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UMT NEWSLETTER

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OCEAN OF DISCOVERIES FOR GLOBAL SUSTAINABILITY

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As dawn breaks on the coastal town of Kuala Nerus, the spirit of discovery awakens within the hallowed halls of Universiti Malaysia Terengganu (UMT). This edition of our newsletter unveils some of the most exceptional instances of that quest for knowledge, chronicling stories of our bold ventures into the intricate world of marine science, partnerships forged in the crucible of innovation, and the tapestry of unity that binds our community.

Navigating the vast oceans of the unknown, UMT embarks on a voyage of global collaboration, venturing into territories hitherto uncharted in marine science. Our inaugural feature shines a spotlight on these alliances, illustrating how, in harnessing the collective strength of international partnerships, we are buoyed by the currents of discovery and exploration, ever steering towards unexplored horizons.

We then take you to the nexus of academia and industry, where UMT and PETRONAS stand as vanguards of a sustainable future. The story of our shared venture into the realm of offshore renewable energy is testament to our enduring commitment to environmental sustainability. It is here, at this confluence of innovation and responsibility, that the future of energy begins to take shape.

As the narrative unfolds, we invite you into the heart of a transformative dialogue between UMT and CelcomDigi Bhd. It is more than a meeting; it is the birthplace of a paradigm shift, a glimpse into a future where academic pursuits and industry expertise engage in a dynamic dance orchestrated to the rhythm of technological advancements such as the Internet of Things (IoT).

Our narrative then arcs towards UMT's trailblazing research initiatives in endotoxin detection and climate change. These ground-breaking ventures, partnered with Aris Global Venture Sdn. Bhd. and China's Third Institute of Oceanography, are shaping the course of scientific inquiry, signalling our unswerving dedication to confronting and conquering global challenges.

The concluding act of this edition is a stirring celebration of unity, tradition, and progress. The Premier's Iftar Madani Event, suffused with the spirit of Ramadan, captures the vibrant tableau of UMT life, reflecting the deep-seated values that nurture our community. It is here, in these shared moments of togetherness, that the essence of UMT shines brightest.

As you traverse the pages of this newsletter, we hope each tale of endeavour and achievement inspires a sense of shared pride and wonder. Every story penned is a testament to the pioneering spirit, the relentless commitment, and the insatiable curiosity that fuel UMT. As the story of UMT continues to unfold, we pledge to push beyond boundaries, nurture transformative experiences, and create lasting ripples of impact, both within our university and beyond.

Professor Dr. Fauziah Hj. Abu Hasan
Executive Editor

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Charting the Future of Marine Science: UMT's Global Collaboration Sets Sail

Seah Ying Giat, Faculty of Fisheries and Food Science
Wan Nurul Nadiah Wan Rasdi, Faculty of Fisheries and Food Science

As an international beacon of marine-focused academia, the University Malaysia Terengganu (UMT) continues to propel scientific boundaries. Known throughout Malaysia and highly regarded worldwide, the university strengthens its bonds with the esteemed Japan Society for the Promotion of Science (JSPS) and its fellow Southeast Asian countries, affirming its commitment to the preservation and sustainable usage of marine ecosystems.

At the vanguard of this burgeoning scientific alliance stands the university's Vice Chancellor, Prof. Dato' Dr. Mazlan Abd. Ghaffar, serving as the National Coordinator. Prof. Ghaffar and a delegation of nine distinguished Malaysian scholars recently converged on the Joint Seminar of the JSPS Core-to-Core Project, a collaborative initiative centred on Research and Education in Southeast Asia for Sustainable Use of Marine Ecosystems (CREPSUM). This notable event unfolded between March 8 and 9, 2023, at the Atmosphere and Ocean Research Institute (AORI), The University of Tokyo, in the city of Kashiwa, Japan.

