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International College of Engineering & Management
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RESEARCH NEWSLETTER

International College of Engineering and Management (ICEM)

ICEM International Conference: A Resounding Success

The 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025)

The 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025) successfully provided a global platform for researchers, academics, students, and professionals to exchange knowledge and present research supporting sustainable development and societal well-being. The conference reinforced ICEM's commitment to interdisciplinary research, innovation, and international academic collaboration. ICEMIR 2025 was held online on 2–3 December 2025 and was organized by the International College of Engineering and Management (ICEM), Oman, in collaboration with Karabük University (Türkiye) and UET Peshawar (Pakistan) conducted under the main theme: "Innovative Interdisciplinary Research for Sustainable Development and Societal Impact." The conference received 27 abstract submissions from contributors based in Oman, Pakistan, Türkiye, the UAE, the UK, and the USA. Submissions were made by faculty members, students, research scholars, and professionals, with 17 submissions originating from ICEM, reflecting strong internal research engagement.

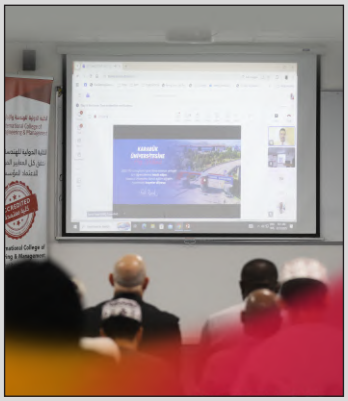
Conference Keynote Speakers:

- Prof. Dr. Sakine Ugurlu Karaağaç, Professor, Karabük Üniversitesi, Türkiye.
- Dr. Aamir Hussain Bhat, Senior Lecturer, University of Technology and Applied Sciences, Oman.
- Dr. Songül Kaskun Ergani, Associate Professor, Karabük Üniversitesi, Türkiye.
- Dr. Muhammad Siyar, Assistant Professor, National University of Science and Technology, Pakistan.
- Dr. Muhammad Mubashir, Membrane Technology Specialist, Saline Water Conversion Corporation (SWCC), Saudi Arabia.
- Dr. Asad Ullah, Assistant Professor, University of Wyoming, USA.

Organizing and Co-Organizing Institutions:

- International College of Engineering and Management, Oman.
- Karabük Üniversitesi, Turkey.
- University of Engineering & Technology Peshawar, Pakistan.






Memorandum of Understanding

ICEM Signs Memorandum of Understanding with Gulf College

The International College of Engineering and Management (ICEM) has officially signed a Memorandum of Understanding (MoU) with Gulf College to strengthen academic and research collaboration between the two colleges. The agreement aims to enhance joint research activities, promote knowledge exchange, and explore opportunities for staff and student development.
This partnership marks an important step in expanding ICEM's collaborative network and supporting its commitment to advancing research, innovation and academic excellence in Oman.

ICEM Secures External Grants from the Ministry of Higher Education, Research, and Innovation (MoHERI), Oman

ICEM has successfully secured external research funding from the Ministry of Higher Education, Research, and Innovation (MoHERI), Oman. Out of 17 submitted proposals, a total of 13 research grants were approved.

Research Grant (RG)

Project title: Innovative MXene Technology: Redefining Vanadium Redox Flow Batteries for Future Energy Needs.
Brief: The project enhances Vanadium Redox Flow Batteries (VRFBs) by integrating MXene-based electrodes (Ti_3C_2Tx, Ti_2CTx) to address storage capacity limitations and inadequate electrode performance. MXenes are chosen for their high electrical conductivity, large surface area, and chemical stability, enabling improved electrochemical reactions. Advanced characterization techniques including SEM, XRD, Raman spectroscopy, XPS, and BET analysis will be used to assess structural and electrochemical enhancements. A dedicated VRFB test bench will evaluate charge discharge efficiency, cycling stability, and overall energy and power density. By reducing ion diffusion barriers and internal resistance, MXenes enhance durability, thermal stability, and conversion performance. This research aligns with Oman Vision 2040 by advancing renewable energy storage, supporting energy security, fostering economic growth, and promoting environmental sustainability.
Investigator (s):

- **Dr. Muhammad Yasir,** Principal Investigator, FSEM Department
- **Dr. Majed Aldahdooh,** Co - Principal Investigator, FM & CPM Department

Project title: A Novel Approach for Eco-Friendly Drilling Fluids: The Role of Lignin as a Green Additive.
Brief: Drilling fluids are essential in exploring oil and gas, stabilizing the wellbore, transporting cuttings, regulating temperature, and lubricating. Due to the growing global consideration of eco-friendly materials, the focus on biodegradable, domestically available, affordable, and high-performance alternatives have garnered a critical focus. One of the widely used additives in Water-Based Drilling Fluids (WBDFs) is lignosulfonate, a plant-derived material; however, the later functionalization with chromium poses environmental toxicity damage. Given its remarkable thermal stability, dispersibility, and fluid loss control qualities, lignin, a natural biopolymer, has displayed interest as a sustainable additive for WBDFs. Concerns about sustainability are raised by the reality that conventional lignin extraction heavily depends on deforestation and substantial biomass processing. However, in regions like Oman, date palm cultivation is prevalent, and most of the waste has not been utilized. The proposed work aims to utilize eco-friendly material derived from Omani Date Palm leaves (DPLs) and employ it to enhance rheological and thermal characteristics of WBDFs.
Investigator (s):

- **Dr. Girma T Chala,** Principal Investigator, WE Department
- **Al Haitham Al Kalbani,** Member, WE Department
- **Dr. Victor O. Otitolaiye,** Member, HSEM Department
- **Dr. Riyad Mahfud,** Member, HSEM Department

Graduate Research Grant (GRG)

Project title: Developing Carbon Nanotube Field Effect Transistor (CNTFET) Based Downhole Pressure Sensors for HPHT Oil Wells in Oman.
Brief: This project aims to develop a next-generation carbon nanotube field-effect transistor (CNTFET) pressure sensor capable of operating in the extreme High-Pressure High-Temperature (HPHT) environments of Omani oil and gas wells, where temperatures routinely exceed 200 °C and pressures surpass 100 Mpa. Conventional quartz and silicon-based gauges experience severe thermal drift, calibration loss, and chemical degradation under such conditions, resulting in unreliable reservoir monitoring and frequent tool failures. CNTFET technology offers a transformative alternative because semiconducting carbon nanotubes exhibit extraordinary thermal stability, high carrier mobility, mechanical robustness, and resistance to corrosive fluids such as H_2S-rich brines. The project follows a phased approach beginning with advanced electro-mechanical simulation using COMSOL and MATLAB, followed by fabrication of CNTFET devices using chemical vapor deposition and photolithography and their integration into sapphire or silicon carbide diaphragms. Extensive laboratory testing will expose the prototype sensors to pressures up to 140 MPa and temperatures up to 220 °C to evaluate sensitivity, linearity, hysteresis, thermal drift, cyclic stability, and long-term endurance. The project ultimately supports Oman Vision 2040 by localising advanced sensor technology, reducing reliance on imported HPHT instrumentation, strengthening national expertise in nanotechnology and oilfield innovation, and offering the industry a durable, accurate, and scalable solution for real-time downhole pressure monitoring in challenging deep gas fields.
Investigator (s):

