Aristotle University of Thessaloniki, Greece</i></p>
15:35	<p>The Compatibility of Water/Core-Shell Ag-SiO₂ Nanofluid as a Spectral Splitting Optical Filtration Fluid to Six Types Of Photovoltaic Solar Cells Under Concentrated Solar Conditions</p> <p>Dr. Ahmed Abdelrazik <i>IRC-REPS, King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia</i></p>	15:35	<p>Invited</p> <p>Centralised but uncoordinated – the political economy of coal in Malaysia</p> <p>Zhai Gen Tan <i>Asia School of Business Malaysia</i></p>
15:50	<p>Efficient Solid State Natural Dye Sensitized Solar Cell with Eco-Friendly Activated Bamboo/MWNTs Based Counter Electrode</p> <p>Dr. Priyanka Chawla <i>CMP Degree College University of Allahabad, India</i></p>	15:55	<p>Empowering the Next Generation: A Review of Solar PV Technology in Secondary Education</p> <p>Muhamad Kamarul Azman Sulaiman <i>Universiti Kebangsaan Malaysia</i></p>
16:05	<p>Control Pyramid Height On P-Type Silicon Wafer Through Cyclic Voltammetry Assisted Texturization Approach</p> <p>Mohd. Norizam Md Daud <i>Universiti Kebangsaan Malaysia</i></p>	16:10	<p>The Impact of Natural Disaster on Renewable Energy: The role of Foreign Direct Investment and Infrastructure in Asia</p> <p>Yessi Rahmawati <i>Airlangga University, Indonesia</i></p>
16:20	<p>Evaluation of the Photodegradation in Organic Solar Cells</p> <p>Dr. Antonia Sonia Diniz <i>Pontifical Catholic University of Minas Gerais (PUC Minas), Brazil</i></p>	16:25	<p>Gender Pay-Gap in The Nigerian Renewable Energy Sector</p> <p>Assoc. Prof. Amina Batagarawa <i>Baze University, Nigeria</i></p>

Program Schedule

Day 3 : Tuesday (July 18th, 2023)

16:40	Tea Break Poster Presentation Venue: Conference Hall 2, Kuala Lumpur Convention Centre		
17:00	ACS Publication Workshop (by tickets) Venue: Secretariat Room 309	EQ KL Gold Certified GBI Tour (by tickets) Gather at: Registration Counter	Sustainability Tour by KLCC (by tickets) Gather at: Registration Counter
18:00	End of Day 3		

WORLD RENEWABLE ENERGY CONGRESS XXII

16th – 20th JULY 2023

KUALA LUMPUR CONVENTION CENTRE

Program Schedule

Day 4 : Wednesday (July 19th, 2023)

Venue	Kuala Lumpur Convention Centre, Malaysia
08:30	<p>Plenary 4 Building Resilience through Sustainable Energy Management</p> <p>Prof. Ir. Dr. Zainuddin Manan <i>Academy of Science Malaysia (ASM) / Universiti Teknologi Malaysia (UTM)</i></p> <p>Chairperson: Prof. Ar. Dr. Lim Chin Haw <i>Universiti Kebangsaan Malaysia</i></p> <p>Venue: Plenary Theatre, Level 3F</p>
09:00	<p>Industry Talk 3 Building Sustainable Communities: The Role of Convention Centres</p> <p>Mr. John Burke <i>Kuala Lumpur Convention Centre, KLCC</i></p> <p>Chairperson: Prof. Ar. Dr. Lim Chin Haw <i>Universiti Kebangsaan Malaysia</i></p> <p>Venue: Plenary Theatre, Level 3F</p>
09:30	<p>Coffee Break Poster Presentation</p> <p>Venue: Conference Hall 2, Kuala Lumpur Convention Centre</p>

WORLD RENEWABLE ENERGY CONGRESS XXII

16th – 20th JULY 2023

KUALA LUMPUR CONVENTION CENTRE

Program Schedule

Day 4 : Wednesday (July 19th, 2023)

