

UTP-MU Renewable Energy Virtual International Summer School Programme 2021

UTP-MU-REIVS2P 2021



PROGRAMME BOOKLET



2021

25 SEPTEMBER 2021 - 16 OCTOBER 2021
UNIVERSITI TEKNOLOGI PETRONAS | MAPÚA UNIVERSITY

UTP-MU Renewable Energy Virtual International Summer School Programme 2021

UTP-MU-REIVS2P 2021



FOREWORD

It is with great honour to welcome the participants from both Universiti Teknologi PETRONAS (UTP), Malaysia and Mapúa University (MU), Philippines to UTP-MU Renewable Energy International Virtual Summer School Programme 2021 (UTP-MU-REIVS2P 2021).

Laded with lectures, case studies and active learning activities, this programme exposes various learning concepts and technical knowledge pertained to renewable energy to a diverse group of student participants composed of various engineering backgrounds. Both university institutions believe sustainable development and renewable energy is pivotal to ensure net-zero carbon emission by 2050. As global educators, we have initiated the first step to educate and cultivate the younger generations the importance of renewable energy potential and integration to meet the framework for sustainable development and beyond.

While the programme will be carried out through virtual means, we hope all the participants will gain invaluable experiences, knowledge, and thirst to rise above expectations and become future industry leaders in the field of renewable energy. Explore the unknown, venture into new territories, and leave your mark with each step that you take.

I wish you all the very best and I am excited to see the wonderful achievements you may create in the near future.



Prof Ts Dr Mohamed Ibrahim Abdul Mutalib
Vice Chancellor and Chief Executive Officer
Universiti Teknologi PETRONAS
Malaysia

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FOREWORD

Now more than ever universities should join hands and become key contributors to the attainment of the UN Sustainable Development Goals through education, research, and innovation.

Mapúa University is honored to partner with one of the top universities in Malaysia, Universiti Teknologi PETRONAS (UTP), to jointly organize the “UTP-MU Renewable Energy Virtual International Summer School Programme 2021”. This program aims to advance the practice of professionals in the field of renewable energy. It is also one way for Mapúa University to realize its advocacy of sustainable development and foster more collaborations on renewable energy research.

We have lined up exciting learning activities for you composed of lecture sessions, case studies, forum discussion and cultural activities. Although the mode of interaction is virtual, we are confident that you will gain invaluable experience and more practical knowledge from our academe and industry resource persons. We hope that this event will solidify your passion to become the next energy leaders!



Dr Reynaldo B. Veal
President and Chief Executive Officer
Mapúa University
Philippines

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FOREWORD



Assoc. Prof. Ts Dr. Noor Amila
Bt Wan Zawawi, Chairman
Universiti Teknologi PETRONAS

UTP have always believed in developing talents to their full potential and nurturing young people. These are the greatest treasures a nation could have and capitalize on. We are privileged to have a partner such as Mapua University, that believes in the same values. There really are no limits to goodness in life, and by providing platforms such as summer programmes addressing relevant themes aligned with UN SDG 17, in partnership between industry and academia, we enable young talents to flourish towards their full potential.



Engr. Rosetta Eira Espejo-Camus
Chairman
Mapúa University

Mapua University is honored to co-organize the first UTP-MU Renewable Energy Virtual International Summer School Programme 2021. This event is a proof that no pandemic nor challenges of the new normal can hinder the passion and commitment of both Mapua University and Universiti Teknologi PETRONAS in contributing to the movement of the UN Sustainable Development Goals. We hope that you will gain valuable knowledge and insights from both the academic and industry experts through the activities we have lined up for you. As the future energy leaders, we also hope that this experience will serve as your motivation to create ground-breaking innovations!



Ts Dr. Noridah Bt Osman
Custodian PMIII-MAPUA
Universiti Teknologi PETRONAS

In ensuring that our environment and society wellbeing are in all good hand, the renewable energy, zero carbon emission, job creation, global warming, technologies transfer, are amongst the issues that must be addressed. Holistic approaches are ideal and is expected by all, and all sectors should involve in materializing the similar goals. Hence, as a university, we are entrusted to incorporate and embark in the renewable energy in many levels of spectrum. Further, the collaboration between UTP and Mapua University is indeed parallel to blueprint crafted by the United Nation under the Sustainable Development Goals, as well as Malaysia and Philippines' ambition to move towards sustainability. Overall, from mini colloquium to short course on renewable energy has depicted the seriousness of our universities in championing energy security and sustainability agenda for the future.

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ABOUT UTP-MU-REIVS2P 2021

**“UTP-MU Renewable Energy International Virtual Summer School Programme 2021 (UTP-MU-REIVS2P 2021)”
25th September to 16th October 2021.**

Universiti Teknologi PETRONAS in collaboration with Mapúa University, Philippines is organizing a three-week programme entitled “UTP-MU Renewable Energy International Virtual Summer School Programme 2021 (UTP-MU-REIVS2P 2021)” from 25th September 2021 to 16th October 2021.

From its name REIVS2P, we can imagine that RE is portrayed as a relevant and significant to the present environment, society, and economy. Furthermore, Sustainable Development Goals (SDG) Goal 7 has described that energy has to be made affordable, reliable, sustainable, modern, and clean. Hence, this program is aligned with United Nations and our national agenda for both Malaysia and the Philippines.

University Teknologi PETRONAS under the arm of Research, Innovation, and Commercialization of Prof Ir Dr M Shahir Liew, Deputy Vice Chancellor and Dr Bonifacio T Doma, Executive Vice President of Mapúa University have decided to anchor on this imperative theme, Renewable Energy. The two partner Universities has a long history on pushing the boundaries on sustainability and energy security. Hence, the program objectives are to prosper and inculcate the Renewable Energy agenda to our young generation and mark the first short course between two Universities. Execution of the program has taken place after two parties agreed on the proposed plan dated early July 2021 and is championed by two prominent ladies from both side, AP Dr Noor Amila W Zawawi and Engr Rosette Eira Espejo-Camus respectively with the support by Philippines Institutional and Industrial Initiatives (PMIII) custodian, Ts Dr Noridah Osman. In addition, the team is led by Dr Chai Yee Ho, Dr Nor Adilla Rashidi and Ms W Nabihan W Sulaiman from UTP as well as Engr Ronald Vincent M Santiago, Dr. Aldrin Calderon, Dr. Michelle Almendrala and Ms Sheina B Salvador from MU.

With a theme of Renewable Energy, this virtual Summer Camp is designed in such a way to develop interest and expose both Undergraduate and Postgraduate students via lecturing on a variety of renewable energies available, namely wave, solar, biomass, geothermal energy, and sustainability. Throughout this Summer Camp, participants will be able to foster their problem-solving, critical analysis, and communication skills through various teamwork and case study activities. In addition, this virtual Summer Camp program will be a great platform for international networking among the participants as the program offers session with technical experts, institutional-industry forum, special session talk, and many more activities.