CREPSUM, at its heart, seeks to foster a global network of scientific and educational discourse, principally oriented towards the marine ecosystems of Southeast Asia. This ambitious venture is geared to monitor the progress of contemporary research on emergent conservation issues and the sustainable use of marine ecosystem services. In its broader vision, CREPSUM aims to offer meaningful contributions to the UN Decade of Ocean Sciences and UN SDG 14 "Life Below Water" by marshalling the finest scientific knowledge available.

For over two decades, AORI, the hosting institute, has been deeply entrenched in international collaborative research and technology transfer activities. This extensive and symbiotic engagement has catalysed a thriving network of human resources between Japan and Southeast Asian countries. Within the ambit of the ongoing JSPS Core-to-Core CREPSUM initiative, over 200 members from Japan and Southeast Asia assemble, committed to promoting vital research in areas such as marine physics, toxic algae, marine ecosystems, biodiversity, marine pollution, social sciences, and the sustainability of fisheries resources.

Southeast Asia, a vibrant locus of biodiversity and maritime activity, remains under the siege of anthropogenic environmental changes, thereby threatening its marine ecosystems. Addressing these pressing issues demands an in-depth understanding of regional variations in the impacts of human activities, from global warming to pollution, coastal development, and overfishing. These regional studies not only shed light on Southeast Asia but also lend invaluable insights into the marine ecosystems of Malaysia, which are closely intertwined with those of the broader region.

Yet, in the face of evolving scientific and societal scenarios, the modus operandi of our collaborative scientific efforts must pivot. In the realm of the JSPS core-to-core programme, there is a growing necessity to encourage advanced science instead of merely prolonging current practises. Alongside this, the pressing need for heightened research cooperation with Japan and Southeast Asia to confront the challenges of global change is apparent. After all, such issues are of a magnitude too great for a single nation to shoulder.

Our past endeavours in research and educational activities in Malaysia have sown the seeds of a vast network of scientists. This existing network promises to be an invaluable asset in facilitating research activitis on geopolitical issues and ensuring compliance with laws for the conservation and utilisation of biological and genetic resources within individual countries.

A momentous step forward is the formation of the Section for Southeast Asia Research Alignment. This initiative aims to preserve and augment the current scientific network, champion collaborative research among Malaysia, Japan, and Southeast Asia, synergize with domestic universities and institutions, and deliver the highest quality of scientific knowledge to decision-makers and the public. Through these actions, we will confront and address the emergent issues of this era of global change, thus inspiring optimism for the future of our marine ecosystems.

UMT and PETRONAS: Sparking a Sustainable Future with the Centre of Excellence for Offshore Renewable Energy

Associate Prof. Dr. Mohd Asamudin A Rahman
Faculty Science and Marine Environment

In an epoch marked by an urgent need for carbon reduction and escalating energy demands, Malaysia forges ahead with innovative renewable energy technologies. Emblematic of this fervour, the University Malaysia Terengganu (UMT), a renowned academic institution, struck a monumental partnership with PETRONAS Global Technical Solutions Sdn. Bhd. (PGTSSB). Together, they launched the Centre of Excellence for Offshore Renewable Energy (CEFORE), a pioneering venture poised to harness and optimise Malaysia's renewable energy potential.

This historic agreement was inked on December 16, 2022, by the hands of Professor Ts. Dr. Mohd. Zamri Ibrahim, UMT's Deputy Vice Chancellor (Academic and International), and Mrs. Annaliz Abu Bakar, Chief Executive Officer of PGTSSB. Their signatures, etched against a backdrop of innovation and mutual resolve, were witnessed by Datuk Bacho Pilong, PETRONAS' Senior Vice President of Project Delivery and Technology.

The UMT-PETRONAS collaboration, embodied in the CEFORE showcase project, aspires to amalgamate offshore wind turbines, floating photovoltaics, ocean wave energy, and a sophisticated energy management system. This fusion is anticipated to offer a comprehensive research and data collection platform, thereby propelling the evolution of offshore renewable energy technologies. The facility, majestically positioned near Tok Jembal Beach, Kuala Nerus, is an emphatic testament to UMT's and PGTSSB's unyielding commitment to developing renewable energy technologies that not only serve the local community with sustainable energy but also significantly curb carbon emissions.