	<p>Session 7 Topic A: Renewable Energy Technology & Topic B: Built Environment Chairperson: Prof. Ir. Dr. Zainuddin Manan <i>Academy of Science Malaysia (ASM) / Universiti Teknologi Malaysia (UTM)</i> Venue: Plenary Theatre, Level 3F</p>		<p>Session 8 Topic D: Renewable Energy Governance, Policy, Economy, Education & Social Impact Chairperson: Prof. Anastasia Zabaniotou <i>Aristotle University of Thessaloniki, Greece</i> Venue: Conference Hall 3, Level 3F</p>
10:00	<p>Keynote Hydrated Eutectic Electrolyte Engineering Enables High-Performance Redox Flow Batteries Prof. Liwei Wang <i>Shanghai Jiao Tong University, China</i></p>	10:00	<p>Keynote Towards Net Zero Carbon Building Prof. Ar. Dr. Lim Chin Haw <i>Universiti Kebangsaan Malaysia</i></p>
10:25	<p>Invited Evaluation of The Electrical Parameters and Performance of Floating PV Generators Dr. Antonia Sonia Diniz <i>Pontifical Catholic University of Minas Gerais (PUC Minas), Brazil</i></p>	10:25	<p>Keynote Prospect of Green Hydrogen In Malaysia - Key for Decarbonising Industry Prof. Ir. Dr. Haslenda Hashim <i>Universiti Teknologi Malaysia</i></p>
10:45	<p>Investigation on the fabrication of current collector with carbon nanotube paper for PEMFC Chong-Kai Wang <i>National Chin-Yi University of Technology, Taiwan</i></p>	10:50	<p>Invited Development of a Circular Economy in Western Australia Dr. David Goodfield <i>Murdoch University, Australia</i></p>
11:00	<p>A Brief Overview on The Relationship Between Electrochemical Techniques and Spectroscopy In The Evaluation Of The Performance Of Self-Charging Supercapacitors In Energy Harvesting Application Zishan Shaikh <i>Universiti Kebangsaan Malaysia</i></p>	11:10	<p>Invited Waste strategy in Ajman - UAE Prof. Riadh AL-Dabbagh <i>Ajman University, UAE</i></p>
11:15	<p>Modelling And Analysis Of A Solar Process Heating: A Case Study Of A Food Industry Laveet Kumar <i>Mehran University of Engineering and Technology, Pakistan</i></p>		

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Day 4 : Wednesday (July 19th, 2023)

11:30	<p>Performance of an Advance Solar-Assisted Heat Pump Drying System with Dual Condensers</p> <p>Rohaimi Abdullah <i>Universiti Kebangsaan Malaysia</i></p>	11:30	<p>Promoting Sustainable Development and Renewable Energy Using Mobile Learning for Secondary Schools in Malaysia</p> <p>Prof. Dr. Ruhizan Mohammad Yasin <i>Universiti Kebangsaan Malaysia</i></p>
11:45	<p>Space Based Solar Power for Sustainable Future</p> <p>Shivansh Tripathi <i>Indian Institute of Space, Science and Technology, India</i></p>	11:45	<p>Reflective Analysis of a Volunteer Project to Install An Off-Grid PV System For A Remote Peruvian Community Centre</p> <p>Dr. Shashi Persaud <i>Southern Alberta Institute of Technology, Canada</i></p>
12:00	<p>Hybrid Nanostructure of MoS₂/ZnO on Graphene/Nickel Foam for Enhanced Photoelectrochemical Water Splitting</p> <p>Dr. Rozan Mohamad Yunus <i>Universiti Kebangsaan Malaysia</i></p>	12:00	<p>Application of Low Energy Technology in the Construction Regulations of Mexico</p> <p>Dr David Carlos Avila Ramirez <i>University of Guadalajara, Mexico</i></p>
12:15	<p>Experimental Study of a Small-Scale ORC System with the Module Driven by Thermal Energy and Gravity Potential</p> <p>Hanyu Zhu <i>Shanghai Jiao Tong University, China</i></p>	12:15	<p>Exergy Process of PV-Based Electric Lighting</p> <p>Umi Nasrah <i>Tokyo City University, Japan</i></p>
12:30	<p>Lunch</p> <p>Venue: Conference Hall 2, Kuala Lumpur Convention Centre</p>		
14:00	<p>Industry Talk 4</p> <p>Green Hydrogen for Off-Grid Energy Access</p> <p>Mdm. Sandra Liz Ai Ling Hon <i>H2 Energy Sdn. Bhd.</i></p> <p>Chairperson: Assoc. Prof. Dr. Norasikin Ahmad Ludin <i>Universiti Kebangsaan Malaysia</i></p> <p>Venue: Plenary Theatre, Level 3F</p>		

Program Schedule

Day 4 : Wednesday (July 19th, 2023)