Hence, UTP and MU wishes that this extraordinary program will meet its target and objectives to champion RE as the trademark for both institutions.

Thank you for the support!

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ABOUT UNIVERSITI TEKNOLOGI PETRONAS

“ Vision

A Leader in Technology Education and Centre for Creativity and Innovation

Mission

- UTP is an institute of higher learning. We provide opportunities for the pursuit of knowledge and expertise for the advancement of engineering, science and technology to enhance the nation's competitiveness.
- Our objective is to produce well-rounded graduates who are creative and innovative with the potential to become leaders of industry and the nation.
- Our aim is to nurture creativity and innovativeness and expand the frontiers of technology and education for the betterment of society.

”

Universiti Teknologi PETRONAS (UTP) was established on 10 January 1997 and is a leading private university in Malaysia.

The campus is built on a 400 hectare (1,000 acres) site strategically located at Bandar Seri Iskandar, Perak Darul Ridzuan, Malaysia. The university is a wholly-owned subsidiary of PETRONAS, the national oil and gas company of Malaysia.

UTP offers a wide range of industry-relevant engineering, science and technology programmes at undergraduate and postgraduate levels. It aims to produce well-rounded graduates with excellent leadership qualities and communication abilities.

The university conducts extensive research activities in collaboration with PETRONAS and other institutions and industries, locally and abroad, on six research focus and niche areas. They are self-sustainable building, transport infrastructure, health analytics, hydrocarbon recovery, contaminant management and autonomous system.

UTP has produced more than 19,000 graduates. It currently has an enrolment of 1,000 foundation students, more than 4,000 undergraduates and over 1,000 postgraduates from more than 50 countries around the world.

The university has continuously achieved numerous national and international recognition in only 24 years of its establishment:



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Mapúa University is a premier engineering and technological university in the Philippines. A 4-Star institution under the QS Stars Rating System and a 2020 QS Asia Top 500 university, it envisions itself to be among the best universities in the world, unceasingly fostering its long tradition of leading-edge excellence in various fields of studies – Engineering and Sciences, Architecture and Design, Information Technology, Business and Management, Communication and Media Studies, and Social Sciences and Education – and providing students with a learning environment that will make them globally competitive.

Offering locally and internationally accredited academic programs and other developmental programs that provide international learning opportunities to its students, Mapúa education meets global quality standards of the professions for which it prepares its graduates.



ABOUT MAPUA UNIVERSITY

Mapúa offers 11 engineering programs accredited by ABET's Engineering Accreditation Commission (EAC) and three computing programs accredited by ABET's Computing Accreditation Commission (CAC). Mapúa also offers the most number of engineering programs, together with Information Technology, recognized as Centers of Excellence by the Philippine Commission Higher on Education. To date, it has produced 374 topnotchers across 11 of national professional licensure examinations since 2000. Its students are also prepared for the world of practice through their exposure to international on-the-job trainings, and research and development undertakings, which are achieved through the University's continuous forming of international linkages with prestigious companies and universities.

A recognized leader in digital education and online learning in the Philippines, Mapúa continuously provides enriching and engaging learning experiences to its students using the latest in educational technology, enhancing its capability for effective teaching and learning in a digital environment. Through Mapúa UOX or Ubiquitous Online Experience, it offers fully online degree program to delivers on its commitment to developing and bolstering its world-class quality of education, reaching more learners locally and across the globe through its online learning space.

Recognized for its commitment and efforts toward sustainability and environment and community preservation, Mapúa has entered for the second time the global Times Higher Education (THE) Impact Rankings, with the overall ranking of 801-1000 for 2021. The THE Impact Rankings is the only global performance tables that assess universities against the United Nations' Sustainable Development Goals (SDGs) in the broad areas of research, outreach, and stewardship. Mapúa ranks in six SDGs: SDG 3 – Good Health and Well-Being; SDG 6 – Clean Water and Sanitation; SDG 7 – Affordable and Clean Energy; SDG 8 – Decent Work and Economic Growth; SDG 12 – Responsible Consumption and Production; and SDG 17 – Partnerships for the Goals.



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UTP-MU-REIVS2P 2021 PROGRAMME

WEEK 0

Time	Saturday (25/09/2021)
9:00 AM - 10:00 AM	Participants Registration
10:00 AM - 11:00 AM	Opening Ceremony
11:00 AM - 12:00 PM	Virtual Campus Tours Institutional Centre Lab Tours
12:00 PM - 1:00 PM	Ice Breaking Session: Participants Introduction and Ice Breaking

WEEK 1

Day	6:00 PM - 7:00 PM	8:00 PM - 9:00 PM
Monday (27/09/2021)	Lecture 1: Class on Philippine History and Culture <i>Trainer: Mr Jeoffrey Rhoel Cruz</i>	Lecture 2: Class on Malaysian History and Culture <i>Trainer: AP Dr M Pisol B Mat Isa</i>
Tuesday (28/09/2021)	Lecture 3: Migrating in Renewable Energy <i>Trainer: Engr John Christian Nicdao</i>	Lecture 4: Role of Power Electronic in Renewable Energy Systems <i>Trainer: Dr Ramani Kannan</i>
Wednesday (29/09/2021)	Lecture 5: Intro to Marine Renewable Energy <i>Trainer: Ts Dr Teh Hee Min</i>	Lecture 6: Intro to Wave Hydrodynamics <i>Trainer: Dr Mohamed Latheef</i>
Thursday (30/09/2021)	Lecture 7: Solar + Storage & Emerging Technologies <i>Trainer: Engr Virgilio Luzares</i>	
Friday (01/10/2021)	Case Study: A Case of Biodiversity and Sustainability <i>Trainer: Dr Chai Yee Ho & Dr Nor Adilla Rashidi</i>	
Saturday (02/10/2021) 9:00 AM - 10:30 AM	Special Lecture: Microgrid Development Challenges in Remote Areas and Islands <i>Speaker: Engr. Eugene Araullo</i>	

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UTP-MU-REIVS2P 2021 PROGRAMME

