



UMT

# VOYAGES OF DISCOVERY

Exploring the Vast Oceans with Universiti Malaysia Terengganu  
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## Women of Wisdom

*With diverse strengths, five UMT women professors inspire change through knowledge, leadership, and innovation*

## Charting Tomorrow's Leaders

*A faculty at UMT is committed to producing excellent, competent graduates*

## Finding Farmers of the Future

*UMT researchers explore how digital tools can transform aquaculture and empower Malaysia's farming communities*





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## VOYAGES OF **DISCOVERY**

Volume 13 / 2025

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Professor Ir. Ts. Dr. Mohd Zamri Ibrahim

### Advisor

Professor Ts. Dr. Mohd Fadzil Mohd Akhir

### Executive Editor

Zukiferee Ibrahim

### Editor

Wan Zulkifli Wan Kassim

### Coordinators

Rozita Alias@Abdul Latiff

Engku Nurul Aima Tengku Amri

Amirul Salam Hasan

### Designer

Mohd Hasrul Awang Muni

Muhammad Adli Hashim

### Photographers

Tengku Iskandar Zulfahmie Tengku Mohamad

Mohd Shukry Tahar

Muhammad Sharwan Abdul Ghani

Nur Hafiza Ellias

### Corporate Communications Office

Universiti Malaysia Terengganu

21030 Kuala Nerus, Terengganu, MALAYSIA

email: [pro@umt.edu.my](mailto:pro@umt.edu.my)



# From The Vice Chancellor

Agriculture & Forestry and Economy & Econometrics—have also made their debut in the QS World University Rankings by Subject 2025, further elevating UMT’s reputation as a globally recognized center of academic excellence.

To strengthen academic and research competitiveness, UMT has restructured its faculties and established new centres of excellence. Among the key initiatives are the establishment of the Faculty of Fisheries and Aquaculture and the Faculty of Agrotechnology and Food Science, which will enhance niche areas and contribute directly to the growth of the nation’s blue economy.

Another one of UMT’s institutes, the Institute of Climate Adaptation and Marine Biotechnology (ICAMB), has been designated by the Ministry of Higher Education as a Higher Education Centre of Excellence (HiCoE) in the Research and Innovation Core Area for Marine Bioclimatology. With this recognition, ICAMB became UMT’s third HiCoE. The Institute of Oceanography and Environment was the first, and the Institute of Tropical Aquaculture and Fisheries second. Both these achievements underscore UMT’s strength in marine and aquatic resource research.

The establishment of the Blue Economy Advancement Centre (BEACON) to become a leading research and innovation hub positions UMT as a key player in the blue economy in Malaysia and across Asia. In addition, the creation of the Offshore Renewable Energy Centre demonstrates UMT’s determination to be at the forefront of clean energy research, supporting the nation’s energy transition agenda.

All these efforts are driven by UMT’s commitment to ensure that the university remains not only relevant but also as a driver of global solutions to challenges in climate change, food security, and sustainable development. In line with our motto of Ocean of Discovery for Global Sustainability, UMT believes that the knowledge generated here can benefit communities worldwide.

In this edition, we focus on the Faculty of Business, Economics and Social Development, the largest faculty at UMT, playing a critical role in supporting the university’s leading marine agenda. The stories shared highlight the faculty’s strengths in building industry linkages, producing impactful research, and nurturing students to become knowledgeable, competitive, and globally minded graduates.

I am confident that the inspiring stories featured here will offer readers new perspectives and strengthen the belief that UMT is a strategic partner in knowledge and innovation for our shared future.

Wishing you an insightful reading! ♦

**PROFESSOR Ir. Ts. Dr. MOHD ZAMRI IBRAHIM**  
Vice Chancellor, Universiti Malaysia Terengganu

Dear esteemed readers,

It is with great pleasure that I present to you the 2025 edition of Voyages of Discovery (VOD), an official communication platform of Universiti Malaysia Terengganu (UMT), bringing together stories of achievement, aspiration, and the pursuit of knowledge.

This publication not only serves as a bridge between UMT and the community, but also reflects the university’s commitment to building strategic networks with regional and international partners.

As a university with a focus on marine science and aquatic resources, UMT continues to play a vital role in supporting the nation’s sustainable development agenda, in line with our aspiration to emerge as a leading marine university in the region.

The year 2025 has marked a historic milestone for us. We have achieved a position within the top 401 – 600 universities globally in the Times Higher Education (THE) Impact Rankings 2025, and for the first time, we have been listed among the top 801 – 850 universities worldwide in the QS World University Rankings 2026.

We are also proud to share that UMT is now ranked No. 1 in Malaysia, in the top 20 in Asia, and in the top 100 in the world in the field of marine and freshwater biology. Two new fields—



# Ranking Achievements



THE WORLD UNIVERSITY RANKINGS 2026

**1001-1200**



THE WORLD UNIVERSITY RANKINGS (ASIA) 2025

**301-350**



QS WORLD UNIVERSITY RANKINGS 2026

**801-850**



QS WORLD UNIVERSITY RANKINGS (ASIA) 2026

**160**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: PHYSICAL SCIENCES

**601-800**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: LIFE SCIENCES

**801-1000**



QS WORLD UNIVERSITY RANKINGS: SUSTAINABILITY 2026

**535**



QS WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: AGRICULTURE AND FORESTRY

**301-350**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: ENGINEERING

**601-800**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: BUSINESS AND ECONOMICS

**501-600**



QS WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: ECONOMICS AND ECONOMETRICS

**551-700**



UI GREENMETRIC WORLD UNIVERSITY RANKINGS 2024

**160**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: SOCIAL SCIENCES

**801-1000**



THE WORLD UNIVERSITY RANKINGS 2025 BY SUBJECT: COMPUTER SCIENCES

**801-1000**



SETARA 2022

**COMPETITIVE**



MYRA 2020

**5-STAR**



THE YOUNG UNIVERSITY RANKINGS 2024

**251-300**



THE IMPACT RANKINGS 2025

**401-600**



THE BEST GLOBAL UNIVERSITIES RANKINGS 2025/2026 - MARINE AND FRESHWATER BIOLOGY

**NO. 96 (WORLD)**

**NO. 19 (ASIA)**

**NO. 1 (MALAYSIA)**

# Strategic Initiatives







# Powering the Future

## UMT leads the nation's Blue Economy Agenda for sustainable development

By Prof. Ir. Ts. Dr. Mohd Zamri Ibrahim, Vice Chancellor's Office

Under the salty breeze along Malaysia's east coast, four elegant wind turbines turn in harmony beside a 50-by-50 metre floating solar array, while gentle waves power an innovative energy converter, all channeling clean energy into an onshore battery system for research and discovery.

This vibrant testbed of renewable innovation reflects more than just technological progress; it embodies Universiti Malaysia Terengganu's (UMT) leadership in driving Malaysia's transition toward a sustainable, ocean-powered future under the national Blue Economy agenda.

The world today is transitioning toward renewable energy as a cornerstone of sustainable development. Renewable energy is a key component in addressing climate change and ensuring national energy sustainability.

Malaysia, too, is taking bold steps in this direction, leveraging its vast maritime potential and ocean-based energy resources. With its long coastline and abundant marine resources, Malaysia holds immense potential to become a regional leader in renewable energy development.

The Blue Economy is not limited to fisheries and tourism, it also encompasses the development of energy derived from ocean resources. Through technologies such as offshore wind, floating solar, and wave energy, we can generate clean power, reduce dependence on fossil fuels, and create new opportunities in employment and industry.

As a university leading the Blue Economy agenda, UMT focuses on marine-based renewable energy such as wind, wave, and solar power as strategic investments for the future. UMT's efforts are anchored on three main pillars: education, research, and industry collaboration. Through research aligned with national policies, training of highly skilled human capital, and strategic partnerships with industry players, UMT strives to translate green energy technologies into tangible impact for the nation.

### New Academic Programmes

In line with the growing demand for green energy expertise, UMT will introduce two new programmes beginning the October 2025 intake: Bachelor of Renewable Energy Technology with Honours and Bachelor of Electrical

Technology (Energy and Power) with Honours

These programmes emphasize wind, solar, and wave technologies, as well as energy storage and smart grids. Students will gain not only theoretical knowledge but also hands-on industrial training, preparing them for careers in the rapidly expanding green energy sector.

### Research and Strategic Collaborations

In research, UMT is actively conducting various projects related to offshore wind, floating solar, and wave energy, particularly along Malaysia's east coast. In collaboration with PETRONAS, UMT has established the Centre for Offshore Renewable Energy (CEFORE).

This initiative not only assesses the feasibility of new technologies but also provides training for students, researchers, and industry professionals. UMT's research approach ensures that outcomes go beyond academia, delivering direct contributions to national energy development. Offshore renewable energy development brings positive impacts to local communities, particularly fishermen and coastal residents. It creates job opportunities in marine turbine maintenance, environmental monitoring, and logistics services.

UMT also implements community knowledge transfer and training programmes, enabling locals to participate in this new economic ecosystem. This approach embodies the true spirit of the Blue Economy, balancing environmental sustainability with community well-being.

UMT aspires to become a national and regional Centre of Excellence in Marine-Based Renewable Energy. Our goal is to produce graduates who are not only skilled in green technologies but also environmentally conscious and sustainability-minded.

Through the synergy of education, research, and industry collaboration, UMT is committed to contributing to Malaysia's and ASEAN's clean energy transition agenda.

This is the future we aim to build, a future that is inclusive, sustainable, and competitive, aligned with the nation's aspiration toward a progressive green economy. ♦

# Helming the Blue Economy

By Dr. Khaira Ismail, UMT Blue Economy Advancement Centre

**A**t a quiet fishing village along Terengganu's coast, UMT researchers meet with local fishermen, sketching sustainable aquaculture designs over weathered tables.

Inside a lab, beneath the hum of air-conditioning and the glow of lights, UMT scientists examine coral fragments and monitor aquaculture tanks, translating lab data into real-world solutions.

From UMT's coastal campus, drones lift off, while researchers deploy underwater sensors to map the seabed.

From its origins in 1979 as a small marine training centre, UMT has now evolved into a leading ocean institution, tackling fisheries, maritime studies, coastal engineering, and blue innovation, combining its cutting-edge technology with multidisciplinary expertise.

Through its comprehensive approach to ocean science and innovation, the marine-focussed university is presently helping shape the direction in which Malaysia and the region will navigate the Blue Economy.

## Shift toward Sustainable Ocean Development

Across the Asia Pacific, coastal nations are navigating a convergence of pressures: rising demand for marine resources, growing climate-related vulnerabilities, rapid technological shifts transforming traditional ocean industries, and the urgent need to modernise these sectors without compromising the ecological integrity of marine ecosystems. In other words, the global and regional priorities have shifted toward sustainable ocean development.

At the same time, countries must strengthen governance capacity, close financing gaps, and ensure that new blue innovations are adopted responsibly and equitably. Together, these forces create both an unprecedented challenge and a unique opportunity for the region to chart a more resilient, knowledge-driven, and sustainable ocean economy.