Beyond its immediate benefits, the CEFORE project illuminates the pathway for UMT and PETRONAS to attain remarkable strides within Malaysia's burgeoning renewable energy landscape. Moreover, the electricity generated promises to enrich the lives of not only the UMT fraternity but also the local community, including the vital fishing industry.

The engineering marvels at CEFORE include four 20kW offshore wind turbines designed to generate electricity even at meagre wind speeds. Additionally, a 260 kWp floating photovoltaic plant will be established. A cornerstone of the project, the Smart Energy Management System (SEMS), will harmoniously integrate power generation and data monitoring systems, facilitating a meticulous evaluation of the wind turbines and photovoltaic panels' performance. The installation will also boast a robust power storage system comprising batteries with a cumulative capacity of 154 kWh.

Under this groundbreaking partnership, UMT will spearhead the engineering analysis, planning, permitting, supply, installation, and maintenance of the wind turbines, photovoltaic system, and energy management system. Complementing this, PGTSSB will render expert consultation, technical support, and expertise, ensuring the project's successful realisation.

This collaboration underscores UMT's and PETRONAS' unwavering dedication to developing renewable energy technologies, contributing significantly to carbon emissions reduction. As the spectre of climate change looms large and the clamour for cleaner energy amplifies, initiatives such as CEFORE become increasingly crucial. Concurrently, a growing population and improved living standards are catalysing a surge in energy demand.

The CEFORE project emerges as a beacon of hope and opportunity for UMT, representing a unique chance to serve the local community by offering sustainable, free energy. It is an audacious leap forward in the narrative of renewable energy, paving the path to a future brimming with successes for UMT, PETRONAS, and the community they serve so fervently.

A Paradigm Shift: UMT Vice Chancellor's Milestone Meeting with CelcomDigi Bhd

Muhd Nurazuar bin Mohammad Razmi, Centre for Knowledge Transfer, Industrial Linkages & Community
Muhamad Khairul bin Zakaria, Centre for Fundamental and Continuing Education

In the spirit of fostering strong industry-academia bonds, Universiti Malaysia Terengganu's esteemed Vice Chancellor, Prof. Dato' Dr. Mazlan Abd Ghaffar, led a distinguished delegation on a courtesy visit to CelcomDigi Bhd, a pioneer in digital solutions. On April 7, 2023, this gathering of minds took place in the high-powered confines of CelcomDigi Berhad's CEO office in Petaling Jaya, Selangor.

Joining Prof. Dr. Mazlan was UMT's Deputy Vice Chancellor of Student Affairs and Alumni, Prof. Dr. Mohd Izani Mohd Zain, and an assembly of dedicated UMT functionaries. Welcoming them was their collaborative counterpart, Datuk Mohamad Idham Nawawi, the insightful CEO of CelcomDigi Bhd and the driving force behind the CEO@ Faculty Programme at UMT.

The agenda of the meeting was broad and forward-thinking. Among the notable topics were the integration of the Internet of Things (IoT) in aquaculture research, the strategic roadmap for UMT under the ambit of the innovative CEO@Faculty Programmes 1 and 2, and the invigoration of the trailblazing Siswa Mall project.

An initiative that had its inception in 2018, the UMT-CelcomDigi collaboration is a testament to the university's commitment to fostering digital entrepreneurship as a robust stream of income for its students. The iCreate-UMT-led Siswa Mall project, a flagship initiative, has made significant progress in this direction. This innovative venture has empowered 1,795 students from a broad cross-section of 22 higher education institutions, ranging from public and private universities to polytechnics and community colleges. The students, entrusted with the task of commercialising their products on a national and even global scale, have begun to generate a self-sustaining income.