- **Mr. Al Haitham Al Kalbani,** Principal Investigator, WE Department
- **Dr. Girma T Chala,** Supervisor, WE Department
- **Mr. Al Hussein Al Hadrami,** Member, WE Department

Project title: Documenting and Digitizing Endangered Oral Literatures of Oman in English Translation: Toward the Creation of a Multilingual Heritage Portal.
Brief: This project research intends to record, translate, and digitally save Oman's threatened oral literary genres, for example, Al-Razha, Al-Azi, proverbs, and folktales, by using a bilingual digital portal to capture these forms in both Arabic and English. Since most of these oral traditions are at risk of vanishing due to modernization and the changing generation, the project intends to save these stories and present them to coming generations as well as to the world audience. The study will use ethnographic field methods to collect oral texts in selected Omani regions, followed by careful English translation and qualitative linguistic examination using NVivo. The primary output is the development of the Omani Oral Heritage Archive (OOHA) as a multilingual, open-access website comprising digitized oral texts, audio files, annotated English translations, and contextual commentaries. Also, teaching resources using these books will be developed to support English language instruction in Omani schools and universities.
Investigator (s):

- **Mr. Ali Al Bahri,** Principal Investigator, HSEM Department
- **Dr. Don Anton Balida,** Supervisor, HSEM Department
- **Mr. Said Al Manthari,** Member, GFP Department

Project title: Novel approach for enhancing the performance of commercial marine paints using water repellent properties of Colocasia esculenta leaf.
Brief: Conventional antifouling paints frequently include hazardous substances that are bad for marine life. To prevent fouling, environmentally safe marine coatings that replicate the taro leaf's inherent water-repellent qualities must be developed. It is still difficult to design and prepare such biomimetic paints for long-lasting and efficient performance. The purpose of this project is to create and construct a marine paint composition inspired by taro leaves and assess its antifouling effectiveness through methodical testing.
Effective antifouling solutions are essential for preserving the effectiveness and longevity of Oman's vessels and marine infrastructure because of its vast coastline and expanding maritime sector. A sustainable substitute for conventional hazardous coating is provided by the creation of an environmentally benign maritime paint that draws inspiration from the taro leaf's inherent water-repellent qualities. By reducing biofouling, this innovation can save maintenance costs for ship owners, enhance fuel economy, and shield Oman's marine ecosystems from dangerous chemicals. Additionally, implementing such eco-friendly technologies supports both environmental preservation and economic growth by being consistent with Oman's commitment to sustainable development and marine conservation.
Investigator (s):

- **Ms. Anwar Al Zadjali,** Principal Investigator, GFP Department
- **Mr. Alex Bernard,** Supervisor, WE Department
- **Mr. Khalid Al Harrasi,** Member, GFP Department

Undergraduate Research Grant (URG)

Project title: Assessing the Readiness and Impact of Green Hospital Adoption on Sustainable Healthcare in Muscat, Oman.
Brief: As Oman voyages through the 21st century, sustainable healthcare has become a critical topic across several stakeholders. Rapid population growth threatens healthcare systems through increased energy use, substantial waste production, and huge resource consumption, undermining sustainability. To address these challenges while maintaining high standards of patient care, green hospital practices have emerged as an essential solution. This study aims to explore how green hospital adoption impacts sustainable healthcare in Muscat, utilizing a mixed-methods approach to identify which aspects of green hospitals most effectively enhance sustainable healthcare. The results will present detailed understandings for policymakers, administrators and stakeholders in the healthcare sector. This could enable the development of implementable guidelines and suggestions that advance sustainable healthcare methods in Oman. Furthermore, the results will advance the global knowledge of green hospitals and present a replicable model for other Gulf Cooperation Council nations to implement comparable green procedures.
Investigator (s):

- **Rayyan Al Rahbi,** Year 4 student, HSEM Department
- **Dr. Victor O. Otitolaiye,** Supervisor, HSEM Department

Project title: Evaluating the Possible Impact of Air Quality and Noise Pollution on Sea Turtles in Oman: A Path for Sea Turtle Conservation.
Brief: Air and noise pollution pose a growing threat to wildlife, especially marine species like sea turtles, who require healthy coastal ecosystems to survive. The purpose of this study is to evaluate the possible effects of coastal noise levels and air quality indicators on sea turtle habitats in Oman, through the use of mainly two quantitative field based technique, sound meters will be used to record noise levels at important nesting and foraging areas, and portable sensors measuring COx, NO2, SO2 and particulate matters will be used to collect data on air pollution. Furthermore, human activities that contribute to these stresses, such as tourism, transportation, and industrial operations, will be identified using observational surveys. Finding pollution areas and figuring out whether poor air quality and high noise levels are related to changed turtle behavior or habitat conditions are among the anticipated outcomes. The results will assist guide mitigation methods for preserving endangered sea turtle populations and support Oman's environmental goals under Vision 2040.
Investigator (s):

- **Hajer Al Balushi,** Year 4 student, HSEM Department
- **Rahaf Al Neemi,** Year 4 student, HSEM Department
- **Dr. Eiman Ibrahim,** Supervisor, HSEM Department

Project title: Innovative Solutions for Enhancing Occupational Health and Safety Management for Sustainable Development in SMEs Aligned with Oman Vision 2040: A Case Study of Barbeque Stations in Muscat.
Brief: SMEs with fewer than 50 employees are vital to economic growth and sustainability but face significant occupational health and safety risks, especially in the barbecue industry where workers are exposed to emissions, heavy equipment, long hours, and environmental hazards. This research, aligned with Oman Vision 2040, aims to strengthen safety management in Muscat's barbecue SMEs by identifying hazards, assessing practices, and promoting sustainable safety awareness. Through a mixed-methods approach, it seeks to reduce accidents and health issues, enhance adherence to safety protocols, and integrate occupational health and safety into sustainable development for stronger social and economic impact.
Investigator (s):

- **Azza Al Kharosi,** Year 4 student, HSEM Department
- **Al Yazi Al Busaidi,** Year 4 student, HSEM Department
- **Dr. Hashim ELbadri,** Supervisor, HSEM Department
- **Ms. Rasha Abdelrahman,** Co-Supervisor, HSEM Department