For Malaysia, the ocean has always been more than a horizon. It has shaped our history, supported our livelihoods, and anchored our identity as a maritime nation.

For over four decades, Universiti Malaysia Terengganu (UMT) has carried this spirit forward, steadily building the scientific, educational, and governance foundations that today place the university at the heart of Malaysia's Blue Economy aspirations.

UMT's readiness for this has been decades in the making. The university's beginnings in 1979 as a marine-focused research and training centre laid the groundwork for what would later become a comprehensive ocean institution. Over the years, UMT has expanded its capabilities across oceanography, fisheries, aquaculture, marine biology, coastal engineering, maritime studies, seabed mapping, environmental governance, and blue innovation. This breadth allows UMT to approach the Blue Economy holistically, bridging the natural and social sciences and industry perspectives.

UMT's real strength, however, lies in its ability to connect scientific knowledge with national needs. Its research informs coastal management, marine spatial planning, biodiversity protection, maritime safety, and blue technology development. The university's long-standing engagement with policymakers, government agencies, industry players, and coastal communities ensures that ocean knowledge does not remain confined to academic spaces but actively shapes decision-making processes.

## UMT Beacon

UMT has set up the Blue Economy Centre, or UMT Beacon, to act as a regional hub for excellence in the Blue Economy. This flagship initiative focuses on marine-related research, innovation, and education to promote sustainable ocean development and serves as a key driver for UMT's knowledge transfer programmes and industry collaboration.

UMT Beacon aims to develop the blue economy by connecting UMT with the stakeholders from various industries, such as fisheries, aquaculture, tourism, and energy, to help translate research into tangible benefits and solutions for the community and the nation.

In terms of research and innovation, UMT Beacon helps spearhead UMT's involvement in initiatives related to marine science and the blue economy. For knowledge transfer, the centre serves as a facilitator for knowledge transfer programmes between UMT and external parties. As far as collaboration is concerned, it fosters partnerships with national and international institutions, businesses, and government agencies. Regarding education, this regional hub supports educational programmes and provides training on various subject matters. One example is capital market education, offered through its partnership with the Malaysian Association of Technical Analysts (MATA).

## Why WBEF Matters to Malaysia and the Region

At a time when countries around the world are reassessing how they use and protect the ocean, UMT Beacon will be organizing a timely, strategic, and forward-looking event. The Sultan Mizan World Blue Economy Forum (WBEF) 2026, will be held from 9–11 September 2026 in Kuala Lumpur.



This forum will bring together leaders in ocean governance, marine industries, coastal development, blue finance, and conservation, signalling Malaysia's readiness to contribute meaningfully to the evolving global narrative on ocean futures. For the nation, the forum provides an opportunity to articulate a clear vision for sustainable ocean growth, deepen regional cooperation, and showcase national strengths in marine science and innovation.

The forum's thematic pillars mirror the areas in which Malaysia has both potential and priority, which include:

- Smart ports and blue transport
- Fisheries advancement and sustainable aquaculture
- Marine biotechnology and blue bioeconomy
- Ocean renewable energy
- Marine conservation and ecosystem resilience
- Emerging blue technologies and innovation

These themes are not abstract; they are tied to national goals in climate resilience, food security, maritime competitiveness, and coastal community well-being.

For UMT, WBEF is an opportunity to demonstrate its long-standing expertise and elevate Malaysian scientific contributions onto an international stage. Students, researchers, and partners will gain access to global networks, collaborative opportunities, and new avenues for research translation and technology adoption.

**From Local Knowledge to Global Conversations**  
One of UMT's defining characteristics is that its work is grounded in real landscapes: mangrove creeks, coral reef systems, offshore platforms, coastal villages, and deep-sea

environments. The knowledge generated in these diverse settings enables UMT to contribute insights that are deeply empirical and regionally relevant.

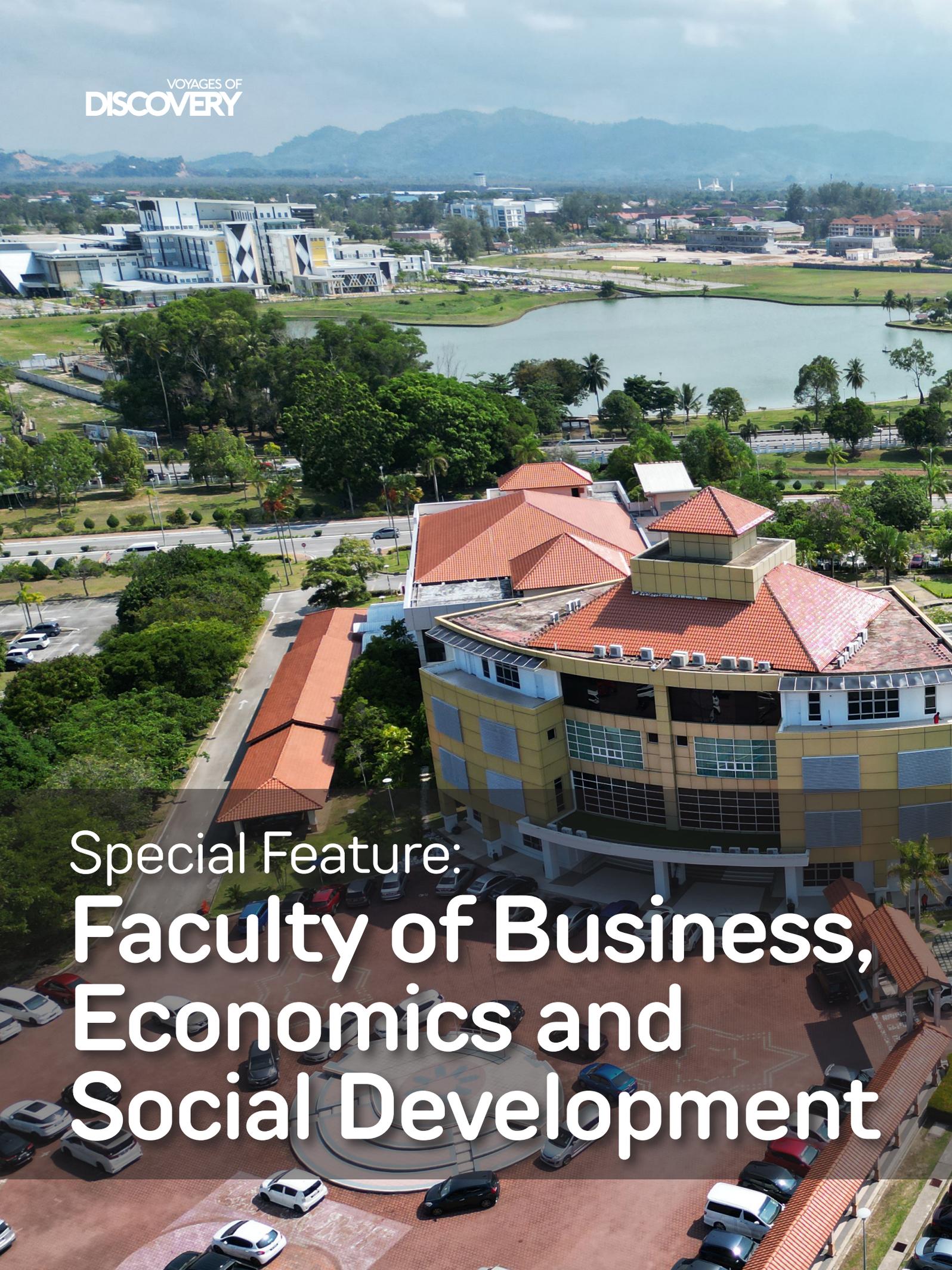
WBEF transforms these field-based perspectives into part of a larger, global conversation. As the world moves toward integrated, evidence-based ocean governance, Malaysia's experience, shaped by decades of UMT's research and community engagement, becomes highly valuable. With its track record and multidisciplinary depth, the university is well-positioned to help frame discussions on blue finance, innovation ecosystems, climate adaptation, and sustainable marine industries.

The significance of WBEF extends beyond the three days of dialogue. It marks a shift in how Malaysia positions itself for the future of ocean sustainability, toward an assertive, collaborative, and knowledge-driven approach. It also signals the responsibility carried by institutions like UMT to continue shaping the national and regional agenda for decades to come.

UMT's journey in ocean science and governance has always been about more than research. It has been about service: to communities, to the nation, and to the ocean that sustains us. As WBEF approaches, UMT's role becomes clearer than ever. It is not simply participating in the forum; it is helping shape the direction in which Malaysia and the region will navigate the Blue Economy.

The ocean has long been part of Malaysia's story. Now, it is part of our strategy, and UMT continues to guide the way forward. ♦

For more information and expression of interest, please contact [info@wbef2026.com](mailto:info@wbef2026.com) or visit [www.wbef2026.com](http://www.wbef2026.com)



Special Feature:  
**Faculty of Business,  
Economics and  
Social Development**



## Special Message from FBESD Dean



**A**s Dean of the Faculty of Business, Economics, and Social Development, or FBESD for short, I am truly honoured to have the faculty featured in this edition of the Voyages of Discovery magazine.

Although it is a non-niche faculty, FBESD is the largest at UMT, offering the widest range of academic programmes and having the highest student population.

Dubbed the Gate of Transdisciplinary Studies, FBESD has been able to position itself as one of the main contributors to UMT's success at the international arena. In the QS World University Rankings by Subject 2025, for example, FBESD earned notable recognition when its Economics & Econometrics subjects were ranked in the 551-700 range globally. This achievement reflects the dedication of the faculty members.

Speaking of faculty members, FBESD currently boasts 135 active academicians. Interestingly, only 37 are male, while the remaining 72% are female. Even more remarkable, all five of

the faculty's professors are female, and 20 out of 32 associate professors are also female, making up 62.5% of the total.

What does this mean? FBESD is female-dominated, and it is a great thing. With due respects to their male counterparts, female academicians have been instrumental in bringing the faculty to greater heights.

Regardless of the gender composition at FBESD, the faculty celebrates and appreciates the dedication of all members. In its pursuit to be recognized as one of the leading faculties, the concept of gender bias is eliminated from FBESD's dictionary. At the faculty, gender diversity enriches perspectives in research, teaching, and decision-making.

At FBESD, female academicians bring and share unique viewpoints shaped by their experiences as daughters, sisters, wives, mothers or companions to others. They often bring different pedagogical approaches, fostering inclusive and student-centred learning environments. Their traits enrich classroom discussions and research perspectives.

They explore a wide range of economic, political, social, and cultural dimensions. They help us to understand the key issues, trends, and implications. They are vital for the institutional perspectives to promote equality and diversity.

These female academicians often pioneer research in underrepresented fields, such as social equity and empowerment, wellbeing, and health.

They play a crucial role in empowering female students to believe in their potential, break barriers, and chart their own paths to success.

Thus, in reflecting the reality of the current composition at FBESD, the faculty has decided to highlight women as the theme for this edition. Showcased are FBESD's leading female academicians and their successes in different academic fields and scopes—teaching and learning, research and publication, knowledge transfer, and community services and social innovations. Five female professors are featured in a special article. In addition, articles on research as well as young academician also feature female academicians.