The results speak for themselves. Take, for example, the remarkable accomplishments of UMT's very own Mr. Wan Daniel Ikhwan Wan Ahmad. A Bachelor of Management Studies (Maritime) student, Mr. Ahmad impressively generated income upwards of RM30,000 by adeptly marketing various products on online platforms.

As we look ahead, there is enduring optimism that the symbiotic alliance between UMT and Celcom will continue to solidify. Through this enhanced partnership, the Siswa Mall project is set to further evolve, providing an integral platform for our aspiring student entrepreneurs to compete on a global stage, thereby continuing to uplift UMT's proud tradition of innovation and success.

UMT Leads the Way: Pioneering Endotoxin Detection and Climate Change Research

Mohd Izham Mohd A.Wahid, Faculty of Science and Marine Environment
Muhamad Khairul Bin Zakaria, Centre for Fundamental and Continuing Education

Universiti Malaysia Terengganu (UMT), a beacon of intellectual excellence and ingenuity, has heralded a new era of advancement. Embarking on a transformative journey, the institution has propelled itself to the forefront of commercialization and research, fostering a paradigm shift that is set to leave a remarkable imprint on various industries worldwide. This progress, punctuated by significant collaborations with Aris Global Venture Sdn. Bhd. (AGV) and China's Third Institute of Oceanography (TIO), serves as a testament to UMT's unwavering commitment to driving global innovation.

April 18, 2023, will forever be etched in the annals of UMT as the day we unveiled our remarkable partnership with AGV. This collaboration is centred on the TAL product, an exceptional intellectual property cultivated in the fertile minds of a UMT team led by the esteemed Prof. Dr. Noraznawati Binti Ismail. Harnessing the unique properties of horseshoe crab blood, the TAL product is poised to revolutionise endotoxin detection, a critical safety measure in the pharmaceutical industry. With the global endotoxin testing market growing steadily each year, the efficiency of the TAL product promises to expedite this vital testing process, elevating the standards of medical goods production to unparalleled heights.

The journey to this partnership, marked by months of intense deliberation and negotiations, culminated in the signing of a licencing agreement on April 2, 2023. This milestone marks not just AGV's commitment to launching the TAL product and leading comprehensive marketing strategies but also a significant leap towards financial autonomy for UMT in alignment with government objectives. This ground-breaking move is more than a commercial venture; it is a symbol of UMT's entrepreneurial spirit and economic prowess.

UMT's relentless pursuit of knowledge extends far beyond our shores, as underscored by our enduring partnership with China's Third Institute of Oceanography (TIO). This alliance, tracing its roots back to 2016, has been instrumental in bolstering marine science research. The recent renewal of our Memorandum of Understanding on March 28, 2023, serves as a reaffirmation of our shared commitment to confronting pressing global

issues such as climate change and the preservation of marine biodiversity.

This alliance will facilitate cutting-edge research, encompassing climate change, marine biodiversity, ecosystem management, marine environmental protection, and surveillance technology. Furthermore, it promises to enrich the scientific community through mutual exchange programmes for researchers, students, and technical staff. A recent visit from Prof. Dr. Zheng Yongling's TIO delegation to discuss the course of this collaboration signals a brilliant horizon for marine science research.

In essence, UMT's recent achievements—the commercialization of the TAL product in partnership with AGV and the continuation of our critical marine science research with TIO— epitomize our dedication to fostering scientific innovation, bolstering economic growth, and championing environmental stewardship. These milestones serve not only as proud additions to UMT's storied legacy but also as inspirations for future generations to perpetuate our pursuit of knowledge and excellence. After all, at UMT, we don't just envision a better world; we make it happen.

