



الكلية الدولية للمهندسة والإدارة  
International College of  
Engineering & Management



University of  
Central Lancashire  
UCLan



Institute of Mechanical and  
Manufacturing Engineering  
(IMME)

# 4<sup>TH</sup> Virtual International Undergraduate Research Conference

## 4th Virtual International Undergraduate Research Conference

*Held on October 3rd and 4th, 2023*

### **Aim:**

The conference aimed to foster an environment that was inclusive, impactful, and collaborative, dedicated to the essence of undergraduate research.

### **About**

**the**

### **Event:**

The International College of Engineering and Management (ICEM), in conjunction with the Institute of Mechanical and Manufacturing Engineering (IMME) of KFUEIT, proudly organized the 4th Virtual International Undergraduate Research Conference. Taking place on October 3rd and 4th, 2023, the conference revolved around the theme: "Breaking Boundaries: Collaborative Undergraduate Research across Disciplines and Borders". Graduating students were cordially invited to display their final projects, dissertations, case studies, surveys, and experiments, particularly in the realms of Engineering and Management.

**The conference was chaired by**



Associate Professor Dr. Salem S. Abu Amr  
**Chair**



Assistant Professor Dr. Don Anton Robles  
Balida  
**Co-Chair**



Assistant Professor Dr. P. Suvarna Raju  
**Co-Chair**

### **Conference Leadership:**

- **Chair:**  
Associate Professor Dr. Salem S. Abu Amr
- **Co-Chair:**  
Assistant Professor Dr. Don Anton Robles Balida
- Assistant Professor Dr. P. Suvarna Raju

### **Conference Highlights:**

Over the span of these two days, the event featured:

- 5 esteemed keynote speakers
- 2 special guest speakers
- 30 presenters from countries like Oman, the Philippines, Pakistan, Malaysia, Egypt, India, and Saudi Arabia

With not less than 150 attendees, the conference was an enriching and enlightening experience for all. We were delighted by the shared academic excellence and collaborative discovery!

## Keynote speakers



**Prof. Dr. Nour Shafik El-Gendy**

Prof of Environmental Sciences  
Egyptian Petroleum Research Institute  
(EPRI)

October University for Modern Sciences and  
Arts (MSA)

E-mail: [nourepri@yahoo.com](mailto:nourepri@yahoo.com)

**Topic:** A clean and sustainable environment  
via the recruitment of lignocellulosic wastes  
and artificial intelligence for the green  
synthesis of value-added products, clean  
fuels, and wastewater treatment



**Prof. Dr. Rashmi Mishra**

Head Department of Biotechnology,  
Noida Institute of Engineering and Technology  
(NIET), Greater Noida, APJ Abdul Kalam  
Technical University, UP

E-mail: [hodbiotech@niet.co.in](mailto:hodbiotech@niet.co.in); [dr.mishra.rashmi@gmail.com](mailto:dr.mishra.rashmi@gmail.com)

**Topic:** Health and Safety in workplace



**Dr. Mohammed Danish**

Senior Lecturer  
Bioresource Technology Division  
Pusat Pengajian Teknologi Industri  
Bangunan G07, Universiti Sains Malaysia




**Faye Centeno**

Focal person for Disaster Risk Management for  
a local government. Certified Instructor for  
formulating the enhanced climate change plan

E-mail: [centenodorothyfaye@gmail.com](mailto:centenodorothyfaye@gmail.com)

**Topic:** Environmental Challenges

<p>11800 USM Pulau Pinang E-mail: danish@usm.my</p> <p><b>Topic:</b> Research Trends of Biomass Based Carbon Technology</p>	
 <p><b>Mr. Badar Al Dhuhli</b> Head of Department, Tourism and Management Oman Tourism College E-mail: <a href="mailto:badar.al-dhuhli@otc.edu.om">badar.al-dhuhli@otc.edu.om</a></p> <p><b>Topic:</b> The current state of tourism in Oman post pandemic</p>	