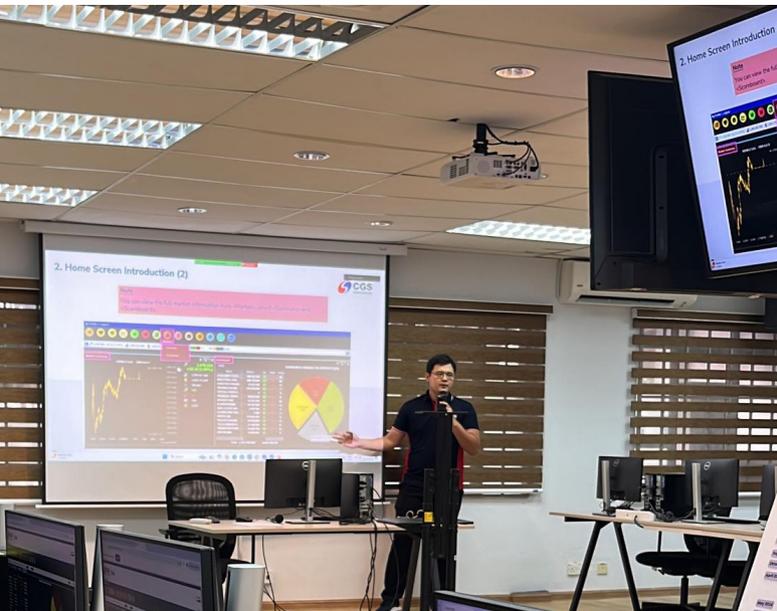
One thing is certain at FBESD—women empowerment is real! Given the opportunity, female academicians can manage, lead, and direct with excellence.

It is worth noting that UMT's current Deputy Vice Chancellor (Academic and Internationalisation) previously served as Dean of FBESD. And she is, in fact, female.

Happy reading! ♦

*Assoc. Prof. Dr. Nazli Aziz  
Dean, Faculty of Business, Economics and Social Development*

## About FBESD



# Charting Tomorrow's Leaders

*A faculty at UMT is committed to producing excellent, competent graduates*



By  
Nurul Atikah Ab Raji

In a room lined with glowing monitors, the click of a mouse by a student sends virtual stocks soaring. Just a corridor away, in a fully functioning accountancy office, a group of students in crisp business attire rehearse audit presentations, while in a soundproof counselling room not far away, the calm voice of a student guides a peer through a role-play session.

These scenes are commonly witnessed at one faculty at Universiti Malaysia Terengganu (UMT), the Faculty of Business, Economics and Social Development (FBESD), the biggest one on campus.

At the faculty, academic excellence meets practical applications, and classrooms become gateways to real-world experiences. Here, students gain exposure to hands-on learning opportunities while attending lectures, allowing them to apply theoretical knowledge to practical situations.

FBESD embraces this approach to ensure that the graduates it produces are competent and globally competitive and can navigate real-world challenges right out of the gates.

But this is not the only strategy the faculty employs to achieve its aim.

Since its establishment, FBESD has adopted a range of measures to ensure it provides the nation with graduates who are not only academically accomplished but also equipped with the skills, confidence, and adaptability to thrive in a dynamic professional landscape. These include having highly qualified academics, providing state-of-the-art infrastructure and facilities, collaborating with external agencies, and continuously improving the curriculum to keep pace with industry trends and demands.

Perched along the scenic coast of Kuala Nerus, Terengganu, UMT has evolved from a branch campus in 1979 to a respected global institution by 2001. FBESD has been at the forefront of this growth, championing interdisciplinary learning that fuses business insight, economic expertise, and social development awareness.

Its achievements are reflected in the QS World University Rankings 2025, where UMT ranked among the top 1,001–1,200 universities worldwide. Economics & Econometrics secured a global spot between 551–700, a testament to FBESD's growing academic influence.

### **Extensive Range of Undergraduate and Postgraduate Programmes**

To cater to the evolving needs of students and industries, and to provide the nation with highly skilled human capital, FBESD offers an extensive range of undergraduate and postgraduate programmes. Students pursuing a bachelor's degree can choose from the following programmes: Accounting, Marketing, Tourism Management, Economics (Natural Resources), Policy Studies, Counselling, and Finance. Each programme is tailored to equip students with both theoretical foundations and practical skills.



Postgraduate opportunities span from MBA and Master's programmes to Ph.D. research across its disciplines. These programmes are equally robust, encouraging advanced research, critical thinking, and professional development.

To ensure every programme's curriculum always remains aligned with the needs of the current industry and the changing student demographic, the faculty regularly reviews it and updates accordingly. The recently introduced Flexible Learning System in the Marketing programme, for example, reflects FBESD's commitment to personalised, adaptable education. Students are able to personalize their learning pace and mode, choosing either face-to-face, online, or blended learning models, making education more accessible to everyone.

The constant improvement efforts the faculty has undertaken have shown tangible outcomes. Students consistently express satisfaction and confidence in the quality and relevance of FBESD's academic programmes.

"The accounting programme has sharpened my financial skills and strengthened my ability to interpret complex data," said Nur Ain Natiera Azhar, Bachelor of Accounting with Honours student. "It has also shaped my integrity and attention to detail, which I believe are essential traits in the professional world."

"I find that this programme places strong emphasis on field research, policy analysis, and understanding complex public administration issues," said Muhammad Amir Hakimie Norzaki, Bachelor of Management (Policy Studies) with Honours student.

To ensure its students receive the best education, FBESD has taken careful measures to ensure its academic staff are highly qualified. This strong foundation ensures that students are guided by experienced educators who are well-versed in both theoretical knowledge and practical applications, thereby enriching the overall experience. Majority of its lecturers hold doctoral degrees in their respective fields.

Many have progressed to the rank of professor and associate professors, reflecting their expertise, research achievements, and dedication to academic excellence.

### Highly Qualified and Supportive Lecturers

Students speak highly of these lecturers, valuing not only their subject expertise but also their willingness to mentor, guide, and inspire.

"Learning through practical projects and interactive discussions with experienced lecturers has helped me sharpen my analytical skills, creativity, and the ability to think strategically in the marketing world," said Yusoff Aidid Alfian Hamdan, Bachelor of Management (Marketing) with Honours student.

While senior lecturers bring a wealth of experience, deep subject expertise, and long-established industry connections, the faculty is also enriched by a dynamic group of young lecturers who bring fresh perspectives, contemporary knowledge, and innovative teaching approaches to the classroom. Many are recent doctoral graduates or early-career academics actively engaged in research aligned with emerging trends in their fields. Their familiarity with digital tools, data-driven methods, and modern pedagogical techniques allows them to connect effectively with students and integrate real-time case studies into lessons.

Students value the dedication and enthusiasm young lecturers bring to their teaching and mentoring roles, praising their energy, approachability, and willingness to go the extra mile.

"The dedicated lecturers and supportive campus environment have greatly contributed to building my confidence, empathy, and communication skills, which are essential qualities for a counsellor," said Akshay Kumar S/O Ashok, Bachelor of Counselling with Honours student.



“Although I am still in the early stages, I can already feel the supportive and interactive learning environment, as well as the guidance of friendly lecturers,” said Nur Hidayah Abdullah, first-year Bachelor of Finance with Honours student.

At FBESD, education goes far beyond textbooks. Innovative facilities immerse students in professional realities long before they graduate. To bridge the gap between academic theory and industry practice, FBESD places strong emphasis on equipping its students with access to modern, real-world learning experiences. To this end, the faculty has engaged in three standout initiatives, the UMT-CGS East Coast Trading Centre, the Teaching Accountancy Firm (TAF), and the Counselling Laboratory Facilities, each designed to enhance student readiness for professional careers through experiential, hands-on learning environments.

### **First-of-its-Kind Trading Centre**

The UMT-CGS East Coast Trading Centre, launched in October 2024, is the first of its kind on Malaysia’s East Coast. A collaboration with CGS International Securities Malaysia, the centre houses 41 computer terminals connected to a live trading simulation platform. Here, finance and economics students master the art of investment analysis, risk assessment, and capital market strategy.

“The trading centre not only sharpens students’ investment skills but also opens doors to industry partnerships,” says UMT Vice Chancellor Prof. Ir. Ts. Dr. Mohd Zamri Ibrahim.

The establishment of the Teaching Accountancy Firm (TAF) on campus has made UMT the first public university in Malaysia to do so. Developed in collaboration with SALIHIN, a registered audit firm, TAF is the first innovation of its kind in Malaysia, designed to provide students with real-world accounting

experience as early as their second year of study. All students are given equal opportunities to participate in TAF through five major areas: auditing, accounting, taxation, advisory services, and secretarial practices, ensuring comprehensive exposure to the core elements of the accounting programme. Offered as elective subjects within the Bachelor of Accounting programme, this initiative effectively bridges the gap between academic theory and professional practice.

The faculty’s Counselling Laboratory provides a safe, professional-grade environment for future counsellors. From private consultation rooms to observation suites with one-way mirrors, and from play therapy tools to psychological assessment inventories, the lab bridges the gap between classroom theory and client realities. The hands-on nature of the lab enhances students’ confidence and competence, preparing them to meet the diverse challenges of real-world counselling with professionalism and compassion.

Since its inception, FBESD has implemented various initiatives to produce graduates who excel academically while possessing the skills, confidence, and adaptability needed to succeed in an ever-evolving professional environment. These efforts encompass employing highly qualified academic staff, offering modern infrastructure and facilities, fostering collaborations with external agencies, and continually refining the curriculum to remain aligned with current industry trends and demands.

From the hum of trading simulations to the precision of audit rehearsals and the quiet empathy of counselling role-plays, these moments capture the spirit of FBESD. The faculty will continue to blend academic excellence with hands-on experience to shape graduates ready to make their mark on the world. ✦

Icons of **Academia**

# Women of Wisdom

*With diverse strengths, five UMT women professors inspire change through knowledge, leadership, and innovation*



By  
Dr. Siti Nurain Muhamad

**A**cross disciplines, borders, and generations, women in academia are breaking barriers and reshaping what it means to lead, inspire, and drive innovation. At Universiti Malaysia Terengganu (UMT), five exceptional female scholars stand out not only for their achievements, but also for their unwavering commitment to research, education, and societal transformation. Each brings a unique strength to the academic realm, whether it's in economics, sustainability, financial governance, or human capital development, leaving a legacy of progress and empowerment for future generations.

Professor Dr. Suriyani Muhamad, Professor Dr. Yusliza Mohd Yusoff, Professor Dr. Nur Azura Sanusi, Professor Dr. Hafiza Aishah Hashim, and Professor Dr. Zalailah Salleh are redefining what it means to excel in academia. These five women professors from UMT are more than scholars—they are leaders, innovators, and mentors. From championing rural women entrepreneurs and sustainable HRM to strengthening governance and accountability, their diverse work proves that performance flourishes when leadership, compassion, and innovation converge.

## Empowering Minds, Transforming Communities

“A true leader has the confidence to empower others, the courage to make principle decisions, and the compassion to listen to the needs of others,” said Professor Dr Suriyani Muhamad.