WEEK 2

Day	6:00 PM - 7:00 PM	8:00 PM - 9:00 PM
Monday (04/10/2021)	Lecture 8: Floating Solar Systems Application: Offshore Vs. Calm Water <i>Trainer: Prof Ir Dr M Shahir Liew/Dr Wesam Salah Alaloul /Dr Lim Eu Shawn</i>	Lecture 9: Solar Electricity Generating System <i>Trainer: AP Dr Balbir Singh A/L Mahinder Singh</i>
Tuesday (05/10/2021)	Lecture 10: Dye-Sensitized Solar Cells <i>Trainer: Dr Siti Nur Azella Zaine</i>	Lecture 11: Hydrodynamic Stability of Floating Solar Systems <i>Trainer: Dr Montasir Osman Ahmed Ali</i>
Wednesday (06/10/2021)	Lecture 12: Introduction to Bioenergy <i>Trainer: Dr Nor Adilla Rashidi/Dr Chai Yee Ho</i>	Lecture 13: Role of Solid Fuel in Renewable Energy <i>Trainer: Ts Dr Noridah Binti Osman</i>
Thursday (07/10/2021)	Lecture 14: Black Soldier Fly and Microalgae as Sustainable Feedstock for Biodiesel Production <i>Trainer: Dr Lim Jun Wei & Ts Dr Lam Man Kee</i>	Lecture 15: Biogas from Distillery Wastewater <i>Trainer: Atty Rachel Hechanova Cawit</i>
Friday (08/10/2021)	Case Study: Environmental Impact of Integrated Anaerobic Digestion (AD) and Pyrolysis (Py) of Organic Fraction of Municipal Solid Waste (OFMSW) <i>Trainer: Dr Michelle Almendrala & Dr Aldrin Calderon</i>	
Saturday (09/10/2021) 9:00 AM - 10:30 AM	Special Lecture: Circular Economy for Socioeconomic Impact: Stakeholder Management & Communications <i>Speaker: AP Dr Shahrina Bt M Nordin</i> Special Lecture: Renewable Diesel <i>Speaker: Prof Ir Dr Suzana Yusup, FASc.</i>	

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UTP-MU-REIVS2P 2021 PROGRAMME

WEEK 3

Day	6:00 PM - 7:00 PM	8:00 PM - 9:00 PM
Monday (11/10/2021)	Lecture 16: Introduction to Geothermal Drilling <i>Trainer: Engr. Graciano Emmanuelito Dela Cruz</i>	Lecture 17: Optimizing Selection and Qualification of Geothermal Wellhead Piping Materials <i>Trainer: Engr. Reyline Tayactac</i>
Tuesday (12/10/2021)	Lecture 18: Geothermal Energy Extraction from Abandoned Oil Well <i>Trainer: Dr Jundika Candra Kurnia</i>	Lecture 19: Surface Technology <i>Trainer: Dr Blessie Basilla</i>
Wednesday (13/10/2021)	Lecture 20: Sustainability and Carbon Footprint in Renewable Energy <i>Trainer: Dr Aldrin Calderon</i>	Lecture 21: Environmental Impact Assessment <i>Trainer: Dr Michelle Almendrala</i>
Thursday (14/10/2021)	Group Presentation Preparation <i>Coach: Ts Dr Noridah Binti Osman</i>	
Friday (15/10/2021)	Group Presentation: Integrating Renewable Energy in Eco Industrial Park <i>Moderator: Dr Chai Yee Ho / Dr Nor Adilla Rashidi</i>	
Saturday (16/10/2021)	9:00 AM -11.00 AM Forum Renewable Energy and Way Forward in Philippines and Malaysia	11.00 AM - 11.30 AM Closing Ceremony

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MEET YOUR TRAINERS

WEEK 1



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Lecture Series 1

Title: Class on Philippines History and Culture

Trainer: Mr. Geoffrey Rhoel Cruz

Geoffrey Rhoel Cruz has been teaching at the collegiate level sharing his knowledge in the subject areas on Philippine history and Philippine politics and governance. Prof. Cruz obtained his undergraduate degree in Political Science from the University of Santo Tomas and his Master of Arts in Development Policy in De La Salle University. Prof. Cruz also earned units in Education from the Philippine Women's University. He is currently completing his dissertation for the degree PhD in Development Studies in De La Salle University. His research interests include cultural heritage conservation and Philippine political dynamics.

Lecture Series 2

Title: Class on Malaysian History and Culture

Trainer: Assoc. Prof. Dr. M Pisol B Mat Isa

Dr. Muhammad Pisol Bin Mat Isa is a Malaysian, a senior lecturer at Universiti Teknologi PETRONAS. He received his PhD from Universiti Malaya in Islamic finance, prior to his PhD, he was a graduate of al-Azhar University in Islamic Theology and Master degree from Universiti Malaya in Islamic Political Thought. He taught Malaysian studies, Islamic Civilization & Asian Civilization. his area of interest covers Islamic civilization & Asian Civilization, Islamic thought, Islamic finance, fiqh Muamalat, Islamic Economics and Islamic microfinance. He is currently a Shariah Committee at Sumitomo Mitsui Banking Corporation Malaysia, listed as shariah advisor at Bank Negara, he also a registered Shariah advisor at Security Commission Malaysia.



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MEET YOUR TRAINERS

WEEK 1



Email: jcynicdao@mapua.edu.ph

Lecture Series 3

Title: Migrating in Renewable Energy (RE)

Trainer: Engr. John Christian Nicdao

Engr. John Christian Nicdao has obtained his Bachelor of Science in Electrical Engineering from Mapua Institute of Technology (2011) and his Master of Engineering Major in Electrical Engineering. He is currently a Registered Electrical Engineer and holds BOSH certification and COSH certification. Some of his professional responsibilities include Senior Technical Support Engineer, Facilities Engineer, MEPFS Over-All Coordinator, Property Manager, Start-Up Manager, Design and Planning Manager, Regulatory and Compliance Manager and Electrical Audit Manager.

Lecture Series 4

Title: Role of Power Electronic in Renewable Energy Systems

Trainer: Dr. Ramani Kannan

Dr. Ramani Kannan is a Senior lecturer in Universiti Teknologi PETRONAS, Malaysia. He received his B.E degree from Bharathiyar University, India. Later, completed his M.E and Ph.D. in Power Electronics and Drives from Anna University, respectively. He holds more than 135 publications in reputed international and national journals and conferences. He is a Chartered Engineer CEng (UK), active Senior member in IEEE(USA), and members in IET(UK), BEM(MY), IE(IND), ISTE(IND), and Institute of advance engineering and science. Dr. Ramani is recognized with many awards, including "Career Award for Young Teacher" from AICTE India, 2012; "Young Scientist Award" in power electronics and Drives, 2015; "Highest Research publication Award" 2017. He received "Outstanding Researcher Award" prestigious award from Universiti Teknologi PETRONAS-2019. Award for Outstanding Performance, Service and Dedication 2019 at UTP, Malaysia and Award for BEST PRESENTER CENCON 2019 IEEE Conference on Energy Conversion (CENCON 2019) Indonesia. His research interest involves in power electronics, Renewable energy, inverters, modeling of induction motor and optimization techniques. He is actively service as Secretary, IEEE Power Electronics Society, Malaysia since 2020 and organizing chair of International Virtual Conference on ARTIFICIAL INTELLIGENCE FOR SMART COMMUNITY 2020 and PECON 2020.



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MEET YOUR TRAINERS

WEEK 1



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Lecture Series 5

Title: Intro to Marine Renewable Energy (RE)

Trainer: Ts. Dr. Teh Hee Min

Dr Teh Hee-Min graduated from Universiti Teknologi Malaysia with a bachelor's degree in civil engineering and a Master's degree in coastal and maritime engineering. He was then awarded a PhD in coastal engineering from the University of Edinburgh in 2013. He is currently a Senior Lecturer of Universiti Teknologi PETRONAS, Malaysia. His main research interests are coastal hydrodynamics and morphology, marine renewable energy, evaporation control and physical modeling. Dr. Teh secured 15 international, national and internal research grants amounting to a total of RM1.5 million. He owns an IP of a floating breakwater design that won him several international awards. He published more than 60 journals and conference articles. He is also the reviewers of a number of international journals and research proposals. He is the IMarEST Chartered Engineer since 2013.