Project title: Investigation of Oman's Geothermal Energy Potential using Geochemical Analysis and Machine Learning methods for a Sustainable Future.
Brief: There is a double-edged crisis in Oman's oil and gas fields: CO2 emissions from fossil fuel consumption and abandoned wells, which could stand a second life as energy sources. Here, we propose exploring and exploiting geothermal heat through combined geochemical analysis and machine learning models. If we could better predict reservoir temperature and use abandoned wells for a secondary purpose, that would save up to 15,000 tons of operational emissions annually and reduce heating costs by as much as 60%." Such measures directly support Oman Vision 2040's ambitions for a greener, more sustainable future.
Investigator (s):

- **Faisal Al Busaidi,** Year 4 student, WE Department
- **Dr. Nasir Khan,** Supervisor, WE Department

Project title: Development of Electrospun Fiber/Activated Carbon Composite Pads for Oil Spill Remediation in Drilling Operations.
Brief: This project focuses on designing an environmentally friendly and highly efficient oil-absorption pad made from a composite of activated carbon derived from palm fronds and electrospun nanofibers, providing a sustainable solution to oil spill remediation challenges in Oman's oil and gas sector. The project utilises palm fronds—an abundant agricultural waste material to produce activated carbon through controlled thermal conversion, resulting in a highly porous, high-surface-area adsorbent capable of capturing crude oil effectively. To significantly enhance strength, durability, and absorption performance, the project integrates electrospun polymer nanofibers, forming a reinforcing mesh that distributes oil uniformly, increases retention capacity, and improves the mechanical integrity of the pad. The work is carried out in three structured stages: fabrication, where activated carbon and nanofibers are prepared and assembled into prototype pads; characterization where the pads undergo laboratory testing to examine structural morphology, porosity, oil uptake capacity, thermal stability, and mechanical strength; and field testing. By combining natural materials with advanced nanotechnology, the project demonstrates a viable approach to turning local biomass waste into high-value environmental products. Its outcomes support national sustainability goals, promote circular economy principles, strengthen industry–academia collaboration, and provide Oman with an innovative, eco-friendly tool for mitigating oil spills in both surface and subsurface operations.
Investigator (s):

- **Shuhd Al Mahrooqi,** Year 4 student, WE Department
- **Mr. Al Haitham Al Kalbani,** Supervisor, WE Department

Project title: Evaluation of the Radiation Hazard Potential of TENORM from the Sohar Petroleum Refinery.
Brief: Oil remains a crucial resource globally, with petroleum refineries playing a key role in transforming crude oil into usable products. However, they also face dangers from Naturally Occurring Radioactive Materials (NORM), which become Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) during extraction and refining processes. TENORM, including radionuclides like radium-226, poses serious health and environmental risks. This study focuses on detecting and controlling TENORM at the Sohar petroleum refinery to enhance worker safety and minimize health hazards through methods like gamma spectroscopy and radon monitoring. The findings aim to improve occupational and environmental safety in the petroleum sector.
Investigator (s):

- **Aya Al Farsi,** Year 4 student, HSEM Department
- **Dr. Riyad Mahfud,** Supervisor, HSEM Department

Project title: Implementing Carbon Management in Evaluating the Carbon Footprint of Public and Private Schools in Saham, Oman.
Brief: Educational institutions in Oman, particularly schools in Saham, face challenges in energy use amid a global energy crisis and a need for higher efficiency. This proposal aims to investigate and optimize energy consumption in these schools, which contribute to greenhouse gas emissions impacting climate change. Despite global studies on carbon management in schools, there is a lack of research on their carbon footprints in Oman. This study will estimate the carbon emissions of public and private schools in Saham, identify key emission sources, and develop carbon reduction policies. By collaborating with the Oman Ministry of Education, the research aims to support Oman's goal of achieving net-zero emissions by 2050 through improved energy efficiency and sustainability practices in schools.
Investigator (s):

- **Buthaina Al Breiki,** Year 4 student, HSEM Department
- **Dr. Riyad Mahfud,** Supervisor, HSEM Department

Project title: Realization of an Energy efficient Yacht Hull Design through Biomimicry.
Brief: Energy Saving Devices (ESDs) can be retrofitted into yachts to increase their hydrodynamic performance. These devices, which are usually located in the aft section of the yacht hull, work by conditioning the fluid in front of the propeller, minimizing ship resistance, and/or collecting energy from the circular swirl as it exits the propeller. Every potential innovation is needed to increase yacht efficiency. These include air lubrication systems, fuel cells, and the use of renewable energy sources like solar and wind power, as well as Magnus effect cylinders. These gadgets show promise, but the hydrodynamic aft Energy Saving Devices (ESDs) are among the most affordable and practical. The exceptional hydrodynamic performance of some aquatic creatures (whales), which function in flow regimes comparable to those of a ship, served as the inspiration. The goal is to "mimic" their distinct geometry in an ESD solution so that the flow around the hull can be controlled and manipulated as needed. "Tubercles" are the foundation of the ancestral flow control mechanism that some whales employ to reach great speeds and turns. There is currently no proof that tubercles have ever been used in hull shapes to enhance the overall hydrodynamic performance of yachts. The proposed study aims to design and fabricate a prototype of bio inspired yacht hull by mimicking nature.
Investigator (s):

- **Rafed Al Habsi,** Year 3 student, WE Department
- **Mr. Alex Bernard,** Supervisor, WE Department
- **Dr. Nasir Khan,** Member, WE Department
- **Mr. Al Hussein Al Hadrami,** Member, WE Department

Internal Grants by International College of Engineering and Management (ICEM)

The International College of Engineering and Management (ICEM) awarded internal research grants totaling OMR 6,600 to academic staff members for the Academic Year 2025–2026

Project title: Development of Eco-Friendly Water Based Mud using Biodegradable Agricultural Waste Powders for Improved Cutting Transport Behavior.
Brief: This study introduces an environmentally friendly drilling fluid made from agricultural waste, using powdered okra and date seed pits. Traditional drilling fluids depend on chemical additives that harm the environment and increase operational costs. The plant-based powders provide a natural way to thicken the fluid, improve flow, and transport cuttings efficiently from the bottom of the well to the surface. They also remain stable under high heat and pressure. In the laboratory, the fluid will be formulated using water, bentonite, and the okra–date powders. The team will measure key properties, including filtration loss, viscosity, pH, density, and gel strength. Early expectations show that increasing the amount of plant powder enhances cutting transport and keeps the borehole cleaner. The new fluid is biodegradable, non-toxic, and cost effective, which supports safe use in sensitive environments. The main challenges involve collecting and storing enough agricultural waste and ensuring steady supply. The research aims to demonstrate that these natural materials offer a practical, sustainable alternative to conventional drilling fluids and strengthen efforts toward cleaner drilling operations.
Investigator (s):