Professor Suriyani stands as a beacon of leadership at UMT, where her dedication to development economics, labour studies, and gender economics continues to inspire change. She earned her Bachelor's degree in Economics from Universiti Malaya, her Master's from the London School of Economics, and her PhD from the University of Manchester—credentials that speak volumes about her academic calibre and global perspective.



A prolific researcher and principal investigator, Professor Suriyani has led or contributed to 20 grant-funded projects, including prestigious international research supported by the Sumitomo Foundation, Japan. Her award-winning Empowering Rural Women Entrepreneurs Social Innovation Model earned accolades at national exhibitions, showcasing her commitment to policies that uplift communities. Her expertise is sought after by ministries and international bodies alike, including advisory roles for Malaysia's Ministry of Women, Family and Community Development and the Ministry of Higher Education.

Her leadership journey within UMT is equally remarkable. From Head of Department to Dean, and now as Deputy Vice Chancellor (Academic & International), Professor Suriyani exemplifies resilience, vision, and service. Her path reflects not just personal excellence but a dedication to empowering others, especially women, through education, research, and transformative policy input.

In every role, Professor Suriyani embodies what it means to lead with integrity, insight, and an unwavering commitment to progress. ✦



### A Trailblazer in Sustainable Human Resource Management

“Leadership in academia is not measured by titles, but by the lives we shape, the minds we inspire, and the future we help build,” said Professor Dr. Yusliza Mohd Yusoff.

Professor Yusliza stands as a beacon of scholarly excellence and a true icon of publication in the fields of business and management. Renowned for her pioneering research in sustainable human resource management (HRM), her work has shaped vital conversations on green HRM, employee green behavior, and the integration of emerging technologies like artificial intelligence and blockchain into HRM practices.

With an impressive portfolio of over 125 publications in reputable Web of Science and Scopus-indexed journals, Professor Yusliza’s research impact resonates globally, garnering more than 4,000 citations on Scopus alone. Her robust body of work positions her as one of Malaysia’s most cited and respected scholars, cementing her reputation as a leading voice advancing sustainable and responsible management.

Originally from Kelantan, she earned her BBA (Hons) from Universiti Putra Malaysia in 1999, MBA from Universiti Sains Malaysia in 2004, and PhD in Administrative Science from Universiti Teknologi MARA in 2009. Her academic journey saw her rise from Senior Lecturer at USM to full Professor at UMT in 2021, where she continues to champion rigorous research and postgraduate supervision.

Her outstanding contributions have earned her the Icon Academia Award from the Ministry of Higher Education and inclusion on Stanford University’s Top 2% Scientists list for three consecutive years. Ranked among the top 0.05% of scholars worldwide in HRM by ScholarGPS, Professor Yusliza exemplifies dedication, innovation, and prolific scholarship, an enduring symbol of academic leadership and impact. ♦



### From Research to Real-World Impact

“Whoever relieves a Muslim of a burden from the burdens of the world, Allah will relieve him of a burden from the burdens of the Hereafter,” said Professor Dr. Nur Azura Sanusi.

From Kuala Nerus to national impact, Professor Nur Azura stands out as a catalyst for inclusive development whose work bridges economics, policy, and community empowerment. A professor at UMT’s Faculty of Business, Economics and Social Development, she exemplifies how research can extend far beyond academia to shape lives and livelihoods.

Professor Nur Azura began her journey at Universiti Kebangsaan Malaysia, earning her Bachelor of Economics (Hons) in 1998 and completing her PhD in financial economics by 2003, an early testament to her drive and intellect. Her research career spans macro econometrics, Islamic economics, zakat, sukuk, takaful, and sustainable development.

Her passion for consultation shines through more than 20 national and regional projects valued at over RM4.4 million. She led the high-impact Program Peningkatan Pendapatan (Income Enhancement Programme) under the Prime Minister’s Department, crafting data-driven strategies to raise household incomes in Terengganu. She has also secured research grants totaling RM6.7 million, underscoring her skill in attracting resources for transformative work.

Professor Nur Azura’s consulting work ranges from fisheries sustainability with the Department of Fisheries Malaysia to landmark development plans like the Aquapolitan Kuala Nerus and ECER programmes. Her projects balance economic growth, environmental stewardship, and social equity, proving that economics can be a catalyst for real change.

Through her vision and dedication, Professor Nur Azura has become a trusted advisor and influential voice in policy circles, establishing an outstanding model of how academic expertise, when coupled with purpose, can uplift communities and shape the nation’s future. ♦



## A Journey of Academic Excellence and Mentorship

“A great supervisor is more than a guide, they are a steady light in the fog of doubt, shaping thought, nurturing growth, and walking beside you as your path unfolds,” said Professor Dr. Hafiza Aishah Hashim.

Professor Hafiza stands as a paragon of academic mentorship and leadership at UMT. From graduating with First-Class Honours in Accountancy at Universiti Teknologi MARA to earning a Master's Degree in International Accounting and Financial Management from the University of Glasgow and a PhD from Universiti Malaya, her academic journey reflects unwavering pursuit of excellence.

Since joining UMT in 2009, Professor Hafiza has exemplified how impactful supervision shapes not just careers but lives. She has supervised 39 postgraduate students and three postdoctoral fellows to completion. The postgraduate students include 15 PhD candidates, seven MSc students, and 14 MBA students completing their final-year projects. Remarkably, 12 of her PhD candidates and four MSc students graduated on time, a testament to her structured guidance and high standards. One of her PhD students even earned the prestigious Pro-Chancellor Award for an outstanding thesis.

Beyond supervising, she actively co-authors papers with her students and encourages them to present at national and international conferences, nurturing confidence and global readiness. Her mentorship extends to real-world insights, strengthened by her industrial attachment with Jalil & Co. Chartered Accountants.

Now as Director of the UMT Life Center, she channels her vision into flexible learning and lifelong education, empowering diverse learners. At the heart of her mentorship lies a commitment to shaping students into capable, ethical scholars who contribute meaningfully to their fields.

Professor Hafiza's legacy is defined by her transformative impact, proof that true academic leadership lies in uplifting others to reach their fullest potential. ♦



## Driving Accountability and Empowerment

“We are not merely securing funding; we are partners on a journey of discovery, dedicated to empowering our teams to drive meaningful change in society,” said Professor Dr. Zalailah Salleh.

Professor Zalailah stands out as a trailblazer in the field of auditing, corporate governance, and sustainability reporting, anchoring her reputation as a grant leader whose research delivers real-world impact.

Her academic journey laid the foundation for her vision of embedding accountability and transparency into financial practices. She obtained a Bachelor's Degree in Accounting from Universiti Utara Malaysia, a Master's Degree from the University of Essex, and a PhD from Griffith University. Before joining academia, her professional experience with Jalil & Co., Arthur Andersen, and Delphi Packard (M) Sdn Bhd equipped her with invaluable industry insights that enrich her research and teaching. Since UMT in 2002, Professor Zalailah has led pioneering projects that shape the national discourse on sustainable and ethical auditing. She has secured over RM1.36 million in research funding, including a notable Fundamental Research Grant Scheme (FRGS) project developing an internal audit assurance framework for Greenhouse Gas (GHG) emissions, which was a crucial step in integrating environmental sustainability into corporate governance.

Her grant leadership extends beyond technical research. Through a KTAGS-funded project, she empowered young women in juvenile rehabilitation with entrepreneurship education, illustrating her belief that research must uplift communities and inspire second chances.

With 60 Scopus-indexed papers and more than 2,000 Google Scholar citations, Professor Zalailah exemplifies research leadership that bridges academia, industry, and society.

Through every grant won and project completed, she champions the principle that accounting is more than numbers; it is a platform for trust, fairness, and positive societal change.

While their fields may differ, these professors share one conviction, that knowledge must serve society, that leadership must uplift others, and that true academic performance is measured by lives touched and futures built.

In their hands, education is more than a career; it's a legacy of excellence that inspires everyone it reaches. ♦

# Academic Collaboration



## Bridging Borders

*The academic collaboration between UMT and Universitas Negeri Malang reflects a commitment to strengthen ties*



By  
Dr. N Alia Fahada W Ab Rahman

**D**uring February and March last year, a group of students from Universiti Malaysia Terengganu (UMT) travelled to Indonesia and embarked on what many described as the best experience of their university life. The 14-day Outbound Mobility Programme they participated in introduced them to a rich blend of academic interaction and cultural exchange at Indonesia's Universitas Negeri Malang (UM).

In a world increasingly defined by global interconnectedness, Universiti Malaysia Terengganu (UMT) continues to embrace academic diplomacy through vibrant partnerships and impactful exchanges. The collaboration with UM, which offers students a chance to join Outbound Mobility Programmes, is one such standout partnership, showcasing a shared commitment to educational excellence, sustainability, and community development.

Since the signing of the Memorandum of Understanding (MoU) in 2021, the academic collaboration between UMT and UM has grown in both scale and substance. From student mobility programmes and joint conferences to research grants and guest lectures, the partnership reflects a strategic and heartfelt commitment to fostering international ties through education and innovation.

Active until 22 November 2026, the MoU has laid a strong foundation for cross-border academic synergy. It envisions a dynamic exchange of ideas, cultural immersion, and impactful scholarly work.

### Outbound Mobility Programme

A key activity under the MoU was the Outbound Mobility Programme, held at UM from 24 February to 9 March 2024. Participating UMT students had the opportunity to immerse themselves in a new academic and cultural setting. They



gained first-hand experience of the Indonesian academic landscape, participated in workshops, and formed meaningful professional and social connections.

“Immersing ourselves in a new academic culture allowed us to challenge conventional thinking, broaden our intellectual horizons, and embrace the global dimension of economics as a tool for sustainable change,” said a participant of UMT-UM Mobility Programme.

Beyond student mobility, UMT has played an active role as co-host for several prestigious conferences, including the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> International Conferences on Business, Economics, and Sustainability Science (BESS), held annually from 2022 to 2024. In 2025, UMT continued its collaborative efforts by hosting the 5<sup>th</sup> International Conference on Social and Economic Development (ICSED), with UM serving as the co-host.



These conferences became platforms that served as fertile ground for international discourse, where research presented aligned with the Sustainable Development Goals (SDGs), economic resilience, and inclusive development strategies. The continued participation and co-hosting reinforced both institutions' reputation as forward-thinking and globally connected education leaders.

The partnership evolved further in 2025, with the signing of a Memorandum of Agreement (MOA) spanning 2025 to 2027. This agreement underscores the depth of institutional commitment to collaborative research addressing pressing social challenges.

### **Joint Research Grant**

The crown jewel of this MOA is a joint research grant titled "The Resilience of Urban Poor Communities Towards the Quality of Life in Malaysia and Indonesia." The project is under the International Partnership Research Grant (IPRG) and led by UMT's Dr Nor Fatimah Che Sulaiman. Running from 1 March 2025 to 28 February 2027 with a value of RM40,000, this study explores urban resilience across cultural contexts, ultimately guiding policy and interventions for sustainable urban welfare.