# Conference agenda

## 1<sup>st</sup> day 03 October 2023

Time	Activity	Presenter
8:30 – 9:00 am	Registration (Opining MS Teams and attendance)	Organizing Team
9:00 – 9:02 am	Oman National Anthem	
9:02 – 9:05 am	ICEM Anthem	
9:05 – 9:15 am	Reading of the Holy Quran	<b>Mr. Eldar Abdullayev</b>
9:15 – 9:30 am	Welcome Address	<b>Dr. Yingkui Zhao</b> The Dean of ICEM
<b>Keynote Speakers Session</b>		
9:45 – 10:15 am	Research Trends of Biomass Based Carbon Technology	<b>Dr. Mohammed Danish</b> Universiti Sains Malaysia <a href="mailto:Danish@usm.my">Danish@usm.my</a>
10:20 – 10:50 am	Environmental Challenges	<b>Faye Centeno</b> Focal person for Disaster Risk Management for a local government. <a href="mailto:centenodorothyfaye@gmail.com">centenodorothyfaye@gmail.com</a>
<b>10:50 – 11:10 am</b>	<b>Break</b>	
11:10 am – 11:40 pm	A clean and sustainable environment via the recruitment of lingo cellulosic wastes and artificial intelligence for the green synthesis of value-added products, clean fuels, and wastewater treatment	<b>Prof. Dr. Nour El-Gendy</b> Egyptian Petroleum Research Institute (EPRI), Egypt <a href="mailto:nourepri@yahoo.com">nourepri@yahoo.com</a>
11:45 – 12:15 pm	Health and Safety in workplace	<b>Prof. Dr. Rashmi Mishra</b> Noida Institute of Engineering & Technology (NIET) <a href="mailto:dr.mishra.rashmi@gmail.com">dr.mishra.rashmi@gmail.com</a>
12:20 – 12:50 pm	The current state of tourism in Oman post pandemic	<b>Mr. Badar Al Dhuhli</b> Oman Tourism College <a href="mailto:badar.al-dhuhli@otc.edu.om">badar.al-dhuhli@otc.edu.om</a>
<b>Guest Speakers</b>		

1:00 – 1:20 pm	Phenolic xenobiotic Nano biodegradation using Bacillus nealsonii decorated by macroalgal-synthesized magnetic nanoparticles	<b>Prof. Dr. Hussein N. Nassar</b> Egyptian Petroleum Research Institute (EPRI), Nasr City, Cairo, Egypt <a href="mailto:hessen_nasar@hotmail.com">hessen_nasar@hotmail.com</a> <a href="mailto:humohamed@msa.edu.eg">humohamed@msa.edu.eg</a>
1:20 – 1:40 pm	Optimization of Biodiesel Production from Waste Cooking Oil Using Immobilized Bacillus pumilus Lipase onto Amine-Functionalized SBA-15 Derived from Rice Straw: A Sustainable Approach for High Yield and Reusability	<b>Prof. Dr. Abdallah R. Ismail</b> Egyptian Petroleum Research Institute (EPRI), Nasr City, Cairo, Egypt <a href="mailto:abdo82004@hotmail.com">abdo82004@hotmail.com</a>
<b>1:40 – 2:00 pm</b>	<b>Discussion and Recommendation</b>	
<b>2:00 pm</b>	<b>1<sup>st</sup> day closing</b>	
<b>2<sup>nd</sup> day 4<sup>th</sup> October 2023</b>		
<b>Parallel Presentation Sessions</b>		
<b><u>Session1</u></b>		
9:00 – 9:20 am	The performance of combined coagulation and oxidation processes for the treatment of stabilized landfill leachate	<b>Muneer M.A. Ayash</b> University Kuala Lumpur, Malaysian Institute of Chemical and Bioengineering, Technology University Kuala Lumpur, <a href="mailto:ayashmuneer@gmail.com">ayashmuneer@gmail.com</a>
9:20-9:40 AM	Utilizing Covid-19 Disposable Face Masks in The Production of Eco-Composite from Bamboo Fiber	<b>Shamir Amani Bin Samrulzaman Nur</b> Technology Division, Universiti Sains Malaysia, Penang Malaysia <a href="mailto:nurizzaati@usm.my">nurizzaati@usm.my</a>
9:40 – 10:00 am	Physical and Mechanical Properties of Recycled High-Density Polyethylene (rHDPE) Composite Reinforced with Bamboo Particles.	<b>Afiqah Binti Mohamad Noor Nur</b> Technology Division, Universiti Sains Malaysia, Penang Malaysia <a href="mailto:nurizzaati@usm.my">nurizzaati@usm.my</a>
10:00 – 10:20 am	Preparation Of Sustainable Scavengers From Banana Peel Activated Carbon Functionalized	<b>Nur aishah binti rosland</b>