Lecture Series 6

Title: Introduction to Wave Hydrodynamics

Trainer: Dr. Mohamed Latheef

Dr Mohamed Latheef is a Senior Lecturer at the Department of Civil & Environmental Engineering at Universiti Teknologi PETRONAS. He obtained his PhD in Civil Engineering fluid mechanics in 2014, prior to which he graduated with an Meng in Civil Engineering in 2009. His research is broadly focused on modelling extreme ocean waves. He has published articles on both statistical modelling and numerical modelling of ocean waves.



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MEET YOUR TRAINERS

WEEK 1



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Lecture Series 7

Title: Solar and Storage & Emerging Technologies

Trainer: Engr. Virgilio S. Luzares

Engr. Virgilio S. Luzares is currently the President and Chief Executive Officer for Luzares Solar Power Engineering Services, and a founder of Luzares Energy Konsult. He is an expert in the field of Power System Engineering and Renewable Energy at Sultanate of Oman and Kingdom of Bhutan. Besides that, he is actively involved in IIEE with various roles such as Governor of Central Luzon Region (2011-2013), National Auditor (2014) and Incumbent Member of Energy Efficiency and Conservation Committee (EECC) and Standards Committee. He is also a member DTI-BPS Technical Committee (TC) 91 – Solar PV Energy Systems and a representative for Technical Working Group (TWG) on Advanced and Renewable Energy, and Green Building Technologies. Furthermore, his vast working experiences include consultant to EPC On-Shore Contractor for 50MW Solar Farm, Tarlac, EPC of Philippine International Convention Center (PICC) for 1.2MW Grid-Tied Solar PV Power Plant (Own-Use), EPC of Royal MAV Industrial Warehouse Rooftop for 31.32MWp Grid-Tied Solar PV System, Nueva Ecija, EPC of Talavera General Hospital ICU Bldg. Rooftop for 30.45kWp+10kWh (Battery Energy Storage System LUNA2000 Smart String ESS) Grid-Tied Hybrid Solar PV System and EPC of various Residential Rooftop Solar PV Grid-Tied Systems and Commercial & Industrial Solar PV + Smart String Battery Energy Storage Systems. His personal mission and vision is Switch to Solar Energy.

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MEET YOUR TRAINERS

WEEK 2



Lecture Series 8

Title: Floating Solar Systems Application: Offshore vs Calm Water

Trainer: Professor Ir Dr Mohd Shahir Liew

Prof Ir Dr Mohd Shahir Liew obtained his BSCE and Ph.D., in 1983 and 1987, respectively, from Texas, USA and continued his career in the consultancy management industry ranging from capital projects, facility management, project management, and project design spanning 23 years in the USA and the Asian region. With a penchant for training, research and mentoring engineers even during his tenure as consultant, Shahir joined Universiti Teknologi PETRONAS (UTP) in 2009 and currently serves as Deputy Vice Chancellor for Research Innovation & Commercialisation since 2017.

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As a proponent in the energy sector, he is currently the Chairman of the Energy Institute, Malaysia and have involved in many initiatives in artificial intelligence. He has served as the Chairman of the Competency and Training Working Group and as the Honorary Secretary for Malaysian Oil and Gas Services. He also chaired in the Human Resources Development Fund (HRDF) for the National Occupational Skill Standard (NOSS) and Sectorial Training Committee (STC-17) under Oil and Gas.

Throughout his career, he has spearheaded several strategic initiatives, authored more than 372 refereed articles, more than 2200 citations, 22 h-index, and 63 i10 index. His tenacity establishing 2 start-ups on resin fiber materials and is currently negotiating for a new start up on digital twin of structural health monitoring. Professor Shahir aspires for a better tomorrow in Malaysia and the Asian countries through the approach of sustained growth in niche capabilities and high-end knowledge areas.

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MEET YOUR TRAINERS

WEEK 2



Email: wesam.alaloul@utp.edu.my

Lecture Series 8

Title: Floating Solar Systems Application: Offshore vs Calm Water

Trainer: Dr. Wesam Salah Alaloul

Dr Wesam Salah Alaloul is a Senior Lecturer at the Civil and Environmental Engineering Department at the University of Technology PETRONAS (UTP). He obtained his B.Sc. in Civil Engineering and M.Sc. in Construction and Project Management from the Islamic University of Gaza, while his PhD in Civil Engineering/Construction and Project Management is from the UTP. Before moving to academia Dr Alaloul spent (5) years in the construction industry in several organizations, where he practised the BIM and digitalization transformation.

Dr Alaloul's research interests are in construction management, construction materials, structures decommissioning, IR 4.0 applications in the construction industry, floated solar systems, and lifecycle cost assessment. Also, he is a certified trainer for construction costing and sustainability issues. He has published more than 100 manuscripts in several ISI/Scopes journals, international conferences, book chapters and books. Dr Alaloul is a member of several evaluation committees for projects proposals. He participated as a member of the steering committee in the sustainable urban planning of smart cities.

Lecture Series 8

Title: Floating Solar Systems Application: Offshore vs Calm Water

Trainer: Ir. Dr. Lim Eu Shawn

Ir. Dr. Lim Eu Shawn is currently a Head of Consultancy and Services at Universiti Teknologi PETRONAS (UTP). He is also a member of Offshore Engineering Center UTP (OECU). He obtained his MSc and Ph.D. from Universiti Teknologi PETRONAS (UTP) in Civil Engineering. He has 9 years of academic and research experience. Of 9 years in industry and research, he has been working as a research engineer since 2012 and he has been appointed as Head of Offshore Engineering Center UTP (OECU) in 2019.



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He is currently leading the Project Management Consultancy and Project Delivery under

Technology Transfer Office (TTO) in UTP managing up to RM50 millions of projects under his portfolio. His area of expertise was in Offshore Decommissioning, Metocean and Seismic Engineering, Structural Engineering and Asset Integrity, and Technology Incubation. He is also a certified trainer and provides numerous professional training to the industry in Malaysia, working closely with various industry/university collaborators i.e. Human Resources Development Fund (HRDF). He works with non-profit organizations and NGOs i.e. Malaysia Structural Steel Association (MSSA). He currently held ten (10) professional affiliations and membership. Dr. Shawn has published over 20 articles on his research and findings. Dr. Shawn also received up to eight (8) awards and registered three (3) patents for his research and findings. Dr. Shawn is also one of the technology principals for Autonomous Asset Integrity Monitoring Solution (POSEIDONTM).