Another intellectual highlight of this collaboration was the International Guest Lecture hosted by Universitas Negeri Malang. The lecture provided a critical examination of decision

theory within the framework of the Sustainable Development Goals (SDGs), drawing connections between theoretical models and real-world applications for inclusive decision-making.

The lecture session sparked meaningful exchanges between scholars, prompting reflections on sustainability, ethics, and policy. It exemplified the depth and value of bilateral academic engagement and reinforced the commitment to thought leadership.

Over the past four years, the academic collaboration between UMT and UM has evolved into a model of transnational collaboration. From student mobility to groundbreaking research, each initiative has strengthened the shared goals of the institutions and driven their role in the global academic arena.

UMT's partnership with UM transcends geographical boundaries. The collaboration is a journey of curiosity, mutual respect, and innovation. As both institutions chart their path toward more resilient and informed communities, this partnership stands as a shining example of how education can unite, uplift, and transform.

As for the students of both universities, the continued partnership means plenty more opportunities to participate in the Outbound Mobility Programmes, the journeys that will provide them with lasting experiences. ♦

# Industry **Collaboration**



## A Winning Alliance

*Together, UMT and SALIHIN prepare practice-ready accounting graduates*



By  
Assoc. Prof. Dr. Siti Nur'Atikah Zulkiffii

In 2016, UMT launched a pioneering initiative in response to Malaysia's push for holistic, entrepreneurial graduates under the Malaysia Education Blueprint 2015–2025 (Higher Education).

For UMT's accounting students, this meant swapping purely theoretical lessons for work that mirrors real industry demands, from auditing and tax planning to corporate advisory, all before they even graduate.

In a bold move to bridge the gap between theory and practice, Universiti Malaysia Terengganu (UMT) partnered with SALIHIN Chartered Accountants to implement the initiative—operate

a Teaching Accountancy Firm (TAF) on campus. Thus, UMT became Malaysia's first public university to do so, making history once again.

Today, the collaboration between the two is still strong, and TAF has benefitted many students.

"We're not just teaching accounting, we're shaping professionals ready to step into the industry and add value," said the TAF coordinator. "Through TAF, our students gain real, hands-on exposure that no textbook alone can deliver.

At UMT's Faculty of Business, Economics, and Social Development (FBESD), the accounting programme is designed to balance academic depth with real-world readiness. Accredited by the Malaysian Qualification Agency and aligned with professional bodies, the curriculum covers core areas such as financial reporting, auditing, taxation, and management accounting, while embedding emerging themes like sustainability reporting and digital tools. The integration of experiential learning through case studies and industry projects ensures students graduate not only with technical proficiency but also with professional judgement, communication skills, and ethics in place.

SALIHIN is the largest and leading homegrown professional services firm in Malaysia. From an audit firm with one partner, SALIHIN has evolved to be a network of independent firms





with more than 500 partners, directors, consultants and professionals across its local and international offices. The professional services offered are in the areas of audit and assurance, tax, corporate advisory, Shariah advisory, and digital consulting.

### **Memorandum of Agreement Signed**

The collaboration between UMT and SALIHIN began with the signing of a Memorandum of Agreement on 29 December 2015. This led to the establishment of the TAF office at UMT, officially launched on 6 March 2016 by the Minister of Higher Education. A supplemental agreement was signed on 29 December 2020, extending the collaboration until 28 December 2025.

The partnership with SALIHIN has not only crowned UMT as the first public university in Malaysia to establish a Teaching Accountancy Firm, but has also positioned it as a national model for industry-integrated accounting education, with its aim of 'Bridging the Gap between Theory and Practice'.

The collaboration aligns with Malaysia Education Blueprint 2015–2025 (Higher Education), particularly Shift 1, which emphasizes Holistic, Entrepreneurial and Balanced Graduates. By integrating practical experience into the curriculum, TAF contributes to producing industry-ready accounting professionals. The aim is to develop "thinking and enterprising accountants" who are relevant to industry and national needs.

Through TAF, a transformative learning model is offered by combining academic theory with real-world application. Specifically, students gain hands-on experience in five professional services: auditing, taxation, financial reporting, corporate advisory, and company secretarial. Each semester, the TAF courses are offered to the students to enable them to experience the 'work', requiring them to connect with current regulatory frameworks and experiment with real corporate documents, forms, and transactions.

### **Technical Training and Certification for Accounting Students**

Through the collaboration, UMT and SALIHIN have facilitated technical training and certifications for the accounting students. Each year, the accounting software certification is offered to embed technical and digital skills in the preparation of financial statements. Apart from that, the collaboration has enabled continuous professional development opportunities for the students and the lecturers, reinforcing UMT's commitment to innovative education and SALIHIN's dedication to nurturing competent accounting professionals. This initiative has benefited in terms of continuous industry exposure in the curriculum, improving teaching quality, and curriculum relevance.

Since its inception, over 1,000 students have received this structured, hands-on training on accounting work through TAF. The work-based learning experiences gained through TAF have enabled many to secure employment with top firms



immediately after graduation, and to continue on the route towards gaining professional recognition in their accounting career.

When Muhammad Hakim Amir Hamzah first joined the TAF programme in 2016, he was excited but a little nervous because the programme required a lot of focus and commitment. Throughout the TAF programme, he faced several challenges, including the need to adapt to the work culture and meet the targets and expectations of each assignment given.

However, with supervision and support from both the lecturers from UMT and SALIHIN, he managed to complete all five TAF courses. Particularly important in his TAF experience was the ability to gather knowledge about technical terms and concepts that he deemed to be useful in the early stages of his career. The work-based learning of TAF also gave him the ability to 'practice' being an accounting professional, using real business information, such as during a site audit.

TAF has had a very positive impact on his personal and career development, admitted Hakim. With the knowledge and skills gained from TAF, he acknowledged that he has been able to adapt easily wherever he was assigned. He was previously an Analyst at Salihin Consulting Group Sdn Bhd, and now

he works as an Auditor at Universiti Malaya. TAF has given him the added values that have enabled him to succeed in different work scenarios and complex tasks in his professional career.

What began as a ground-breaking step to bridge the gap between theory and practice has since witnessed UMT and SALIHIN work hand-in-hand to produce graduates ready for the challenges of a fast-changing profession.

UMT's response to the nation's push for holistic, entrepreneurial graduates under the Malaysia Education Blueprint 2015 - 2025 (Higher Education) has given its accounting students a clear competitive edge in the job market. ♦

## Research

# Finding Farmers of the Future

*UMT researchers explore how digital tools can transform aquaculture and empower Malaysia's farming communities*



By  
Dr. Siti Nurain Muhmad

**A**t a quiet aquaculture pond in rural Malaysia, a farmer carefully scatters feed into the water, monitors the nets, and checks the pond's condition under the tropical sun. Things may appear fine above the surface to him, but beneath it lies a silent danger that threatens fish health and reduces survival rates.

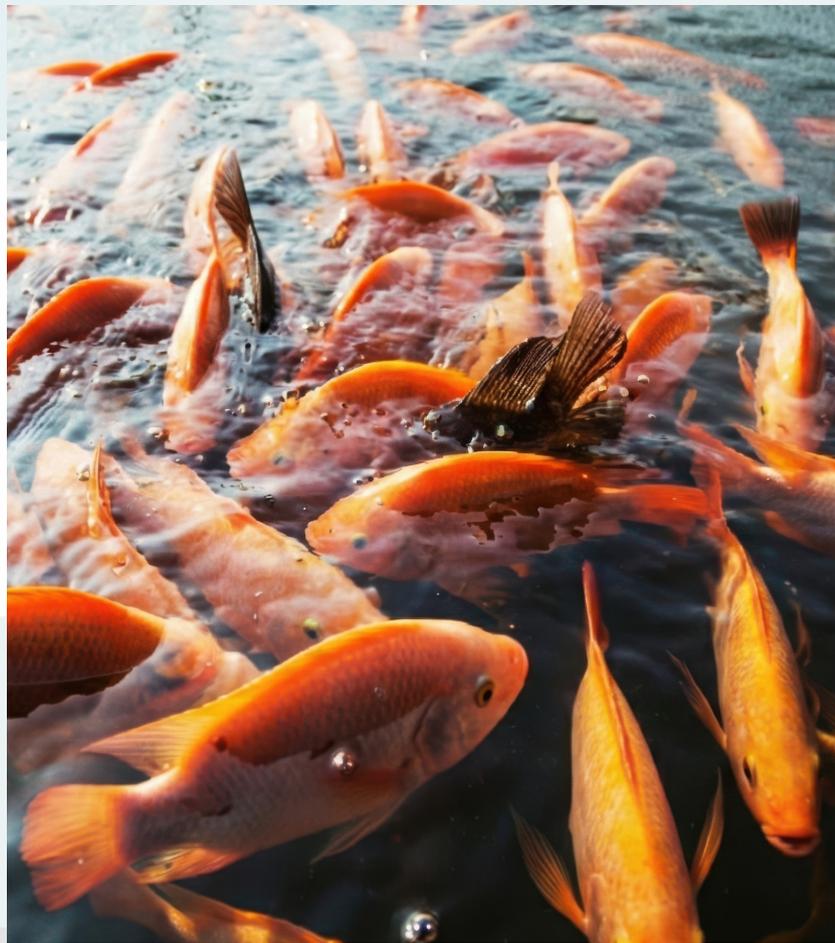
Within the water, uneaten feed and organic matter can lead to a buildup of ammonia. Left untreated, it can quickly rise to harmful levels. For aquaculture farmers, this invisible chemical often translates into lower yields, financial uncertainty, and long-term sustainability concerns.

This intersection between environmental challenges and human livelihoods has inspired a research team from Universiti Malaysia Terengganu (UMT) to make its mark. Led by Associate Professor Dr. Siti Nur 'Atikah binti Zulkiffli from the Faculty of Business, Economics and Social Development (FPEPS), the team has launched an ambitious project entitled *Modelling Farmers' Readiness for Smartphone-Based Ammonia Detection Applications in Advancing Malaysia's Smart Aquaculture Future*.

Funded by the Fundamental Research Grant Scheme (FRGS) amounting to RM198,450, the project holds the distinction of being the highest FRGS grant ever awarded in the history of social sciences at UMT.

The project has two specific goals. The first is to test whether smartphone-based ammonia detection works. But more importantly, the second is to determine whether farmers are ready to adopt, adapt, and even commercialise such technology.

"Unlike many projects that focus mainly on technology, this research places the farmer as a potential entrepreneur at the centre of innovation," Dr 'Atikah said.



"The success of any innovation is measured not just by its accuracy but by how it creates opportunities for people to improve their livelihoods. Entrepreneurship is the bridge that makes this possible."

In the study, farmers' readiness is explored through multiple lenses: digital literacy, age, education, farming experience, scale of operation, and openness to new practices.

"Farmers who embrace technology are more likely to transition into strategic entrepreneurs, using data-driven insights to reduce risks, improve productivity, and expand their business ventures," Dr 'Atikah said.