- **Mr. Asif Zamir,** Principal Investigator, WE Department
- **Dr. Nasir Khan,** Co-Principal Investigator, WE Department
- **Al Haitham Al Kalbani,** Co-Principal Investigator, WE Department

Project title: Design and Development of a Novel Apparatus to Evaluate Flame Spread Characteristics of Materials under Variable Orientation Angles.
Brief: Flame spread is basically the process in which the perimeter of the fire vaporization region increases after an ignition occurs. Flame spread in building finish materials, both interior and exterior can be dangerous as the fire can spread rapidly along walls, ceilings and floors increasing the overall fire growth. This reduces the escape time for occupants and increases the risk of toxic smoke production, structural failure and casualties. Therefore, an in-depth analysis of flame spread characteristics of surface finish materials are important to mitigate such potential fire related hazards. The proposed device designed to evaluate the flame spread properties of materials will help us in understanding the rate at which fire will spread at varied angles and monitor the temperature profile along the material which is ignited. There are existing models and standard test methods currently available for evaluating the flame spread properties, but the major drawback is that the materials can be tested only in certain restricted positions. The current trends and complexity in building construction design raises a need for testing the surface finish materials in all possible angles and positions to accurately determine the flame spread properties. The proposed novel apparatus will bridge this gap and enable a more comprehensive understanding of fire behaviour and thermal impact of surface finish materials during fire.
Investigator (s):

- **Mr. Amal S. George,** Principal Investigator, FSEM Department
- **Mr.Meet Panchal,** Co-Principal Investigator, FSEM Department

Project title: Enhancing Graduation Projects for Commercial Viability: A Framework for Innovation in Higher Education Abstract.
Brief: This research project proposes a strategic framework for enhancing the commercial viability of student graduation projects within higher education. Anchored in applied innovation and aligned with Oman Vision 2040, the study seeks to bridge the gap between academic outputs and marketable solutions by empowering students to transform their final-year work into commercially promising ventures.
Investigator (s):

- **Dr. Hashim ELbadri,** Principal Investigator, HSEM Department
- **Mr. Ali Al Bahri,** Co-Principal Investigator, HSEM Department

Project title: Development and Evaluation of Thermochromic Coatings for Early Fire Detection on Steel Structures.
Brief: The study aims to make a new thermochromic coating that can early detect a fire and suppress it in steel structures. The coating is designed to have thermochromic materials to indicate burns, fire retardants for self-extinguishment and substances that soak up heat. Experiments and machine learning will be used to make buildings safer from fires and stronger in case of seismic shocks. The fire-resistant coating should be environmentally friendly, safely used and affordable and it might be used in smart buildings, factories and vital infrastructure.
Investigator (s):

- **Dr. Muhammad Yasir,** Principal Investigator, FSEM Department
- **Mr.Meet Panchal,** Co-Principal Investigator, FSEM Department

Project title: Internal Audit and Organizational Performance in Higher Education Institutions (HEIs) in Oman.
Brief: The project tackles two challenges simultaneously: reducing CFRP composite waste and lowering the cost of high-performance ceramic manufacturing. It introduces a sustainable method that uses chopped CFRP waste as feedstock for producing ceramic matrix composites (CMCs) via additive manufacturing. A modified, low-cost open-source 3D printer will inject a preceramic-polymer binder into the CFRP powder to build parts layer by layer. These printed "green" components will then be converted into solid ceramic composites through pyrolysis. Two processing routes CFRP with epoxy removed and untreated CFRP will be compared to study the influence of residual carbon. Material properties, printing parameters, and thermal treatments will be optimized to achieve strong, high-quality ceramic composites.
Investigator (s):

- **Ms. Kristina Alaverdyan,** Principal Investigator, GFP Department
- **Dr. Faris Omer,** Co-Principal Investigator, HSEM Department

Project title: Binder Injection Additive Manufacturing for Ceramic/CF Composites.
Brief: The project tackles two challenges simultaneously: reducing CFRP composite waste and lowering the cost of high-performance ceramic manufacturing. It introduces a sustainable method that uses chopped CFRP waste as feedstock for producing ceramic matrix composites (CMCs) via additive manufacturing. A modified, low-cost open-source 3D printer will inject a preceramic-polymer binder into the CFRP powder to build parts layer by layer. These printed "green" components will then be converted into solid ceramic composites through pyrolysis. Two processing routes CFRP with epoxy removed and untreated CFRP will be compared to study the influence of residual carbon. Material properties, printing parameters, and thermal treatments will be optimized to achieve strong, high-quality ceramic composites.
Investigator (s):

- **Dr. Muhammad Yasir,** Principal Investigator, FSEM Department

Project title: Readability Assessment of Reading Texts in Private Higher Education Foundation Programs in Oman.
Brief: A study titled "Readability Assessment of Reading Texts in Private Higher Education Foundation Programs in Oman" investigated whether the English reading materials used in General Foundation Programs (GFPs) match the language proficiency of learners. The project reviewed and classified the texts used in selected private HEIs, measured their readability using tools such as Flesch Reading Ease, SMOG, and Flesch-Kincaid Grade Level, and compared the results with the intended CEFR levels. Teacher views were also gathered through interviews or focus group discussions to understand how reading materials are chosen and whether they meet students' needs. A convergent mixed-methods design was used, combining numerical readability scores with faculty insights. The study aimed to offer practical recommendations to help institutions align reading texts with learners' linguistic readiness and curriculum standards.
Investigator (s):

- **Dr. Don Anton Balida,** Principal Investigator, HSEM Department

Project title: Professional Development Enhances EFL Teachers' Effectiveness in Teaching, Learning, and Assessment in Higher Education in Oman.
Brief: The research paper titled "Professional Development Enhances EFL Teachers' Effectiveness in Teaching, Learning, and Assessment in Higher Education in Oman" examines how continuous professional development (PD) improves the performance of English as a Foreign Language (EFL) instructors in Omani higher education. The study investigates the role of ongoing, structured PD programs in equipping teachers with updated pedagogical skills, strengthening their assessment literacy, and supporting the adoption of learner-centered instructional strategies. These enhancements contribute to improved language acquisition and overall student outcomes. The research aims to provide evidence-based recommendations that align instructors' professional needs with effective development opportunities. The expected outcomes include improved teaching practices, stronger differentiated instruction, and more effective formative assessment techniques tailored to learners' needs. The project will also contribute to academic scholarships through the submission of a full research paper to an international accredited conference and a Scopus-indexed journal. The research will be conducted from September 2025 to July 2026.
Investigator (s):

- **Ms. Saada Al-Habsi,** Principal Investigator, GFP Department
- **Ms. Sharita Viola,** Research Member, GFP Department
- **Ms. Wafa Gharibi,** Research Member, GFP Department
- **Mr. Joseph Uche,** Research Member, GFP Department
- **Mr. Khalid Al Harrasi,** Research Member, GFP Department