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MEET YOUR TRAINERS

WEEK 2

Lecture Series 9

Title: Solar Electricity Generating System

Trainer: Assoc. Prof. Dr. Balbir Singh A/L Mahinder Singh



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Dr. Balbir Singh is currently the Dean of Centre for Foundation Studies and an Associate Professor of Fundamental and Applied Sciences Department at Universiti Teknologi PETRONAS. His research interest is in Renewable Energy with a focus on PV based solar electricity generating system. His standalone PV based rural electrification projects have been installed in few rural villages for the benefit of around 300 indigenous villagers (SDG No. 7). Besides that, he was the leader of the hybrid solar desalination project which was commercialized in the year 2020 and the design won a gold medal award at Malaysia Technology Expo 2021. Previously, Dr Balbir has secured many other awards and one of the most notable achievements was the two gold medals received in the categories of Alternative Energy and Engineering at INPEX 2011 Pittsburgh, USA where his innovative product was also named as the INPEX 2011 "Best Invention of the Pacific Rim".

Lecture Series 10

Title: Dye-Sensitized Solar Cells

Trainer: Dr. Siti Nur Azella Zaine

Dr Siti Nur Azella Zaine is a lecturer at the Chemical Engineering Department, Universiti Teknologi PETRONAS. She obtained her PhD in Science from Universiti Teknologi PETRONAS in 2018. Her expertise is in dye-sensitized solar cell (DSC). Numerous research activities undertaken by Dr Azella is very much focused on cutting-edge research ranging from synthesis and characterization of tailored nanostructured materials, novel solid electrolytes, module design and fabrication, and performance analysis and verification. She has expanded her research interest in engineering nanostructured materials for other types of electrochemical energy conversion and storage devices such as rechargeable batteries, supercapacitors, and photocatalytic water splitting.



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UTP-MU Renewable Energy Virtual International Summer School Programme 2021

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MEET YOUR TRAINERS

WEEK 2



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Lecture Series 11

Title: Hydrodynamic Stability of Floating Solar Systems

Trainer: Dr. Montasir Osman Ahmed Ali

Dr Montasir is currently a senior lecturer at Universiti Teknologi PETRONAS (UTP). At present, he is the custodian of UTP Offshore Laboratory. His areas of specialization are hydrodynamics of floating offshore platforms and its Station keeping Systems including numerical modelling and physical model testing. Also, he is looking into renewable energy, particularly hydrodynamic and aerodynamic stability of floating wind turbines. He provided several trainings on the hydrodynamics of offshore structures to the industry and academia. Dr Montasir published more than 30 articles in high reputational journals and conferences. He spent more than seven years in structural engineering industry (contractor and consultancy companies) prior joining academia. Dr Montasir obtained his Master's degree in structural engineering and PhD in Civil Engineering (Offshore Structures).

Lecture Series 11

Title: Hydrodynamic Stability of Floating Solar Systems

Trainer: Dr. Ahmad Mahamad Al-Yacoubby

Dr. Ahmad Al-Yacoubby is a Lecturer at the Department of Civil & Environmental Engineering, Universiti Teknologi PETRONAS, Malaysia. Dr Al-Yacoubby has over 17 years of professional structural engineering experience as academic, researcher and practitioner engineer in various parts of the world. With research interest in offshore structures, subsea technology, wave hydrodynamics, VIV and new energy. To date has completed and currently managing numerous research projects and industry projects executed at the capacity of Project Manager, Resident Engineer or Lead Project Engineer Positions. Dr Al-Yacoubby is a Chartered Engineer (C.Eng), and member of the American Society of Civil Engineers (ASCE), Graduate Member of ICE(UK), and Corporate Member of Concrete Society Malaysia (CSM).



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MEET YOUR TRAINERS

WEEK 2

Email: adilla.rashidi@utp.edu.my

Lecture Series 12

Title: Introduction to Bioenergy

Trainer: Dr. Nor Adilla Rashidi

Dr Nor Adilla Rashidi (AMlChemE) holds a Bachelor in Chemical Engineering (Hons.) (2010), Master of Science degree (MSc) in Chemical Engineering (2014), and a Doctorate degree (PhD) in Chemical Engineering (2019) from Universiti Teknologi PETRONAS, Malaysia. Her main research interests focus on biomaterial development, wastewater treatment, and carbon capture and storage. To date, she had published over 20 peer-reviewed articles in numerous high impact factors publications, including Energy, Chemical Engineering Journal, Journal of CO2 Utilization, etc. with the cumulative citation number of 756 and h-index of 12 (Source: SCOPUS). She is currently affiliated with several professional associations, including Malaysia Board of Technologist (Graduate Technologist), Board of Engineers Malaysia (Graduate Engineer), and Institution of Chemical Engineers (Associate Member).

Lecture Series 12

Title: Introduction to Bioenergy

Trainer: Dr. Chai Yee Ho

Dr. Chai Yee Ho is currently a lecturer in the Department of Chemical Engineering, Universiti Teknologi PETRONAS, Malaysia. He has more than 20 publications and has won several awards including Best Speaker and Best Paper awards in prestigious conferences. He was also shortlisted as the Finalist for the Young Scientist Network – Academy of Sciences Malaysia (YSN- ASM) Chrysalis Award in 2020. He was also a visiting Research Scientist to University of York, UK in 2019 to collaborate and explore in the field of microwave-assisted extraction technology. His current research interests caters to supercritical fluid extraction technology, solventless microwave extraction technology, and life cycle assessment (LCA) with high research interests to valorise biomass wastes into value-added products. He currently holds several positions such as the Co-Director of Projects at Engineers Without Borders Malaysia – Sarawak (EWBMS) and Advisor to IChemE UTP Student Club. He is also affiliated to several professional associations, including IChemE (Chartered Engineer), Malaysia Board of Technologist (Graduate Technologist), and Board of Engineers Malaysia (Graduate Engineer).

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WEEK 2

Lecture Series 13

Title: Role of solid fuel in Renewable Energy**Trainer: Ts. Dr. Noridah Binti Osman**

Ts Dr Noridah Binti Osman obtained her Bachelor of Forestry Science (Hons) and MSc (Wood Science) from Universiti Putra Malaysia, Serdang Selangor, Malaysia and Ph.D in Natural Resources from the University of Idaho, Idaho, USA. She was a Research and Teaching Assistant during her PhD program and continued as Post-Doctoral Fellow at University of Idaho, USA. Notably, a recipient of Agriculture Grant under USDA, USA for her PhD program. She was formerly a Post-doctoral Research Fellow and then later as a Research Scientist at Universiti Teknologi PETRONAS and currently served as Senior Lecturer. She has written and co-authored over 40 scientific papers for journal publication and conferences. Her main research areas are biopolymer and biomaterial science, bioenergy and bioproduct, biochemistry, natural products chemistry, wood materials and

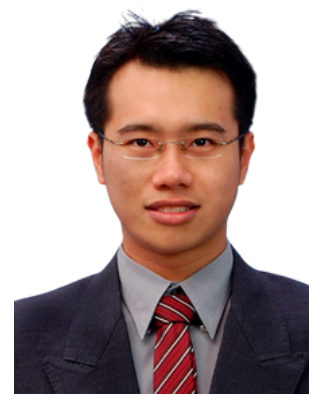
Email: noridah.osman@utp.edu.my

wood science, lignocellulosic biomass, and composites materials. She was awarded several research grants from national sources via national and international grants application offer by Ministry of Education Malaysia, Ministry of Science, Technology, and Innovation Malaysia, and Yayasan Universiti TEKNOLOGI PETRONAS. Research, innovation, and commercialization serve as pivotal activities apart of teaching and student affairs duties.