### Experts from Multiple Fields as Team Members

To ensure the project's success, Dr 'Atikah has assembled experts from multiple fields who strengthen the project's entrepreneurial dimension. Associate Professor Dr. Nor Azman bin Kasan provides aquaculture and water quality expertise, highlighting real-world industry needs. Dr. Nur Amalina binti Mohamad Zaki focuses on digital marketing and market adoption strategies. Dr Hajar Rastegari Najafabadi brings in green chemistry knowledge to ensure sustainable solutions. Associate Professor Dr. Farhad Nadi of UNITAR International University offers artificial intelligence perspectives for smarter, scalable applications. Finally, Associate Professor Dr. Siti Falindah binti Padlee ensures rigorous quantitative analysis, measuring readiness in ways that can guide business models and policy.

Together, their cross-disciplinary strengths ensure the research findings do not stop at theory but can be transformed into entrepreneurial opportunities and innovation pathways.

The project uses three approaches: focus group discussions to hear farmers' voices, experimental testing of the app for usability, and large-scale surveys to capture adoption patterns.

"These methods are not only about validation, but also about market research," Dr 'Atikah said. "They allow the team to identify the factors that encourage or discourage farmers from becoming digital adopters and future aquapreneurs."

By blending social science tools with technology testing, the project generates a roadmap for entrepreneurial adoption.

It identifies who among farmers are most likely to be early adopters, what barriers exist, and how training or support services can be designed to accelerate uptake.

The broader vision of the project lies in strategic entrepreneurship, where innovation meets opportunity. If farmers are ready to adopt digital ammonia detection, it creates a chain of new ventures.

The application itself could be packaged as a product or service, sold through subscription models or integrated with advisory platforms. Accessory kits, training services, and consultancy packages could emerge around the application, opening space for new start-ups and SMEs.

This is where the project expands beyond aquaculture to the entrepreneurial ecosystem. Tech-savvy farmers could position themselves not only as producers of fish or prawns, but as knowledge-driven entrepreneurs, capable of marketing premium sustainable products, diversifying into training, or collaborating with tech developers to co-create innovations.



Such outcomes align with Malaysia's drive to empower small-scale farmers to become competitive entrepreneurs.

"We want farmers to see themselves not just as caretakers of ponds, but as entrepreneurs shaping the future of food security," Dr 'Atikah explained.

### Focus on Digitalization, Innovation, and Sustainability

The project directly supports Ekonomi MADANI, Twelfth Malaysia Plan (RMK-12), and National Agro-Food Policy 2.0, which highlight digitalisation, innovation, and sustainability. By generating data on farmer readiness, the research equips policymakers to design targeted programmes, training, and incentives that support entrepreneurial adoption of smart aquaculture.

It also advances global agendas, particularly the United Nations' Sustainable Development Goal 12 on responsible consumption and production, positioning Malaysia as a leader in sustainable aquaculture entrepreneurship.

This project embodies the quadruple helix innovation model. For the government, it provides evidence to design policies that support farmer-entrepreneurs in adopting digital solutions. For industry, it signals new opportunities in app development, agritech services, and equipment manufacturing. For academia, it demonstrates how social science can seed entrepreneurship, bridging research and commercialisation. For society, especially rural farming communities, it creates pathways for individuals to become empowered digital entrepreneurs who uplift their families and communities.

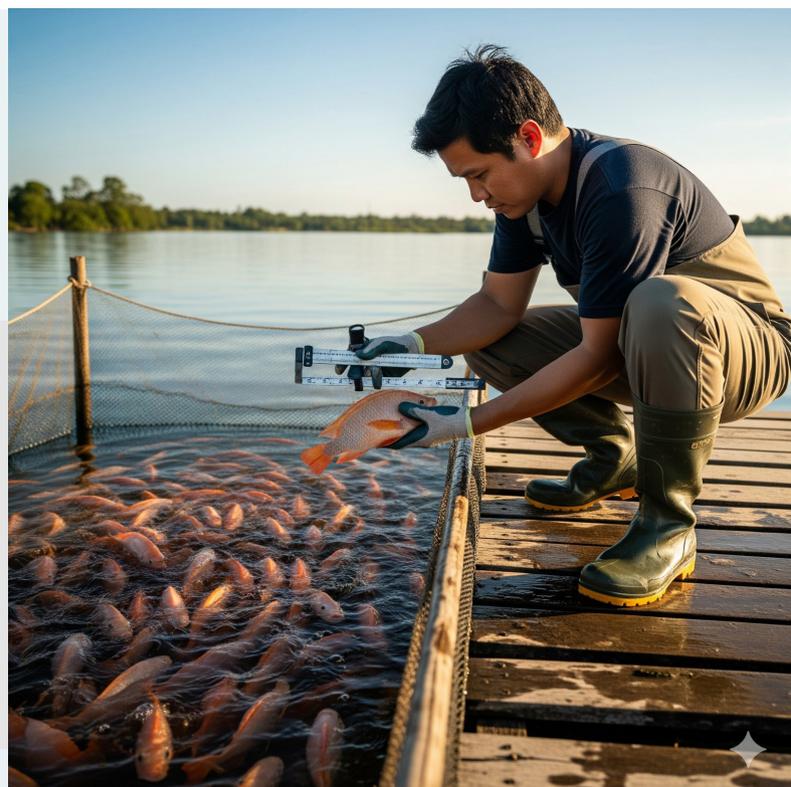
"This project is not just about detecting ammonia. It is about creating a mindset shift where farmers see technology as a partner in building sustainable and profitable businesses," Dr 'Atikah emphasised.

This synergy highlights the project's role not just as a scientific endeavour but as a catalyst for systemic change across multiple sectors.

This project represents a milestone where social sciences, technology, and entrepreneurship converge. It demonstrates how academic research can drive real-world impact by fostering innovation, enterprise, and sustainable opportunities that reach far beyond the laboratory.

By measuring readiness, the project affirms that entrepreneurship begins with people. Innovation is not born in theories or devices alone, but in the determination of farmers who, with the right tools, can transform challenges into opportunities. From aquaculture ponds in Terengganu to farming communities across Malaysia, this initiative is lighting the path towards a more entrepreneurial, resilient, and future-ready aquaculture sector.

UMT can take great pride that with the largest FRGS grant ever awarded in social sciences, its researchers are breaking new ground. They are not only solving urgent technical challenges but also cultivating a new generation of aquapreneurs who will shape Malaysia's leadership in smart aquaculture for years to come. †



## Young Academician



# Checking Every Box

*From teaching and research to leadership and service, a young academician exemplifies the all-round excellence*



By  
Dr. Nor Fatimah Che Osman

Inside the trading room, students passionately listen to hands-on training by one young lecturer, amazed by her ability to bridge theory with real-world practice and by her talent in turning numbers into narratives that make sense

The simulations offer real-world trading experience, preparing students for the industry, and she is widely regarded as the best at this job..

She is Associate Professor Dr. Zairihan Abdul Halim, a name that resonates not only within academic circles but also among industry professionals and community advocates in Malaysia.



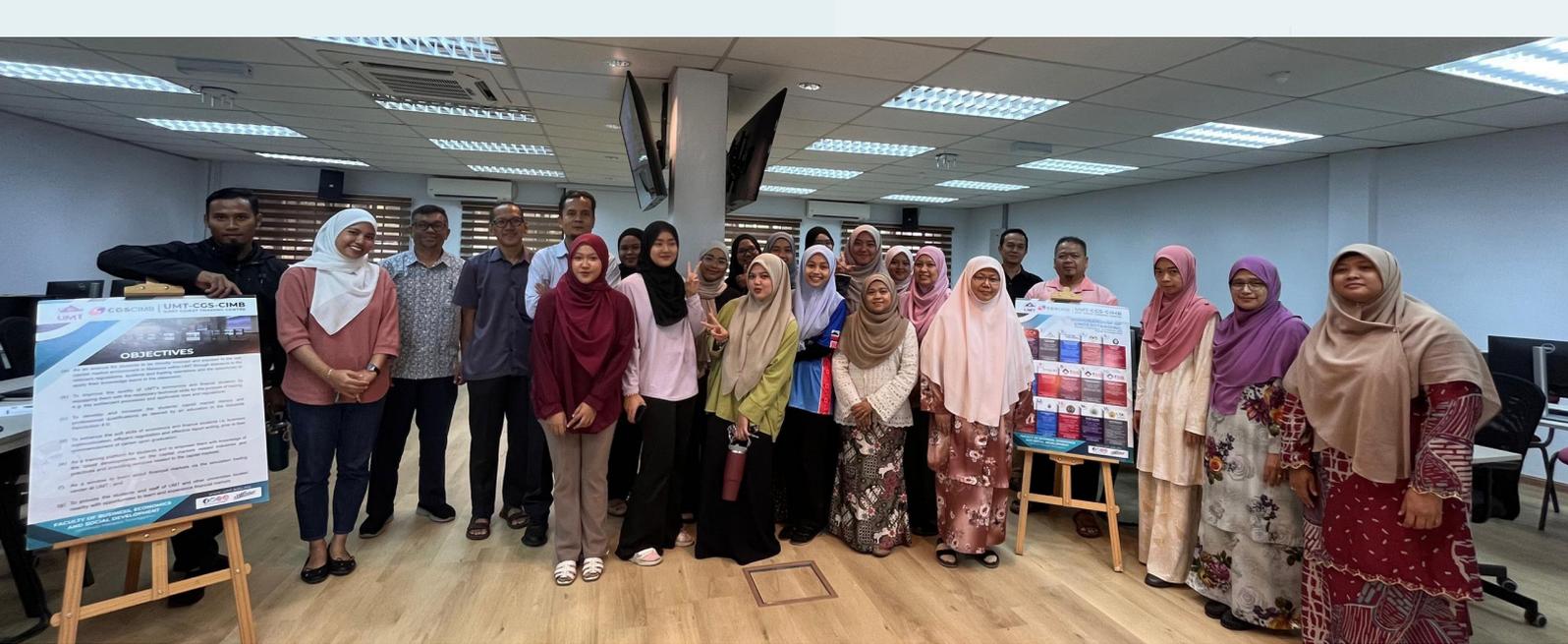
An expert in financial economics at the Faculty of Business Economics Social Development (FBESD), Universiti Malaysia Terengganu (UMT), Dr. Zairihan exemplifies what it means to be a successful lecturer, and her accomplishments over the years serve as proof.

The passionate scholar and dedicated educator was born in the quiet northern town of Jitra, Kedah, on 30 May, 1985. Her journey from a small town to a globally recognized academic is a testament to resilience and determination.

Dr. Zairihan's academic path began at Universiti Utara Malaysia (UUM), where she earned her bachelor's degree in Economics with Honours in 2007. She then pursued her Master's in Economics degree from University of Malaya and graduated in 2011 with a distinction, proof of her analytical prowess and intellectual commitment.

Her thirst for knowledge and desire to contribute to the world of finance drove her to pursue a Ph.D. in Finance at the prestigious Queensland University of Technology (QUT), Australia, under the sponsorship of the Ministry of Higher Education Malaysia (MOHE).

Her doctoral years were marked by exceptional academic exposure. At QUT, she had the privilege of attending seminars and courses conducted by world-renowned finance scholars, including Laura Starks, David Reeb, Jonathan Karpoff, S. Ghon Rhee, and Ferdinand Gul. These experiences, she said, not only enriched her research but also honed her perspectives on financial economics.