Project title: Development of Dye-Sensitized Solar Cells (DSSCs) using natural dyes extracted from Omani plants.
Brief: The research paper titled "Professional Development Enhances EFL Teachers' Effectiveness in Teaching, Learning, and Assessment in Higher Education in Oman" examines how continuous professional development (PD) improves the performance of English as a Foreign Language (EFL) instructors in Omani higher education. The study investigates the role of ongoing, structured PD programs in equipping teachers with updated pedagogical skills, strengthening their assessment literacy, and supporting the adoption of learner-centered instructional strategies. These enhancements contribute to improved language acquisition and overall student outcomes. The research aims to provide evidence-based recommendations that align instructors' professional needs with effective development opportunities. The expected outcomes include improved teaching practices, stronger differentiated instruction, and more effective formative assessment techniques tailored to learners' needs. The project will also contribute to academic scholarships through the submission of a full research paper to an international accredited conference and a Scopus-indexed journal. The research will be conducted from September 2025 to July 2026.
Investigator (s):

- **Dr. Riyad Mahfud,** Principal Investigator, HSEM Department
- **Dr. Majed Aldahdooh,** Co-Principal Investigator, FM & CPM Department

Empowering Omani Innovation: ICEM Finalist at Falling Walls Lab Berlin 2025

The International College of Engineering and Management (ICEM) is honored to highlight the outstanding participation of Mr. Alhaitham Alkalbani at the prestigious Falling Walls Berlin 2025, one of the world's leading forums for emerging innovators and scientific thinkers. Representing both ICEM and the Sultanate of Oman, Mr. Alkalbani delivered a compelling presentation of his research project titled "Quantum Mechanics in Electronic Converters Using Carbon Nanoparticles," which explores next-generation approaches to enhancing electronic device performance through nanotechnology and quantum-level behavior.
The Falling Walls Lab brings together finalists from more than 60 countries, offering a global arena where pioneering ideas compete and collaborate in an inspiring environment designed to accelerate scientific progress and innovation. Mr. Alkalbani's participation reflects ICEM's commitment to research excellence, international engagement, and the empowerment of young Omani researchers on the global stage. His involvement not only highlights the innovative potential of ICEM's academic community but also reinforces the Sultanate's ambition to emerge as a regional hub for scientific advancement and creative problem-solving. ICEM extends its warmest congratulations to Mr. Alkalbani for this exceptional

ICEM Research Excellence Recognized: First Place at Cardiff University's 100 Big Ideas Competition 2025

Eng. Alhussain Alhadhrami has achieved an outstanding milestone by securing First Place in Cardiff University's prestigious 100 Big Ideas Competition 2025, emerging as the top winner among more than 100 finalists representing diverse fields of innovation.
His award-winning project, "The Tri-Hybrid Offshore Power-Hub," introduces a forward-thinking engineering concept designed to enhance the efficiency and resilience of offshore renewable energy systems. The innovative design integrates wave, wind, and solar technologies into a single floating platform, enabling simultaneous multi-source energy harvesting within one unified infrastructure. This tri-hybrid configuration directly addresses the long-standing challenge of intermittency in offshore renewable generation. By harmonizing complementary energy sources, the system enhances operational stability and supports a continuous 24/7 power output, even under fluctuating environmental conditions. Furthermore, the integrated approach has the potential to significantly reduce capital and maintenance costs typically associated with separate offshore installations, offering a more sustainable and economically efficient pathway for large-scale clean energy production.

Building Expertise: Key Research and Innovation Workshops at ICEM

Title: Managing Occupational Safety & Decision Making Under Pressure

Date: Thursday, 4th December 2025

Speaker details: Dr. Faris Omer and Dr. Hashim Al Badri - Health, Safety and Environmental Management Department, ICEM

Objectives: This interactive session engaged 30 employees from the Ministry of Labour, providing practical strategies to ensure workplace safety and support effective decision-making under pressure. Emphasis was placed on building resilience, adaptability, and strong risk management skills to navigate challenging work environments.

Title: Power BI Workshop at ICEM

Date: Thursday, 6th November 2025

Speaker details: Mr. Mohammed Abdallah, Mathematics educator and Quality Assurance and Accreditation Specialist, University of Buraimi.

Objectives: The Power BI workshop at ICEM provided participants with practical knowledge and hands-on experience to maximize the use of Power BI for data analysis and reporting. Conducted in two focused sessions, the first targeted the QAD and IT Departments with awareness and practical insights, while the second engaged key ICEM representatives, including Heads of Departments, Line Managers, and Committee Chairs. Attendees actively participated in discussions, acquiring skills to harness Power BI for more effective, data-driven decision-making across the college.

Title: Awareness Session for the Year 4 Project

Date: Thursday, 6th November 2025

Speaker details: Dr. Sreejaya K.V, Assistant Professor in the Health, Safety and Environmental Management Department, ICEM

Objectives: This session guided participants through the programme's key requirements and application process, while also pointing out common pitfalls to help ensure successful submissions.

Title: Awareness Session for External Block Funding Program (BFP) grants

Date: Thursday, 11th December 2025

Speaker details: Dr. Salem Abu Amr, Chair, Research and Ethics committee, ICEM.

Objectives: Research and Ethics Committee (REC) conducted an awareness session for all researchers who secured External Block Funding Program (BFP) grants for the 2026–2027 cycle. The session aimed to present the new rules and updated guidelines governing BFP project implementation and fund management. Participants were briefed on key changes affecting project administration, reporting, and financial management to ensure full compliance with the revised requirements. Researchers were encouraged to review the draft BFP Guidelines in advance to facilitate discussion and clarify any queries related to their upcoming projects.

ICEM at the Forefront: International Research Highlights and Conference Participation

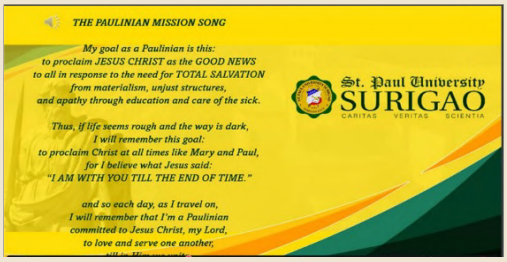
ICEM Research Presented at Cardiff Business School
Dr. Don Anton Balida presented his study, "Attitudes of Higher Education Institutions in Asia Toward Artificial Intelligence," at the International Conference on Business and Technology held on 23–24 July 2025 at Cardiff Business School in the United Kingdom. His participation contributed to the conference discourse on AI adoption, academic readiness, and emerging institutional responses across Asian higher education.