Lecture Series 14

Title: Black Soldier Fly and Microalgae as Sustainable Feedstock for Biodiesel Production**Trainer: Dr. Lim Jun Wei**

ChM. Dr. Lim Jun Wei (MRSC) was conferred with the Bachelor of Science (Hons) degree in Chemistry from Universiti Sains Malaysia in year 2009. He later received his Ph.D. qualification in Environmental Chemistry from the same university in year 2013. Currently, he is affiliated with the Department of Fundamental and Applied Sciences, Universiti Teknologi PETRONAS, serving as the Senior Lecturer and Cluster Head of Applied Chemistry program. His major research interests are insect-based biological compounds, bioremediation of solid wastes and wastewaters and microbial biofuels. Accordingly, he has published more than 200 research papers inclusive of book chapters of late. In terms of professional associations, he is the member of The Royal Society of Chemistry (MRSC) at international level and Professional Chemist registered with Institut Kimia Malaysia at national level. He is also one of the Graduate Technologists under the Malaysia Board of Technologist.

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MEET YOUR TRAINERS

WEEK 2



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Lecture Series 14

Title: Black Soldier Fly and Microalgae as Sustainable Feedstock for Biodiesel Production

Trainer: Ts. Dr. Lam Man Kee

Lam Man Kee is a senior lecturer at Chemical Engineering Department in Universiti Teknologi PETRONAS (UTP). He is also a key-core member in the HICoE-Centre for Biofuel & Biochemical Research in UTP. Lam received his PhD (2014), MSc (2010) and BEng (Hons) (2008) in Chemical Engineering from Universiti Sains Malaysia (USM). His research interests are related to microalgae cultivation, biofuel production, life cycle energy & carbon assessment and social-economic impact of biofuel. He has published more than 100 papers in ISI-indexed journals with H-index of 30 and cumulative citations of 4317 (SCOPUS database, July 2021). Currently, he is serving as the Deputy Editor-in-Chief for International Journal of Biomass & Renewables (UTP Press) and Editorial Board Member for the Journal of

Advanced Chemical Engineering (Omic International). He was awarded the Leaders in Innovation Fellowships Programme by Royal Academy of Engineering (UK) under the Newton-Ungku Omar Fund in 2020, Top Peer Reviewer by Publons (Web of Science Group) in 2019, Gold Medal in Innovation Development Through Educational Activities (IDEA'19), Teaching and Learning Award for Effective Education Delivery in 2018. He also had delivered several short courses to the academic and industrial, such as "Biomass to Fuels & Chemicals", "Reaction Engineering and LCA for Biomass Conversion, and "Cultivation of Microalgae and Larvae for Biofuel Production" among the others.

Lecture Series 15

Title: Biogas From Distillery Wastewater

Trainer: Atty. Rachel Hechanova Cawit

Atty. Rachel Hechanova Cawit has obtained her Bachelor of Science in Chemical Engineering (2004) and Bachelor of Science in Law (2017) from University of Negros Occidental-Recoletos. She also obtained her Masters in Environment and Natural Resources Management from University of the Philippines-Open University (2013). Currently, she holds multiple working experiences as Administration and Distillery Operations/Legal Counsel and Division Manager (Technical Services) for Asian Alcohol Corporation, and Administration Manager for Total Bulk Corporation. She is also a part time Professor in the School of Law for University of Negros Occidental-Recoletos. She holds multiple certifications including Registered Chemical Engineer, Accredited Pollution Control Officer 1 (PCO-1) and Attorney-at-Law/Lawyer. She is currently affiliated to Philippine Institute of Chemical Engineers (Member), Center for Alcohol Research and Development (CARD) Foundation, Inc (Member), Philippine Sugar Technology Inc. (PHILSUTECH) (Member) and Ethanol Producers of the Philippines (EPAP) (Corporate Secretary) among the others.



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WEEK 3

Lecture Series 16

Title: Introduction to Geothermal Drilling

Trainer: Engr. Graciano Emmanuelito Dela Cruz

GEE Dela Cruz is a faculty member of the School of Mechanical and Manufacturing Engineering at Mapua University, Philippines. He was previously a drilling engineer for the Energy Development Corporation handling well design and drilling operations all over the Philippines. He received his Master of Science in Mechanical Engineering at the same university. He is currently taking his PhD in Mechanical Engineering and his research interested includes geothermal energy and Thermo-economic analysis and optimization.



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Lecture Series 17

Title: Optimizing Selection and Qualification of Geothermal Wellhead Piping Materials

Trainer: Engr. Reyлина Tayactac

Reylina is a faculty member of the School of Mechanical and Manufacturing Engineering at Mapua University, Philippines. She is currently involved, as a Certified Project Management Professional (PMP) by Project Management Institute, on key projects and customer management in Saudi Aramco, Shell, McDermott, Qatar Gas, ADNOC Chiyoda, Dangote Oil, GE Oil & Gas, Aker Solutions, OneSubsea and Cameron, as a manager in PT Cladtek Bi-Metal Manufacturing. She has over fourteen years of cumulative experience in Project Management, Sales & Marketing, Cost Estimating field, and Procurement and Contracting. She is currently taking his PhD in Mechanical Engineering and her research includes assessment of corrosion resistant alloy clad materials for geothermal wellhead piping system.



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WEEK 3

Lecture Series 18

Title: Geothermal energy extraction from abandoned oil well

Trainer: Dr. Jundika Candra Kurnia



Email: jundika.kurnia@utp.edu.my

Dr Jundika Candra Kurnia is Senior Lecturer in Mechanical Engineering Department and Deputy Head of Solar Thermal Research Center, Institute of Self –Sustainable Building, Universiti Teknologi PETRONAS. He received his PhD in Mechanical Engineering from the National University of Singapore (2013) and Bachelor of Engineering degree from Universitas Gadjah Mada, Indonesia (2007). Prior to joining UTP, he was a postdoctoral researcher at the Masdar Institute of Science and Technology (now Khalifa University), Abu Dhabi, UAE and Minerals Metals and Materials Technology Centre (M3TC) in National University of Singapore (NUS) where he was involved in two demanding industrial project with funding from ADNOC and Singapore EDB, respectively. He has been active on transport processes enhancement, thermal fluid science and engineering, polymer electrolyte membrane fuel cell, mine ventilation and ventilation air methane utilization, thermal energy storage and thermal capacitor. He has published numerous peer-reviewed articles in reputable journals and renowned conferences, with total citations number (2008) and H-index (25) in Google scholar. In addition, he has been invited as guest editors for 2 high impact journals and regularly invited as reviewer in a number of reputable journals. Recently, he has secured a competitive funding from DAAD for research stay at Rhine-Waal University of Applied Sciences, Germany. He also obtained Chartered Engineer from UK engineering council, Senior Professional Engineers from Institutions of Engineers Indonesia and Professional Technologist from Malaysia Board of Technologist.