	<p>Session 9 Topic A: Renewable Energy Technology</p> <p>Chairperson: Dr. Antonia Sonia Diniz <i>Pontifical Catholic University of Minas Gerais (PUC Minas), Brazil</i></p> <p>Venue: Plenary Theatre, Level 3F</p>		<p>Session 10 Topic B: Built Environment</p> <p>Chairperson: Prof. Marco Sala <i>IGD Italian Green Design Florence, Italy</i></p> <p>Venue: Conference Hall 3, Level 3F</p>
14:30	<p>Keynote Perovskite Transparent Conductive Oxides - Progress Development, Challenges And Advantages In Optoelectronic Application</p> <p>Assoc. Prof. Dr. Mohd Adib Ibrahim <i>Universiti Kebangsaan Malaysia</i></p>	14:30	<p>Keynote Towards Carbon Neutral Solutions for Sustainable Cities Program: Policies and Initiatives of Zero Energy Buildings</p> <p>Ts. Steve Anthony Lojuntin <i>Sustainable Energy Development Authority (SEDA) Malaysia</i></p>
14:55	<p>Invited Novel Bio-Based Aliphatic Amides as Phase Change Materials for Thermal Energy Storage</p> <p>Ts. Dr. Kosheela Devi Poo Palam <i>Malaysian Palm Oil Board, Malaysia</i></p>	14:55	<p>Invited Urban Forestation And Green Architecture For A Sustainable Built Environment</p> <p>Prof. Marco Sala <i>IGD Italian Green Design Florence, Italy</i></p>
15:15	<p>Boosting Solar Cell Passivation Quality Via Double-Layer SiO₂/SiO₂:H₃PO₄ In Reducing Charge Carrier Recombination</p> <p>Muhammad Hatim Rohaizar <i>Universiti Kebangsaan Malaysia</i></p>	15:15	<p>Invited Analysis of the Performance of Underfloor Heating System with Advanced PCM Composite Driven by Air-Source Heat Pump</p> <p>Prof. Ming Jun Huang <i>Ulster University, UK</i></p>
15:30	<p>Energy and Exergy Performance Analysis of a Double-Pass photovoltaic/thermal (PV/T) Asymmetric Compound Parabolic Concentrator (ACPC) Solar Collector</p> <p>Wan Nur Adilah Wan Roshdan <i>Universiti Kebangsaan Malaysia</i></p>	15:35	<p>Reduction of CO₂ Emissions by Making Geopolymer Concrete from Industrial Tailings</p> <p>Amitha Varghese <i>Murdoch University, Australia</i></p>
15:45	<p>Comparison of CLOT-Adjusted AHI-8/9 and FY-4A Solar Irradiance Products for Solar PV Output Forecasting Using LSTM</p> <p>Engr. Ian Benitez <i>University of the Philippines</i></p>	15:50	<p>Decarbonising Australia Off-grid Mining via Hybrid Microgrid</p> <p>Hanrong Huang <i>The University of New South Wales, Australia</i></p>

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Day 4 : Wednesday (July 19th, 2023)

16:00	Microwave Assisted Torrefaction of Sewage Sludge to a Valuable Fuel: Waste-To-Energy Technology Dr. Zia Ud Din <i>Heriot-Watt University Malaysia</i>	16:05	Building Settlements and Their Relationship to Climate Change In Mexico Dr. Silvia Arias Orozco <i>University of Guadalajara, Mexico</i>
16:15	Rectangular spiral opposing-flow polymer thermal collector for solar water heating system – a preliminary investigation Assoc. Prof. Dr. Taib Iskandar Mohamad <i>Universiti Teknologi Petronas</i>		
16:30	Tea Break		
17:00	ACS Publication Workshop (by tickets) Venue: Secretariat Room 309	EQ KL Gold Certified GBI Tour (by tickets) Gather at: Registration Counter	Sustainability Tour by KLCC (by tickets) Gather at: Registration Counter
18:00	End of Day 4		

WORLD RENEWABLE ENERGY CONGRESS XXII

16th – 20th JULY 2023

KUALA LUMPUR CONVENTION CENTRE

Program Schedule

Day 5 : Thursday (July 20th, 2023)

Venue	<p align="center">Conference Hall 3, Level 3F Kuala Lumpur Convention Centre, Malaysia</p>
	<p align="center">Chairperson: Prof. Lawrence Kazmerski <i>University of Colorado Boulder, USA / National Renewable Energy Laboratory (NREL), USA</i></p>
08:30	<p align="center">Plenary 5 Recent Developments in Photovoltaics Prof. Martin Green <i>University of New South Wales, Australia</i></p>
09:00	<p align="center">Plenary 6 Renewable Energy for Climate Protection and Energy Security – Lessons Learned from the European Green Deal and RE Power EU Mr. Rainer Hinrichs-Rahlwes <i>European Renewable Energies Federation (EREF) / German Renewable Energy Federation (BEE)</i></p>
09:30	<p align="center">Keynote Energy, Comfort and Architecture in the Regeneration of Informal Settlements: Case Studies in Sub-Saharan Africa Prof. Manuel Correia Guedes <i>University of Lisbon, Portugal</i></p>
09:55	Coffee Break
10:15	<p align="center">Scientific Forum Game Changers in Renewable Energy: Trend and Innovation Mr. Zeth Lim <i>Verdant Solar</i> Prof. Dato' Dr. Kamaruzzaman Sopian <i>Chairman, WREC2023</i> Mr. Zamali Bin Zamin <i>Energy Commission, Malaysia</i> Moderator: Prof. Ar. Dr. Lim Chin Haw <i>Solar Energy Research Institute (SERI), Universiti Kebangsaan Malaysia (UKM)</i></p>
11:15	Closing Ceremony
12:00	Lunch
14:00	City Tour (By tickets)
18:00	End of Day 5