Dr. Salem S. Abu Amr presents at the International Conference on Civil Engineering and Environment (ICCEE 2025), Putrajaya, Malaysia
Dr. Salem S. Abu presented his research: "Enhancement of Crude Oil Bioremediation in Contaminated Beach Water in Oman Using Shrimp Shell Waste" in the International Conference on Civil Engineering and Environment (ICCEE 2025) held in Putrajaya, Malaysia on 2–3 July 2025. The conference gathered international researchers, academics, and experts to share innovative solutions and current advances in civil and environmental engineering. His study introduces a sustainable, low-cost method for improving crude oil biodegradation in marine environments by utilizing shrimp shell waste as a natural bio-stimulant. The research demonstrated that shrimp shell waste significantly boosts microbial activity and enhances the breakdown of petroleum pollutants, offering a promising eco-friendly solution for coastal contamination in Oman.

International Conference Multidisciplinary and Current Research Trends (ICMCRT-2025) held in Kuala Lumpur, Malaysia on 12–13 July 2025.
Dr. Salem S. Abu Amr was invited as a Keynote Speaker at the International Conference Multidisciplinary and Current Research Trends (ICMCRT-2025) held in Kuala Lumpur, Malaysia on 12–13 July 2025. His keynote address highlighted ICEM's academic leadership and showcased the college's growing international presence in the fields of environmental science, sustainability, and applied engineering research. As a keynote speaker, Dr. Salem delivered an insightful presentation titled "Innovative Bioremediation Approaches for Coastal Pollution: Turning Waste into Sustainable Solutions." Drawing on his recent research on the use of shrimp shell waste to enhance crude oil biodegradation in Omani beach water, he emphasized the potential of waste-derived bio-stimulants as eco-friendly, cost-effective tools for mitigating marine pollution. His address provided a compelling overview of how natural materials can support microbial activity, promote faster pollutant breakdown, and offer sustainable alternatives to conventional remediation methods.

ICEM Staff Member Serves as Resource Speaker at Caraga State University Seminar-Workshop
Dr. Don Anton R. Balida took center stage as a Resource Speaker at the Seminar-Workshop on Practical Strategies for High-Impact Journal Publication and International Journal Creation held on 19–20 August 2025 at the HERO Learning Loft Activity Center, Caraga State University, Ampayon, Butuan City, Philippines. The workshop was organized by the College of Computing and Information Sciences in collaboration with the Caraga Council of Deans for Information Technology Education and the Philippine Society of IT Educators – Caraga Region.

ICEM Engages in Global Dialogue on Research and Sustainable Development
Dr. Don Anton R. Balida participated in the 2nd International Conference on Research and Development hosted by St. Paul University Surigao, held on 16th August 2025 which centered on the theme "Shaping the Future: Research and Development in Social Transformation for Sustainable Development." His involvement contributed to the event's aim of strengthening a research culture that supports knowledge creation, policy development, and positive societal change.



ICEM Showcases AI-in-Education Research in Cairo

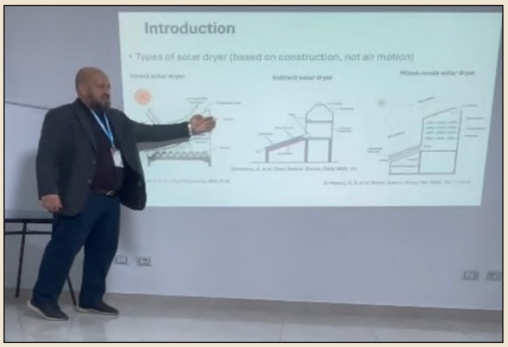
Dr. Don Anton Robles Balida presented his study, "Integrating Artificial Intelligence in Higher Education for Work-Based Learning in the Age of Industry 5.0," at the International Conference on Sustainable Business and Technology held from 29 September to 1 October 2025 at the American University in Cairo. His presentation contributed to ongoing discussions on how AI-driven approaches can enhance work-based learning and support the evolving demands of Industry 5.0 within higher education.

Turning Waste into Worth: ICEM Staff Present at ICGSM-2025, Oman

Ms. Saada Al Habsi and Ms. Azza Al Saaidi from the International College of Engineering and Management (ICEM) showcased their innovative research at the International Conference on Green and Sustainable Materials (ICGSM-2025), held at A Sharqiyah University on 13–14 October 2025. Their paper, "From Waste to Worth: Sustainable Innovation through Palm Frond Utilization in Oman," explored environmentally responsible ways to transform agricultural waste into valuable resources. The conference, organized by the College of Applied and Health Sciences, aligns with Oman Vision 2040 by promoting sustainability, environmental stewardship, and the adoption of innovative materials and practices.

ICEM Research Spotlight: Advancing Solar Food Drying Technologies at the 7th International Conference on Sciences and Technology (CRST 2025)

Dr. Riyad Mahfud presented his research on "Enhancing Efficiency of Small-Scale Solar Food Dryers under Omani Climatic Conditions: A Study on Natural Convection and Thermal Collector Performance" at the 7th International Conference on Sciences and Technology (CRST 2025), held at the College of Industrial Technology, Misrata, Libya, on 10–11 December 2025. His study focused on the performance of low-cost, small-scale solar food dryers tailored to Omani climatic conditions, examining natural convection processes and thermal collector materials. The research highlights the potential of solar drying technologies to support Oman's goal of achieving zero emissions, particularly in the growing potato chips industry, by reducing energy consumption and greenhouse gas emissions.



ICEM Staff Publications ISI/Scopus in 2025

Academic staff at the International College of Engineering and Management (ICEM) demonstrated strong research productivity, publishing a total of 36 research outputs in ISI- and Scopus-indexed journals and proceedings.

1. **Balida, D. A. R., Elbadri, H., & Alhabsi, S.** (2025). Omani HEI students' perceptions of quality assurance and institutional accreditation as sustainable educational practices. Studies in Systems, Decision and Control, 608, 545–555.

2. **Balida, D. A. R.,** Samuel, V. C., Guillergan, V. V., & Llegoans, W. U. (2025). Unpacking the choice: How undergraduate students decide on a rural campus. Lecture Notes in Networks and Systems, 1575, 287–296.

3. **Balida, D. A. R., Abu Amr, S. S., Mahfud, R.,** & Alazoia, M. Y. D. (2025). Harnessing seafood waste for sustainable wastewater treatment: A comprehensive review of innovative applications. Water Conservation and Management, 9(1), 22–30.

4. **Balida, D. A. R., Abu Amr, S. S., Mahfud, R.,** & Alazoia, M. Y. D. (2025). Performance of shrimp shell powder (SSP) as biosorbent for efficient treatment of petroleum wastewater. Water Conservation and Management, 9(2), 276–280.