Lecture Series 19

Title: Surface Technology

Trainer: Dr. Blessie Basilla



Email: basiliablessie@gmail.com

Dr. Blessie A. Basilia is currently the RD (research & development) Leader of the Materials Development (MATDEV) Laboratory of the Advanced Manufacturing Center (AMCen) of the Industrial Technology Development Institute - Department of Science and Technology (ITDI-DOST), Philippines. She completed her MS in Materials Science and Engineering at the University of New South Wales, Australia and graduated PhD Materials Science and Engineering at the University of the Philippines. Her research work focused on the following areas: nanofibrous membrane for tissue engineering, nanomaterials for the semiconductor and microelectronics industries, polymer nanocomposites for various industrial applications, quantum dots for solar cell application, and biomineralized graphene sheets for medical and semiconductor application and composite materials for additive manufacturing. She is also a Faculty in the School of Graduate Studies and CBMES of the MAPUA University from 2004 to present. She is currently the chairperson of the Technical Committee on Nanotechnology (TC 85) and Technical Committee on Additive Manufacturing (TC 88) of the Bureau of Philippine Standard, and the Philippine expert on Nanotechnology in ISO/TC 229 Nanotechnologies.

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WEEK 3



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Lecture Series 20

Title: Sustainability and Carbon Footprint in Renewable Energy

Trainer: Dr. Aldrin Calderon

Aldrin Calderon received his Ph.D. in Energy Engineering from the University of the Philippines and completed his post-graduate course in Sustainability from the United Nations University, Tokyo, Japan. He is a Mechanical Engineer active in the area of Energy & Sustainability and a member of the Technical Panel of the Department of Science and Technology – Philippine Council for Industry, Energy, and Emerging Technology Research & Development. He is an adjunct professor of Mapua University and presently the Cluster Head of the Renewable Energy and Sustainable Technologies (REST) Research Cluster under the School of Mechanical and Manufacturing Engineering. He is currently a member of the (1) Commission on Higher Education – Technical Working Group on the Advanced Energy & Green Buildings Curriculum Act and (2) Department of Energy – Technical Working Group on Energy Efficiency and Conservation Law. At present, he is engaged as the UNDP National Consultant in the project: Enhancing Energy Capacities of the Philippines – Development of National Cooling Plan.

Lecture Series 21

Title: Environmental Impact Assessment

Trainer: Dr. Michelle Almendrala

Dr. Michelle C. Almendrala is currently an Assistant Professor at the School of Chemical, Biological, Material Engineering and Sciences of the Mapua University. She handles the undergraduate courses in Green Chemistry and Engineering track. For the graduate school in Chemical and Environmental Engineering, she handles courses in Green Process Engineering, Renewable Energy and Waste-to-Energy Systems, and Advanced Mathematical Methods in Environmental Engineering. As a scholar of the Department of Science and Technology-Engineering and Science Education Program (DOST-ESEP), she completed her MS and PhD in Chemical Engineering at the University of the Philippines, Diliman, Quezon City, and did her



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Dissertation research at the Chemical and Biomolecular Engineering Department of the Ohio State University, Columbus, Ohio, USA. After finishing her masteral degree, she was one of the scholars chosen by DOST-ESEP University of New South Wales, Australia for a Post-Masteral Training Program in Chemical Engineering in 1996. In 2009, she was awarded the Philippine-American Educational Program (PAEP) – Fulbright Senior Advanced Research and University Lecturing Grant and did advanced research in the anaerobic fermentation and pervaporation of biobutanol. To provide sustainable solution to global climate change and energy problems, her research works are based on the utilization of waste-to-energy such as the anaerobic co-digestion of molasses-based distillery wastewater and sugarcane filter cake. In the context of circular economy, her current research interest is in the utilization of bio-waste in the recovery of both energy and water with the application of Green Chemistry and Engineering processes.

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CASE STUDY ACTIVITY #1

WEEK 1

A Case of Biodiversity and Sustainability

Facilitators: Dr. Chai Yee Ho & Dr. Nor Adilla Rashidi

In this case study, participants are provided with an overall background and context study with niche theme areas related to biodiversity and sustainability. Participants are divided into several groups to champion their associated groups' vision and mission. The case study exposes participants to an array of choices that do not consider only specific recommendations, but rather considering the process and considerations in doing so.

CASE STUDY ACTIVITY #2

WEEK 2

Environmental Impact of Integrated Anaerobic Digestion (AD) and Pyrolysis (Py) of Organic Fraction of Municipal Solid Waste (OFMSW)

Facilitators: Dr. Michelle Almendrala & Dr. Aldrin Calderon

The goal of this case study is to compare the environmental impacts of the waste-to-energy (WTE) integrated systems (AD-Py and Py-AD) and the standalone WTE systems AS and Py using the Life Cycle Assessment (LCA) method. Participants will be exposed to the working elements to conduct and evaluate dataset results obtained by LCA effectively.



CASE STUDY ACTIVITY #3

WEEK 3

Integrating Renewable Energy in Eco Industrial Park

Facilitators: Dr. Chai Yee Ho & Dr. Nor Adilla Rashidi

Coach: Ts. Dr. Noridah Binti Osman

In this case study, participants will be given a list of thematic topics to choose from. The participants will apply and integrate the different types of renewable energy, sustainability and sustainable development principles outlined throughout the programme. Participants will present their findings at the end of the programme. A comprehensive coaching session will be provided to expose and prepare participants to deliver high-quality deliverables.