	With N-Doped Carbon Dots To Remove Pb(Ii) Ions	Universiti sains malaysia, <a href="mailto:esharosland@gmail.com">esharosland@gmail.com</a>
<b>10:20 – 10:40 pm</b>	<b>Break</b>	<b>Break</b>
10:40 – 11:00 am	Preparation of sustainable adsorbent from banana peel activated carbon functionalizing with carboxylic groups using iminodiacetic acid (IDA) and carbon dots to remove zinc meta	<b>Hoo Ya Wen</b> University Sains Malaysia School of Technology Industry Bioresource Technology <a href="mailto:Yawenhoo@hotmail.com">Yawenhoo@hotmail.com</a>
11:00 – 11:20 am	Improvement in the washing principle of smart dishwasher using optimized heat and rotating double arm jet spray	<b>Hammad Khalid</b> Fareed University of Engineering & IT Pakistan <a href="mailto:hkhalid@kfueit.edu.pk">hkhalid@kfueit.edu.pk</a>
11:20 – 11:40 am	a phytoremediation study on sustainable wastewater treatment by removal of cadmium through azolla pinnata in muscat regional areas	<b>Safa Al Mandhari</b> International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H18000067@icemoman.net">H18000067@icemoman.net</a>
11:40-12:00 am	Impact of COVID-19 on Work Performance in Oman	<b>Mahmood Al Kiyumi</b> International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H05010669@icemoman.net">H05010669@icemoman.net</a>
12:00 – 12:20 am	Numerical Analysis Of Cross Axis Wind Turbine With Enhanced Performance	<b>Faheem Abbas,</b> University of Engineering and Information Technology, Rahim Yar Khan, Pakistan <a href="mailto:mumtaz.ahmed@kfueit.edu.pk">mumtaz.ahmed@kfueit.edu.pk</a>
<b>12:20 – 12:40 pm</b>	<b>Break</b>	
12:40 - 1:00 pm	Occupational a health Risks in the cement Factory	<b>Iman Masoud Ali Al Rahbi,</b> International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:imanalrahbi0@gmail.com">imanalrahbi0@gmail.com</a>

1:00 – 1:20 pm	Numerical Simulation on Cutting Transport Behaviour of GO/ hBN Reinforced WBM using Moore’s Correlation	Asif Zamir, <b>Zainab Al Jarehi</b> International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H18000282@icemoman.net">H18000282@icemoman.net</a>
1:20 – 1:40 pm	Evaluating Effectiveness of the Epoxy Resin and Modified Drilling Fluid for Corrosion Inhibition on the Drill Pipe	Asif Zamir, <b>Abdul Rahman</b> Mouhammed Youssef International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H17000181@icemoman.net">H17000181@icemoman.net</a>
<b>1:40 – 2:00 pm</b>	<b>Break</b>	
2:00 – 2:20 pm	Lab Scale Studies: Effect of Cementing Material Concentration Effect on the Porosity of Synthetic Sandstone Cores	Asif Zamir, <b>Al-Hassan Ali</b> Nasser Al-Maqahami  International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H18000056@icemoman.net">H18000056@icemoman.net</a>
2:20 – 2:40 pm	Analysis of the relationship between early kick detections and MPD (Managed Pressure Drilling)	Asif Zamir, <b>Mahmood Zahir Al-Hinaai</b>  International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:h06013127@icemoman.net">h06013127@icemoman.net</a>
2:40 – 3:00 pm	Factors Influencing Career Choice of Male Students In Education Courses	<b>Valdez, Devina Mhae M, Lachica, Johanna D</b>  Urdaneta City University, College of Department Education <a href="mailto:devinamhaevaldezmerlin.04@gmail.com">devinamhaevaldezmerlin.04@gmail.com</a>
<b>3:00 – 3:20 pm</b>	<b>Discussion and Recommendation</b>	
<b>3:20 – 3:40 pm</b>	<b>Closing</b>	