5. **Balida, D. A. R., Merchant, A. T. I., Abdullayev, E.,** & Altwajiri, A. (2025). Assessing awareness and compliance of health and safety standards by construction workers in Al Khobar, Saudi Arabia. Studies in Big Data, 170, 175–185.

6. **Aldahdooh, M.A.A.** (2025) 'Multi-optimization of concrete performance with plastic waste and sawdust for sustainable construction', Structural Concrete. Wiley. Available at: https://doi.org/10.1002/suco.70107.

7. **Aldahdooh, M.A.A.** (2025) 'RSM and hybrid machine learning for multi-objective optimization of sustainable concrete with plastic and sawdust wastes', Israa University Journal of Applied Science (IUJAS), 8(2), October, pp. —. Israa University Press. Available at: https://doi.org/10.52865/yaqe2821.

8. Zeyad, A.M., Amin, M., Selim, S., **Aldahdooh, M.A.A.,** Shaban, W.M. and Agwa, I.S. (2025) 'Sustainable high-performance geopolymer concrete incorporating nano clay and rice husk ash', Construction and Building Materials, 495, p. 143472. Elsevier. Available at: https://doi.org/10.1016/j.conbuildmat.2025.143472.

9. Agwa, I.S., **Aldahdooh, M.A.A.,** Zeyad, A.M., Mostafa, S.A. and Amin, M. (2025) 'Novel use of fava bean stalk ash in ultra-high-performance geopolymer concrete: A sustainable approach to improving strength and durability', Journal of Building Engineering, 113, p. 114163. Elsevier. Available at: https://doi.org/10.1016/j.jobe.2025.114163.

10. Wong, A.W., **Aldahdooh, M.A.A.,** Lem, K.H., Looi, S.Y., Bashir, M.J.K. and Ng, C.A. (2025) 'Utilization of thermal plasma decomposed municipal solid waste bottom ash as partial cement and fine aggregates replacements on cement mortar properties', Construction and Building Materials, 464, p. 140142. Elsevier. Available at: https://doi.org/10.1016/j.conbuildmat.2025.140142.

11. **Hamad, R.J.A.,** Al-Tayeb, M.M., Tayeh, B.A., **Aldahdooh, M.A.A.,** Altwair, N.M. and Zeyad, A.M. (2025) 'A review on the behavior of FRP-reinforced ultra-high-performance concrete tubes', Structural Concrete. Wiley. (Online first). Available at: https://doi.org/10.1002/suco.70330.

12. Zeyad, A., **Aldahdooh, M.A.A.,** Zainul, Z. et al. (2025) 'Optimization of self-compacting concrete incorporating ultrafine palm oil fuel ash using response surface methodology for enhanced rheological performance and sustainability', Iranian Journal of Science and Technology, Transactions of Civil Engineering. Springer. (Online first). Available at: https://doi.org/10.1007/s40996-025-01886-3.

13. Zeyad, A.M., Zainul, Z., Johari, M.A.M., **Aldahdooh, M.A.A.** and Majid, T.A. (2025) 'Impact of treated palm oil fuel ash inclusion on hardened properties of self-compacting concrete', Innovative Infrastructure Solutions, 10, p. 190. Springer. Available at: https://doi.org/10.1007/s41062-025-01994-z.

14. Almaawali, S., **Aldahdooh, M.A.A.,** Alnaamani, S.A.M., Ibrahim, N.T. and Ng, C.A. (2025) 'Optimization of sustainable concrete incorporating coarse recycled aggregate using a customized single-factor response surface methodology (CSFRSM) approach', Discover Civil Engineering, 2(1), p. 36. Springer Nature. Available at: https://doi.org/10.1007/s44290-025-00195-y.

15. Zeyad, A.M., Amin, M., Agwa, I.S., **Aldahdooh, M.A.A.** and Shaaban, M. (2025) 'Influence of ilmenite, garnet and rutile on the hardened, thermal resistance and radiation shielding properties of UHPHWC', Radiation Effects and Defects in Solids, pp. 1–35. Taylor & Francis. Available at: https://doi.org/10.1080/10420150.2025.2553289.

16. Zhang, H., **Aldahdooh, M.A.A.,** Shang, Y.H., Yin, H., Bashir, M.J.K., Wong, A.W. and Olanrewaju, A.A. (2025) 'Enhancing the safety of underwater subway tunnels through grouting reinforcement in fault fracture zones', Results in Engineering, 26, p. 104718. Elsevier. Available at: https://doi.org/10.1016/j.rineng.2025.104718.

17. Wong, A.W., Chew, H.Y., Bashir, M.J.K., **Aldahdooh, M.A.A.** and Ng, C.A. (2025) 'Production of mortar with calcined alum sludge as partial cement replacement', E3S Web of Conferences, 603, p. 02008. EDP Sciences. Available at: https://doi.org/10.1051/e3sconf/202560302008.

18. **Sreejaya, K.V., Al Balushi,** Y., & **Eiman Ibrahim.** (2025) 'Environmental impact of heavy metal contamination in industrial wastewater: A case study in Sohar Port area', Water Conservation & Management (WCM), 9(4), pp. 606–611. DOI: http://doi.org/10.26480/wcm.04.2025.606.611

19. Haruna Musa Moda, **Faris Omer, Rasha Ali Abdelrahim, Lekha Kozhiparambath,** Ahmed Elidrisy (2025). Climate Actions for Workplace Safety and Health Intervention in Construction Industry. In Climate Change Impacts on Workplace Health and Safety: Adaptations, Interventions and Responses. (1st ed., p. 12). CRC Press, Taylor & Francis Group.

20. B Al Hasani, **R Abdelrahim,** L Abdelbasit, **H El Badri, F Omer** (2025), The Role of Artificial Intelligence in Enhancing the Occupational Safety and Health Management Systems, Current Journal of Applied Science and Technology 44 (7), 151-158

21. Tiwari, M.K., Chaudhary, A., Mishra, R.K., Kumar, A.A., Tauseef, S.M., Varghese, **Sivi.** and Kumar, R. (2025). Compartment heat flux measurement under elevated pool fires. Journal of Thermal Analysis and Calorimetry, 150(19), pp.15595–15607, Doi : https://doi.org/10.1007/s10973-025-14808-2.

22. **Yasir,** M., Gulzar, M., Khan, M.S., Nanimina, A.M., Ali, I. and Iqbal, S., 2025. Eco-friendly drilling of AA 5052-H32 Alloy: influence of jasmine-based cutting fluid on surface quality and burr Formation. International Journal of Sustainable Engineering,18(1), p.2538863.

23. Yaqub, T.B., Nadeem, I., Haq, M.A., **Yasir, M.,** Cavaleiro, A. and Kalin, M., 2025. Investigating the Effects of Long-Term Ambient Air Storage on the Sliding Properties of N-Alloyed MoSe2 Coatings.Nanomaterials, 15(6), p.414.