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SPECIAL LECTURE SESSION #1

2ND OCTOBER 2021Email: efaraullo@meralco.com.ph**Title: Microgrid development challenges in Remote areas and Islands****Speaker: Engr. Eugene Araullo**

Engr. Eugene Araullo is currently the Energy Research & Program Development Director of the Meralco Power Academy Inc, the Technology Consultant of Meralco Spectrum, Inc., Director for Strategy of the Philippine Institute of Energy Management Professionals, Inc. and the former National Vice President of the Institute of Integrated Electrical Engineers of the Philippines. He had developed/implemented several projects, consulting and transformation projects in Meralco group and as well as for the local and international clients like USEA/USAID, Ethiopia Electric Utility, Bhutan Power, Ceylon Electricity Board, Ibadan DisCo, National Power Training Institute of Nigeria, Philex Mining, Phil Batteries Inc, Team Energy, AES, Global Power, Holcim, Fortune Tobacco, Energy Dev Corp, Cepalco, Tarlac Electric, Schneider Electric, Papua New Guinea Power, Tanzanian Electricity, Korea Power Exchange, IERE-Japan, among others including local government agencies and the academia. He is recently focused on renewable energy/microgrids, power economics and energy management for the last 7 years. On part-time occasion, he had also served as resource person, lecturer or professor in various local for a, international conferences and local universities. His key Expertise includes: Performance Consulting, Energy Management System (EnMS ISO 50001), Total Quality Management, Information Systems and Technology Management, Supply Chain Management (Logistics, Procurement and Contracts), Power engineering/electric distribution, Renewable energy, Business process reengineering, Program/Project management and People Development. He is a UNIDO's Energy Management System/ISO 50001 National Expert, Certified Project Management Professional (PMP), ITIL V3 expert, Certified Data Center Professional (CDCP), Professional Electrical Engineer (PEE) and ASEAN Chartered Professional Engineer (ACPE).

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SPECIAL LECTURE SESSION #2

9TH OCTOBER 2021

Email: shahrina_mnordin@utp.edu.my

Title: Circular Economy for Socioeconomic Impact: Stakeholder Management & Communications**Speaker: Assoc. Prof. Dr. Shahrina Bt M Nordin**

Shahrina Md Nordin is currently the Director of Self-Sustainable Building. She is active in academic endeavours and has also contributed in the corporate strategy and project implementation portfolios. She was previously the founding head of Centre of Social Innovation. She was attached to PETRONAS Corporate Strategy Division and was involved in developing strategic planning for Circular Economy, Sustainability for C-Suite and Change Management. At the University, she was part of the University's Transformation Plan team leading Engagement and Communications. She was later seconded to the University's

Transformation Office to facilitate the transformation journey of the University from teaching to research intensive University. After serving as Head of Management and Humanities Dept, she was appointed as the Director (later Senior Director) of the Project Management Office to oversee implementation of strategic initiatives. She has been actively involved in CSR works collaborating with various local and international agencies. She is an advocate to social innovations, innovation diffusion and community development through various journals and book publications. She has contributed as an invited speaker at various national and international platforms.



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Title: Renewable Diesel**Speaker: Prof. Ir. Dr. Suzana Yusup, FASc.**

Professor Ir. Dr Suzana Yusup is the Director@Head of Center for Biofuel & Biochemical Research and a Professor at Chemical Engineering Department, Universiti Teknologi PETRONAS, Malaysia. Her research interests are related to biomass conversion to biofuel and value-added products, green processes, and material development.

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SPECIAL FORUM

16TH OCTOBER 2021

"Renewable Energy and Way Forward in Philippines and Malaysia"



Assoc Prof Dr Noor Wan Amila Wan Zawawi
Director of Research Management Center
Universiti Teknologi PETRONAS (UTP)
Moderator



Prof Ir Dr Mohd Shahir Liew
Chairman of Energy Institute Malaysia,
Deputy Vice Chancellor, Research,
Innovation & Commercialisation,
Universiti Teknologi PETRONAS (UTP)



Mr Don Mario Y Dia
President of the Biomass Renewable
Energy in the Philippines



Ms Munira Shahrul Baharin
Chief Technology Officer
WASAVÉ Sdn. Bhd.



Atty Rachel Cawit
AVP- Administration and Distillery
Operations/Legal Counsel
Division Manager of Technical Services
Asian Alcohol Corporation (Philippines)



Dr Aldrin Calderon
UNDP Consultant - Enhancing
Energy Capacities of the
Philippines
Part-time Faculty, Mapua
University

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ACKNOWLEDGEMENT



Organising Committee

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Assoc Prof Ts Dr Noor Amila Wan Abdullah Zawawi

(Chairman UTP-MU-REIVS2P 2021)

Ts Dr Noridah Osman (UTP-MAPUA Custodian organiser)

Dr Chai Yee Ho (HEAD organiser)

Dr Nor Adilla Rashidi (HEAD organiser)

Wan Nabihan Wan Sulaiman (ISB Executive organiser)

Rodiah M Helmi (ISB Protégé organiser)

Dr Eric Ho Tatt Wei (UTP-PMIII Country Manager)

Hasiah Kamaruddin (RI&C Business Development)

Assoc Prof Dr Shahrina Bt Md Nordin (ISB Director)

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ACKNOWLEDGEMENT



Trainers

Prof Ir Dr Mohd Shahir Liew

Prof Ir Dr Suzana Yusuf

Assoc Prof Dr M Pisol Mat Isa

Assoc Prof Dr Balbir Singh Mahinder Singh

Assoc Prof Shahrina M Nordin

Ts Dr Lam Man Kee

Ts Dr Noridah Osman

Ts Dr Teh Hee Min

Ir Dr Lim Eu Shawn

Dr Ahmad Mahamad Al-Yacouby

Dr Chai Yee Ho

Dr Jundika Candra Kurnia

Dr Lim Jun Wei

Dr Mohamed Latheef

Dr Montasir Osman Ahmed Ali

Dr Nor Adilla Rashidi

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Dr Siti Nur Azella Bt Zaine

Dr Wesam Salah Alaloul

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Dr Alvin Caparanga (Dean of School of CBMES)

Dr Aldrin Calderon (School of MME)

Dr Michelle Almendrala (School of CBMES)

Engr Ronald Vincent M. Santiago (Program Chair – EE)

Jan Andrea M. Morano (ICEP Placement Coordinator)

Sheina B. Salvador (ICEP International Students' Coordinator)

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ACKNOWLEDGEMENT



Trainers

Mr Geoffrey Rhoel Cruz
Engr John Christian Nicdao
Engr Virgilio Luzares
Engr Eugene Araullo
Atty Rachel Hechanova Cawit
Dr Michelle Almendrala
Dr Aldrin Calderon
Engr Graciano Emmanuelito Dela Cruz
Engr ReyлинаTayactac
Dr Blessie Basilla

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ACKNOWLEDGEMENT

Forum Panellists

Prof Ir Dr Mohd Shahir Liew (Energy Institute Malaysia Chairman)

Assoc Prof Ts Dr Noor Amila Wan Abdullah Zawawi (Moderator)

Ms Munira Shahrul Baharin (Chief Technology Officer, WASAVÉ Sdn Bhd)

Mr Don Mario Y. Dia (President, Biomass Renewable Energy in the Philippines)

Dr Aldrin Calderon (UNDP Consultant)

Atty Rachel Hechanova Cawit (AVP – Administration and Distillery Operations/ Legal Counsel, Division Manager of Technical Services, Asian Alcohol Corporation, Philippines)

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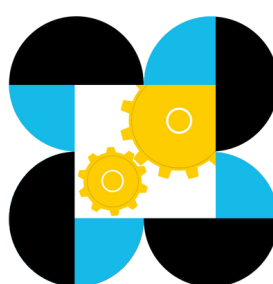


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