## Session 2

9:00 – 9:20 am	Traffic Signs and Pavement Markings: Knowledge and Awareness of Motorcycle Driver's in the Municipality of Calinog”	<b>Marelyn P.Palma and Evelyn S. Licera</b> West Visayas State University- <a href="mailto:shielacasabuena4@gmail.com">shielacasabuena4@gmail.com</a>
9:20 – 9:40 am	Acceptability of Cupcake Made of Taro (ColocasiaEsculententa Flour	<b>Altis, Jester L.</b> School Of Management Lambunao, Iloilo <a href="mailto:lamanmjclavel@gmail.com">lamanmjclavel@gmail.com</a>
09:40 – 10:00 am	Behavioral Study Pattern among Hospitality Management Students: An Approach to Enhance Academic Performance during New Normal.Unpublished undergraduate thesis,	<b>Cordada, Jonna A</b> West Visayas State University- Lambunao Campus , Lambunao, Iloilo <a href="mailto:lamanmjclavel@gmail.com">lamanmjclavel@gmail.com</a>
10:00 – 10:20 am	Friction stir spot welding of ferrous to nonferrous metal.	<b>Usman Al Hassan Al Pirzada, ,</b> Institute of Metallurgy and Materials Engineering, University of the Punjab, Lahore <a href="mailto:usman19mmes1323@gmail.com">usman19mmes1323@gmail.com</a>
10:20 – 10:40 am	Occupational causes and effects of inspection vehicle workshops in Ghala industrial	<b>Alla Suleiman Al-Nabhani</b>  International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:Alaalnabhani@outlook.sa">Alaalnabhani@outlook.sa</a>
<b>10:40 – 11:00 am</b>	<b>Break</b>	
11:20 – 11:40 am	Effect of Chemical Exposure on the Health and Safety of Pharmaceutical Workers in Sohar, Oman	<b>Maryam Mohammed Rashid Khalifa Al-naaimi</b> International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:mmral-naaimi@uclan.ac.uk">mmral-naaimi@uclan.ac.uk</a>
11:40 – 12:00 pm	Evaluate the impact of oil spills on seabirds in the Strait of Hormuz	<b>Fawziya Marzouq Mohammed AL Dhuhuri.</b>

		International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:H18000121@icemoman.net">H18000121@icemoman.net</a>
12:00 – 12:20 pm	Development of the Pyrolysis Reactor for the Conversion of Plastic Waste into Fuel and its Feasibility in Diesel Engine	<b>Umair Khalid</b> Khwaja Fareed University of Engineering and Information Technology Rahim Yar Khan <a href="mailto:mumairkhalid777@gmail.com">mumairkhalid777@gmail.com</a>
12:20 – 12:40 pm	Enhancing Robotic Arm Control: EMG-Based Precision and Safety	<b>Hammad ul Hassan</b> University of Chakwal, Punjab, Pakistan <a href="mailto:hammadulhassan752@gmail.com">hammadulhassan752@gmail.com</a>
12:40 – 1:00 pm	The Use of Zinc Oxide and Aluminium Oxide Nanoparticles for the Flow Assurance of Heavy Crude Oil	<b>Shamsa Al Balushi</b> and Girma T. Chala International College of Engineering and Management (ICEM), Muscat, Oman <a href="mailto:h18000120@icemoman.net">h18000120@icemoman.net</a>
1:00 – 1:20 pm	Enhancing Industrial Automation with the Pick and Place Robotic Arm	<b>Abdullah Ans</b> University of Chakwal, Chakwal, Pakistan <a href="mailto:abdullahansmughal@gmail.com">abdullahansmughal@gmail.com</a>
1:20 – 1:40 pm	Detection of Disease in humans using Machine Learning and Image Processing	<b>Moazam Zulfiqar</b> Mirpur University of Science And Technology (MUST), Mirpur, AK, Pakistan <a href="mailto:moazma625@gmail.com">moazma625@gmail.com</a>
1:40 – 2:00 pm	The novel Thyroid Disease Prediction Using Machine Learning	<b>Gibran Said Tatari</b> Mirpur University of Science And Technology (MUST), Mirpur, AK, Pakistan. <a href="mailto:gibrantatari04@gmail.com">gibrantatari04@gmail.com</a>

2:00 – 2:20 pm	Study on Construction Waste Recyclable Material and its Impact on the Environment.	<b>Nasser khalifa Ali Al -Hajri</b>  International College of Engineering and Management (ICEM), Muscat, Oman  <a href="mailto:H18201089@icemoman.net">H18201089@icemoman.net</a>
2:20 – 2:40 pm	The Level of Omani Female Employment in the Oil and Gas Sector in the Sultanate of Oman	<b>Raseel Mohammed Jaber Al Zahli</b>  International College of Engineering and Management (ICEM), Muscat, Oman  <a href="mailto:raseel_athuhli@outlook.com">raseel_athuhli@outlook.com</a>
2:40 – 3:00 pm	Horizontal and Vertical Wave Compression to Enhance the Potential of Clean Energy Production from Wave Energy	<b>Alhussain Ali Alhadrami</b> and Girma T. Chala  International College of Engineering and Management (ICEM), Muscat, Oman  <a href="mailto:alhussainalhadrami@outlook.com">alhussainalhadrami@outlook.com</a>
<b>3:00 - 3:20</b>	<b>Discussion and Recommendation</b>	
<b>3:20 – 3:40</b>	<b>Closing Session</b>	