### Private School Teacher

Before joining UMT, Dr. Zairihan began her professional career in a more modest setting—as a teacher at a private school, where she spent one and a half years shaping young minds. While there, her enthusiasm and commitment to education were quickly noticed, leading to her earning the *Anugerah Guru Harapan 2009*, an award given to promising new teachers. This early experience instilled in her the values of patience, communication, and dedication, she said. These qualities have translated well into her university-level teaching, she admitted.

At UMT, her commitment to teaching excellence continues to shine. Over the past five years, she has consistently received over 90% satisfaction scores in student evaluations, results likely attributable to her engaging teaching style and mastery of a subject matter.

Dr. Zairihan's research interests lie at the heart of today's economic discourse—corporate financing decisions, Islamic and conventional capital markets, and more recently, financial literacy. Her scholarship has contributed significantly to the field, with her work appearing in top-tier finance journals such as the *Journal of Corporate Finance* and the *Pacific-Basin Finance Journal*. Notably, she received the Best Paper Award from the *Pacific-Basin Finance Journal* in 2018, an accolade that reflects the quality and relevance of her work.

Active in applied research, Dr. Zairihan has recently led a project funded by the MOHE and participated in a collaborative study with RHB Islamic Bank. Currently, she is involved in four other research projects supported by multiple funding sources, further evidence of her strong presence in Malaysia's research landscape.

Apart from conducting research, Dr. Zairihan is also actively involved in postgraduate supervision, playing a vital role

in mentoring the next generation of scholars. She has successfully supervised two master's students and is currently guiding seven PhD candidates.

### Beyond Teaching and Research

Her academic contributions go beyond teaching and research. Since 2018, Dr. Zairihan has served as an Associate Editor for UMT's *Journal of Science and Sustainability Management (JSSM)*. Her expertise is also recognized nationally through her role as an Associate Editor for *Capital Market Review (CMR)* recently, and internationally through her role on the Editorial Advisory Board of the *International Journal of Islamic and Middle Eastern Finance and Management* since 2020.

With all these recognitions, it is no wonder Dr. Zairihan is a sought-after peer reviewer for various leading finance and economics journals.

In addition, her track record proves that Dr. Zairihan has the capacity to take on administrative roles while continuing to excel academically. Her last appointment was as the Deputy Dean (Talent and Research) of FBESD, during which she led initiatives to empower academic talent and strengthen the faculty's research ecosystem. She has also held the posts of Deputy Director of the Residential College, internal auditor, Teaching Excellence Plan (TEP) task force member, and academic quality coordinator for the Economics Department.

One of Dr. Zairihan's most admirable qualities is her ability to connect diverse communities of academics, industry leaders, and grassroots movements. Over the years, she has built strong networks with international researchers and helped establish strategic collaborations between UMT and industry.

Among her notable achievements is the establishment





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of the UMT-CGS East Coast Trading Centre, a one-of-a-kind simulated trading lab in the East Coast of Peninsular Malaysia, launched in October 2024 through a strategic collaboration with CGS International Securities Malaysia, the country's leading stockbroking firm. To further support the lab's activities, she secured a partnership with the Malaysian Association of Technical Analysts (MATA) through a separate Memorandum of Understanding (MoU). Since then, she has spearheaded the delivery of various investment-related courses for both the UMT community and the general public.

### Well-known Name Across Media Circles

Her reputation as an economic expert extends beyond academia and resonates across media circles. Dr. Zairihan's insights are regularly sought after by newspapers and finance magazines, which invite her to provide expert commentary on economic and financial developments.

But Dr. Zairihan's influence is not confined to academia or industry. A committed advocate for community development, she has long been involved in social initiatives. She is a founding committee member of Pertubuhan Aspirasi Jaringan Wanita Malaysia (AJWA), a women-focused NGO that promotes economic empowerment and education. She also serves as Secretary for the Ganu Eco-Charity Project, a humanitarian

aid programme supported by the Hasanah Foundation of Khazanah Nasional. Within the professional community, she is honoured to serve as the Malaysian Association of Technical Analysts' (MATA) liaison officer to the U.S.-based International Federation of Technical Analysts (IFTA).

Her contributions extend to professional training as well. As a Certified Financial Technician, she mentors Malaysian candidates pursuing the UK-based Society of Technical Analysts (STA) Diploma programme, which include participants from prominent investment institutions. Through this, she bridges the gap between academic theory and real-world financial applications.

In an age where the roles of women in academia and leadership are increasingly vital, Dr. Zairihan stands as a role model. Her story is one of academic excellence, professional integrity, and genuine service to society. Whether in the classroom, the boardroom, or community centers, her impact is profound and far-reaching.

Her journey from a small town in Kedah to the forefront of finance research and social advocacy is not just inspiring; it is a blueprint for how intellectual rigor and human compassion can intersect to create meaningful change. ♦



# From Curiosity to Impact

*A PhD study uncovers how ethical culture and leadership shape transparency, accountability, and trust in Malaysian SMEs*



By  
Dr. Nik Nor Amalina Nik Mohd Sukri

In the quiet corridors of Universiti Malaysia Terengganu, the story of one woman and her pursuit of a PhD thesis silently began. Her footsteps didn't echo with ambition, but with questions about how ethics shape the heartbeat of a business and who bears responsibility when values are compromised.

It wasn't grades or certificates that first ignited her journey, but a spark of curiosity during research classes. As she debated methodology and untangled theories, something clicked. For Siti Faizah Zainal, learning became a path to deeper truth.

Supported by mentors who recognized her quiet resilience, she grew fascinated by the values behind financial decisions. She began to see business not only as strategy but as a reflection of integrity.

Her pursuit of ethical business culture and financial transparency evolved into a mission. In Malaysia's vibrant SME ecosystem, she saw potential and vulnerability. She believed ethics could redefine how businesses earn trust.

Siti Faizah's PhD thesis addresses a pressing gap in Malaysia's SME landscape. While these businesses thrive economically, questions remain about how ethical culture affects financial reporting quality.

Her study explores how leadership, policies, values and religiosity influence reporting transparency and accountability, offering insights that matter for governance and sustainability. Long before the title 'Dr' preceded her name, Siti Faizah began her academic journey at Politeknik Seberang Perai, where she earned her Diploma in Accountancy. She then enrolled as an undergraduate at Universiti Teknologi MARA and graduated with a Bachelor of Business Administration.



### Master's Degree at UMT

Fate sent her to UMT, where she studied for her master's degree. Within two years, she was holding in her hands a Master of Business Administration scroll.

But her academic journey didn't end there. Still driven by intellectual curiosity, she decided to remain at UMT and embark on doctoral research.

Her interest in ethics took shape much earlier, during undergraduate studies. She became intrigued by the human dimensions of accounting, sensing that numbers alone could not explain trust or accountability. Her doctoral research was sparked by this curiosity.

To examine ethical business culture and reporting quality among Malaysian SMEs, Siti Faizah applied a sequential mixed-methods approach, combining surveys and interviews to gather wide-ranging perspectives.

Through interviews with external accountants, four core elements emerged. These included formal structures like codes and policies, informal norms, ethical leadership and religious values in the workplace.

Respondents emphasized faithful representation and comparability as key traits of high-quality financial reporting. These ensured clarity and consistency in documents used for business decisions. They also voiced concerns about ethical

challenges such as report manipulation and financial literacy gaps. These issues undermine credibility and pose risks for performance and governance.

Her survey data supported a positive connection between strong ethical cultures and reliable financial reports. Ethical businesses demonstrated better transparency and accountability across their practices. This confirmed that internal values shape external credibility. Her research filled a gap in Malaysia's academic literature and offered practical strategies for SMEs.

To turn theory into tools, Siti Faizah designed two original instruments. The Ethical Culture Framework helps SMEs apply ethical principles through structured guidance. The Interview Protocol provides a method to evaluate how ethical systems influence financial reporting quality. Both support future research and can be used in real business settings.

### Overcoming Struggles

Her journey, however, was not without struggle. There were occasions where she had to deal with depression. At one point, she lost her car and nearly abandoned her academic path. These experiences tested her resolve and reshaped her understanding of success. They taught her to be resilient.

She channeled these moments into deeper empathy for others. She spoke openly about her periods of depression and personal loss during her doctoral studies. Her openness



became a source of encouragement for students facing similar challenges.

Her doctoral work has been recognized nationally, earning research and innovation medals across academic symposiums. In 2024, Dr. Siti Faizah received the prestigious Pro Chancellor Award during her convocation.

At present, as she keeps her options open, Dr. Siti Faizah works part-time as an Assistant Registrar at UMT Life Centre, where she helps drive educational innovations through microcredential programs and distance learning.

She continues to publish in Scopus-indexed journals and share insights at conferences, where her voice contributes to evolving conversations on ethics and governance.

She also mentors students and speaks at events, helping others rediscover motivation during moments of doubt. She shares her journey with candor and compassion. She urges

learners to ask honest questions and connect their studies to lived experience. Her approach blends intellect with emotional insight.

Dr. Siti Faizah's PhD thesis sheds light on a question that strikes at the heart of Malaysia's small and medium-sized enterprises (SMEs): does ethical culture shape the quality of financial reporting? While SMEs are the backbone of the economy, concerns about transparency, accountability, and governance persist. By examining how leadership, workplace values, formal policies, and even religiosity influence reporting practices, her research bridges a crucial gap between business ethics and financial credibility. The findings not only deepen academic understanding but also provide SMEs with practical frameworks to strengthen trust, sustainability, and long-term performance.

In the quiet corridors of Universiti Malaysia Terengganu, a spark of curiosity ignited a PhD journey, one that would leave a profound and lasting impact. ♦

## Excellent Student



# Doubt to Distinction

*Once uncertain about her path, a student makes her mark in academics and leadership*



By  
Dr. Anis Abd Razak

She felt disappointed at first when she was offered a place in the Bachelor of Counselling programme at Universiti Malaysia Terengganu (UMT). It did not align with her prior background in Pure Science, nor did it meet her family's expectations.

However, her decision to accept the offer eventually proved to be the best choice for her.

Within three years, Nurdini Wahid has proven herself to be an outstanding scholar and excellent student leader, erasing any doubt if she can actually thrive in the programme.

"The effort you put in today will define your tomorrow," she said. "It's a belief that has shaped my entire journey here."

Dini, as she is fondly called, has always been drawn to people. Even during her school days, she knew what she was passionate about—working with people and helping those in need. Her ambition has always been to uplift others, not just intellectually, but also in terms of their overall well-being.

Her passion for helping others was largely inspired by her mother, a dedicated teacher who loved sharing knowledge, and her late father, who was known for his generosity, often feeding the hungry and resolving disputes. Dini also looks up to renowned motivational figures like Tony Robbins.

### Deepened Interest in Counselling

Her interest in counselling deepened as she listened to motivational talks and read inspirational books. Interestingly, she once worked in a bookstore before pursuing her degree, which allowed her to explore a wide range of motivational literature.