24. A. S. Warrier, J. Smolka, K. Kempna, **M. Panchal,** T. Graham, and E. Asimakopoulou, " Forced Draught Impact on Externally Venting Flames: An Experimental and Numerical Investigation," Fire and Materials (2025): 1–19, https://doi.org/10.1002/fam.70019.

25. **Alhabsi, S.S., Fatima, Z., Jaradat, A.F. & Al-Manthari, S.M.** (2025) 'Reading Comprehension Challenges: A Case Study of General Foundation Program (GFP) Students at International College of Engineering and Management (ICEM)', Journal of Language Teaching and Research, 16(6), pp. 1860–1868. doi: 10.17507/jltr.1606.07.

26. **Balida, D.A.R., Elbadri, H., & Alhabsi, S.**(2025). Omani HEI students'perceptions of quality assurance and institutional accreditation as sustainable educational practices. Studies in Systems, Decision and Control, 608, 545-555

27. Khater, M., Aboelazayem, O., Ismail, A.R., Soliman, A., **Abu Amr, S.S.,** El-Gendy, N.S. and Ezzat, A.A. (2025) 'Rotor–stator hydrodynamic cavitation reactor for intensification of castor oil biodiesel production', International Journal of Environmental Science and Technology, 22(6), pp. 4847–4868. Springer.

28. Alazaiza, M.Y.D., Alzghoul, T.M., Ramu, M.B., **Abu Amr, S.S.,** Abushammala, M.F.M. and Nassani, D.E. (2025) 'Global perspectives on industrial wastewater management: A bibliometric analysis of research output', Journal of Hazardous Materials Advances, 100567. Elsevier.

29. Merchant, A.I., Kocaman, A. and **Abu Amr, S.S.** (2025) 'Biological applications for enhancing efficiency of petroleum wastewater treatment: A critical review', Desalination and Water Treatment, 101255. Elsevier.

30. Abujayyab, S.K.M., Öztürk, A., Canbulat, O., Yücer, E. and **Abu Amr, S.S.** (2025) 'Impact of the 2023 earthquake in Türkiye on air quality using Sentinel-5P satellite data: A comparative analysis', Environmental Earth Sciences, 84(19), p. 537. Springer.

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35. Ullah, R., Tuzen, M., Ullah, S., **Khan, N.,** Khan, A.A., 2025. Facile functionalization of nano-sized ZnO on micro-fiber alumina: Effect of remarkably high diffusion rate on desulfurization activities. Surfaces and Interfaces 64, 106 462. https://doi.org/https://doi.org/10.1016/j.surfin.2025.106462

36. Yu, J., Li, X., Qiao, R., Zheng, L., **Khan, N.,** He, H., Peng, Z., Yu, Y., 2025. CO2-responsive gels for enhanced oil recovery and carbon sequestration: A comprehensive review of design and applications. J. Environ. Chem. Eng. 13, 119773. https://doi.org/https://doi.org/10.1016/j.jece.2025.119773

ICEM Students-staff Conference Publication

Students and staff at the International College of Engineering and Management (ICEM) demonstrated strong research productivity, publishing a total of 16 research outputs in the international conference.

1. **Al Hajri ZH, Aldahdooh MAA.** Assessing viability of proactive maintenance in Omani facilities through digital twin integration: A facilities management perspective. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A01; p.4. https://www.icem.edu.om/copy-of-conference-overview

2. **Al Hinai RAM, Hamad R.** A comprehensive strategy for enhancing real estate asset management: Integrating risk control, value optimization, and efficiency improvement. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A02; p.5. https://www.icem.edu.om/copy-of-conference-overview

3. **Al Fazari B, Seema STC.** Sustainable HVAC systems in commercial buildings in Oman. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A03; p.6. https://www.icem.edu.om/copy-of-conference-overview

4. **Al-Yaarubi ZMR,** George AS, Panchal M. Study of fire characteristics and flame propagation in palm grove. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A04; p.7. https://www.icem.edu.om/copy-of-conference-overview

5. **Alhadhrami AAM.** Design and fabrication of an in-pipe inspection robot. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A05; p.8. https://www.icem.edu.om/copy-of-conference-overview

6. **Al Riyami MSS, Aldahdooh MAA.** Innovative approaches to fire safety management: Integrating technology and occupant behavior. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A06; p.9. https://www.icem.edu.om/copy-of-conference-overview

7. **Al Balushi MM, Aldahdooh MAA.** The impact of solar energy on the efficiency of building services in facilities management. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track A; A07; p.10. https://www.icem.edu.om/copy-of-conference-overview

8. **Abdullayev E,** Karaağaç SU, Abu Amr SS. Effect of persulfate for petroleum wastewater treatment. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track B; B02; p.12. https://www.icem.edu.om/copy-of-conference-overview

9. Abudaia AMR, Karaağaç SU, **Abu Amr SS.** Electrocoagulation and natural coagulation for effective removal of heavy metals and organic pollutants from industrial effluents. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track B; B04; p.14. https://www.icem.edu.om/copy-of-conference-overview

10. **Al Rashdi BK, Zamir A.** Evaluation of processed sandstone drilled cuttings as sustainable additive materials. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track C; C01; p.18. https://www.icem.edu.om/copy-of-conference-overview

11. **Al Gharibi H, Khan N.** Development of ML models for 3-phase horizontal separator optimization: A study from Oman oilfield. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track C; C02; p.19. https://www.icem.edu.om/copy-of-conference-overview

12. **Al Jabri RM, Zamir A.** Development of machine learning to predict fracture progression in oil shale reservoirs during hydraulic fracture operation. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track C; C04; p.21. https://www.icem.edu.om/copy-of-conference-overview

13. **Al-Mawali WBA, Zamir A.** Investigation of graphite-based drilling fluids for enhanced cutting transportation. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track C; C05; p.22. https://www.icem.edu.om/copy-of-conference-overview

14. **Al Omrani WSS, Ibrahim E.** Evaluating water disinfection practices with emphasis on UV-based alternatives for Legionella control in Al Rustaq Hospital water system. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track D; D02; p.26. https://www.icem.edu.om/copy-of-conference-overview

15. **Al-Sharif DAM, Mahammed FOM.** Hiking tourism in Oman: Knowledge and awareness of health and safety practices among hikers. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track D; D05; p.29. https://www.icem.edu.om/copy-of-conference-overview

16. **Al Shehhi MAM, Panchal M, Khan S.** Impact of body mass index on mental health of firefighters. In: Proceedings of the 1st International Conference on Engineering, Management & Interdisciplinary Research (ICEMIR 2025). Muscat, Oman; 2025. Track D; D06; p.30. https://www.icem.edu.om/copy-of-conference-overview