The Premier Iftar Madani at UMT

Nurul Aziah Binti Bashah, Student Affairs & Alumn
Muhamad Khairul bin Zakaria, Centre for Fundamental and Continuing Education

Universiti Malaysia Terengganu (UMT), April 10, 2023, on a late afternoon that murmured with the rich anticipation of the breaking fast, the Student Representative Council (SRC) of UMT, in alliance with the Student and Alumni Affairs Office (HEPA), unfolded a tapestry of fellowship and tradition: the Premier's Iftar Madani Event.

Bathed in the tranquil twilight at Kompleks Sukan Tengku Muhammad Ismail, this grand event was more than a mere celebration of the holy month of Ramadan; it was a symbol of unity, a beacon of shared purpose, and camaraderie among the vibrant UMT community.

The evening's radiance was magnified by the distinguished presence of Professor Dato' Dr. Mazlan Bin Abd Ghaffar, FASc., Vice-Chancellor of UMT, Associate Professor Dr. Mohd Izani Bin Mohd Zain, Deputy Vice-Chancellor of Student Affairs and Alumni of UMT, along with a constellation of UMT's esteemed senior officers.

Prior to the Iftar, the air hummed with the thrill of two inaugural events: the Ramadani Bazaar Launching Ceremony and the Scholars Speech. The bazaar, a first of its kind masterfully orchestrated by SRC and HEPA, offered UMT students a unique opportunity to delve into the realm of entrepreneurship. Nestled at the heart of the campus, this bustling marketplace offered affordable, mouth-watering culinary delights to students, becoming an integral part of their Ramadan experience.

Meanwhile, the Badminton Court Hall reverberated with words of wisdom from Associate Professor Dr. Mohd Yusri Bin Ibrahim, Lecturer of the Faculty of Business, Economics, and Social Development (FPEPS). As he elaborated on the concept of student empowerment, the auditorium was imbued with a sense of profound inspiration. This enlightening discourse, crafted in response to the mandate of YB Dato' Seri Mohamed Khaled Bin Nordin, Minister of Higher Education, punctuated the event with an enriching academic undertone.

Celebrating the achievements of UMT's sporting elite, certificates of appreciation were awarded, echoing the proud strides made by our students in the athletic arena. Their successes, a testament to the formidable spirit of UMT, added a note of pride and accomplishment to the event.

This Premier's Iftar Madani Event, a maiden voyage into large-scale iftar gatherings at Kompleks Sukan Tengku Muhammad Ismail, was greeted with overwhelming enthusiasm from UMT students. This communal breaking of the fast allowed students to share in the joy of togetherness, fostering a closer bond with the university's upper echelons.

A lavish spread of 2500 meal packs, with enticing options like Nasi Ayam, Nasi Khao Mok, Nasi Minyak, and Nasi Ayam Kurma, catered to the varied culinary tastes of our students. As the music swirled around the dining space, the vibrancy of the gathering soared.

The event's success is owed to the tireless dedication of 40 student volunteers and various contributors who orchestrated this unforgettable evening. As we look back on the Premier's Iftar Madani Event, we are reminded of the joy of shared experiences and the strength of the UMT community. It's our fervent hope that this event continues to brighten future Ramadans and further unites our thriving UMT community. Our heartfelt gratitude extends to all those who brought this event to life.

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- Green and sustainable development
- Biodiversity outreach, education and policy
- Fundamental sciences
- Technology application and advances in biodiversity studies

IMPORTANT DATE

Abstract submission	:	01 February-31 July 2023
Early bird date	:	01 February-31 May 2023
Normal date	:	01 June-31 July 2023

Conference Fee

Presenter/Participant	Virtual *		Physical	
	Early bird	Normal rate	Early bird	Normal rate
Local Student	RM200	RM300	RM350	RM450
Local Researcher	RM350	RM450	RM500	RM600
International Student	USD100	USD200	USD200	USD300
International Researcher	USD300	USD400	USD450	USD550

* Limited number of participants. Registration will be on first come, first serve basis.

Publications

- Selected papers will be considered for publication in reputable journals indexed by ISI WOS or Scopus.

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