When the time came in 2022, Dini enrolled in the Bachelor of Counselling with Honours programme at UMT, feeling excited yet unsure of what lay ahead. But as time passed, she grew more confident and passionate about her academic journey.

Throughout her studies, she has consistently achieved excellent academic results, earning a Dean's List Award for



four out of five semesters and maintaining a cumulative GPA of 3.70. She has also excelled in each counselling practicum she completed.

“Whatever happens, no matter how busy life gets, education is number one,” she said.

Dini expresses deep gratitude to her mother, family, lecturers, and friends who have supported her along the way.

From her first year, Dini has been actively involved in student leadership. She began as a Secretariat member of the Counselling Management Club (PEKA) for the 22/23 session, and later joined the Kedah state student association, Persatuan Mahasiswa Darul Aman (PERMADA).

### **Becoming PERMADA President**

Drawing on her leadership experience from high school, she became President of PERMADA for the 23/24 session, aiming to elevate the club’s reputation university-wide. Under her leadership, PERMADA organized several high-impact programmes, including the programme that she directed herself, ‘Anak Jelapang Padi’ initiative, which was a team-building programme for Kedah students studying at various universities, held with high school students around Terengganu.

She remained committed to PEKA as well, serving as Vice President II for the 23/24 session and eventually as Club President for the 24/25 session. She spearheaded impactful counselling-related initiatives, including directing the “Explore Counselling and Psychology in the Investigation Department” programme, which gave students insights into counselling within women and children’s criminal justice sectors.

Dini also served as Deputy Chairperson I (Internal Affairs) of the UMT Campus Election Main Committee (JPRK) for the 24/25 session. Heading the Legal Bureau, she helped to coordinate major student elections and legal matters concerning the election process of Majlis Perwakilan Pelajar UMT for 24/25 session.

In addition, Dini was Assistant Director of Communications for the Majlis Ikatan Mahasiswa Darul Aman (MINDA) in 24/25, an initiative under the Kedah State Government. She co-led the nationwide “Bakti Siswa Perdana” programme, which mobilized 500 students across 12 districts in Kedah for a week-long volunteer effort.

In her field, Dini is also an Academic Executive Committee member of the Young Counselor Scholars (YCS) under the International Counselling Association of Malaysia (PERKAMA) for the 24/25 term.

**Active in University Debate**

Dini is also active in university-level debating. She won third place at the 2023 Vice Chancellor Debate Cup (DPNC), earning Best Debater titles in five consecutive rounds, an impressive feat for her first venture into Malay-language debating at the university level.

In 2023, she was named UMT's Motivator Icon after placing second in the UMT Vice Chancellor Cup and winning Best Performance. This achievement qualified her for the national-level Intersarsity Young Motivator (IMAC) competition, where she advanced to the semi-finals, representing one of 20 public universities across Malaysia.

Dini also served as a member of the Kongres Rundingan Mahasiswa (KORUM), UMT, for the 23/24 session, representing the 'Anak Negeri 01' seat.

With all that she has achieved, Dini hopes to continue improving herself and move forward with consistency and purpose. She aims to make her mother, lecturers, and friends—who have been her pillars of strength—proud, and to eventually graduate with distinction.

Her journey proves that following one's true passion, even in the face of initial doubt and challenge, leads to the most rewarding path. ✦



## Internationalization

# Bridging Cultures, Shaping Minds

*UMT becomes a place for international scholars to experience academic growth, cross-cultural connections, and personal transformation in a vibrant learning environment*



By  
Dr. Jeniboy Kimpah

Nestled between the calm waters of the South China Sea and the lush landscapes of Terengganu, Universiti Malaysia Terengganu (UMT) is more than just a university. It's a place where global journeys converge, where knowledge meets culture, and where scholars from around the world find not only academic purpose but personal belonging.

For Dr. Maeenuddin from Pakistan and Muhammad Saleem Ullah Khan from Oman, UMT has become a transformative chapter in their lives, filled with growth, connection, and discovery.

Their stories offer a window into the heart of UMT's mission: to cultivate a vibrant, inclusive academic environment that welcomes international perspectives and nurtures intellectual and personal development. As the university continues to expand its global reach, the experiences of international scholars like Dr. Maeenuddin and Muhammad Saleem serve as powerful testaments to the value of cross-cultural exchange and the profound impact of education in a setting that honours tradition, community, and excellence.



Dr. Maeenuddin

### More Than a Teaching Opportunity

"UMT gave me not just a place to teach, but a community to belong to, a place where knowledge meets purpose," said Dr. Maeenuddin, reflecting on his journey from Dubai's corporate world to the peaceful rhythm of academic life in Terengganu.

Dr. Maeenuddin's path to UMT began with a rich professional background in finance, spanning over 15 years in the dynamic business landscape of Dubai. After earning his PhD from Putra Business School, Universiti Putra Malaysia, he sought a place where he could merge his industry expertise with a passion for teaching and research. UMT stood out, not only for its academic rigor and research-driven culture, but for its commitment to student development and its welcoming atmosphere.

From the moment he joined the Faculty of Business, Economics, and Social Development, Dr. Maeenuddin felt embraced by a community that values collaboration, curiosity, and growth. He speaks warmly of his colleagues, whose passion and support have made his transition seamless, and of his students, whose eagerness to learn and ask bold questions continually inspire him. The peaceful campus,



Muhammad Saleem Ullah Khan

surrounded by nature and infused with local hospitality, has offered him a lifestyle that balances intellectual engagement with personal reflection.

“Living in Terengganu has been a truly rewarding experience,” he said. “The scenic beaches, the slower pace of life, and the rich cultural traditions create a unique environment that complements academic work beautifully. It’s a place where you can think deeply, teach meaningfully, and live peacefully.”

### Seeking New Challenges

For Muhammad Saleem Ullah Khan, the journey to UMT was driven by a desire to pursue advanced research and immerse himself in Malaysia’s rich academic and cultural environment. Currently working as a lecturer in Oman, Muhammad Saleem enrolled at UMT as a PhD student aiming to deepen his expertise and contribute to global knowledge.

“I am fully satisfied with my time here at UMT as it has been deeply fulfilling,” he said. “Terengganu is an incredibly beautiful state, and I have had the pleasure of experiencing its natural beauty and vibrant culture. The people here are very cooperative and welcoming, which made my transition so much easier.”

Terengganu, with its scenic landscapes and cultural heritage, provides the perfect backdrop for his academic journey. Muhammad Saleem said the





affordability of education at UMT and the exceptional quality of teaching and research support have won him over.

“The cost of study here at UMT is very reasonable, and the quality of education has exceeded my expectations. I feel that I have received a great education that will benefit my future career.”

Beyond academics, Muhammad Saleem treasures the friendships and cultural exchanges he has experienced.

“I’ve had the opportunity to connect with a diverse group of students from all over the world,” he said. “The social and cultural activities organized by UMT have helped me to grow both academically and personally.”

His advice to future international students is simple yet profound.

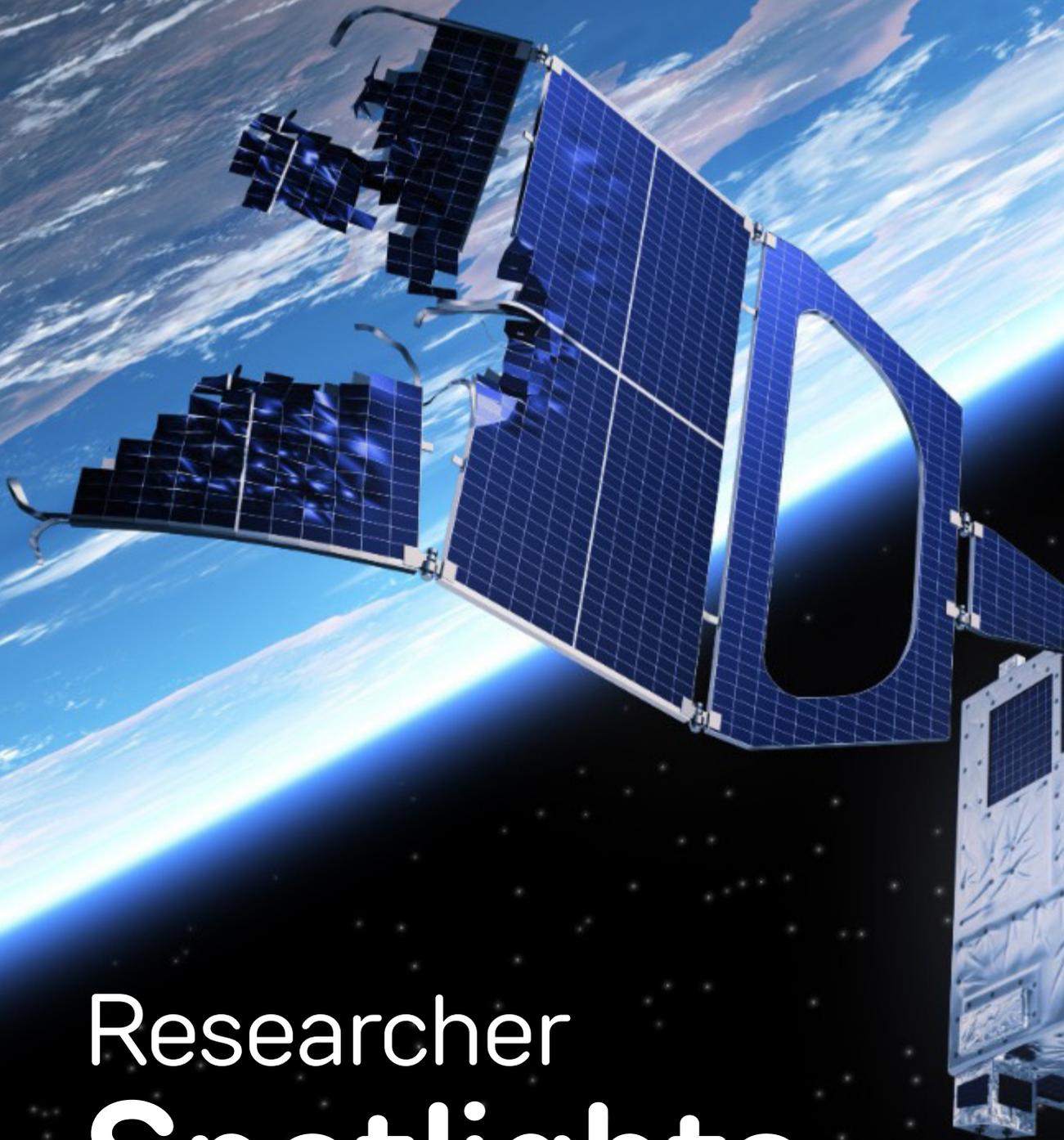
“Embrace the new experiences, make the most of the opportunities, and always reach out to the university staff, who are always ready to help.”

Both scholars emphasize that UMT is more than just a place to study—it’s a place to grow. Whether mentoring students, conducting research, or participating in cultural events, they’ve found meaning in every facet of university life. Their stories reflect the broader narrative of UMT’s evolution into a globally engaged institution that values diversity, fosters innovation, and builds bridges across borders.

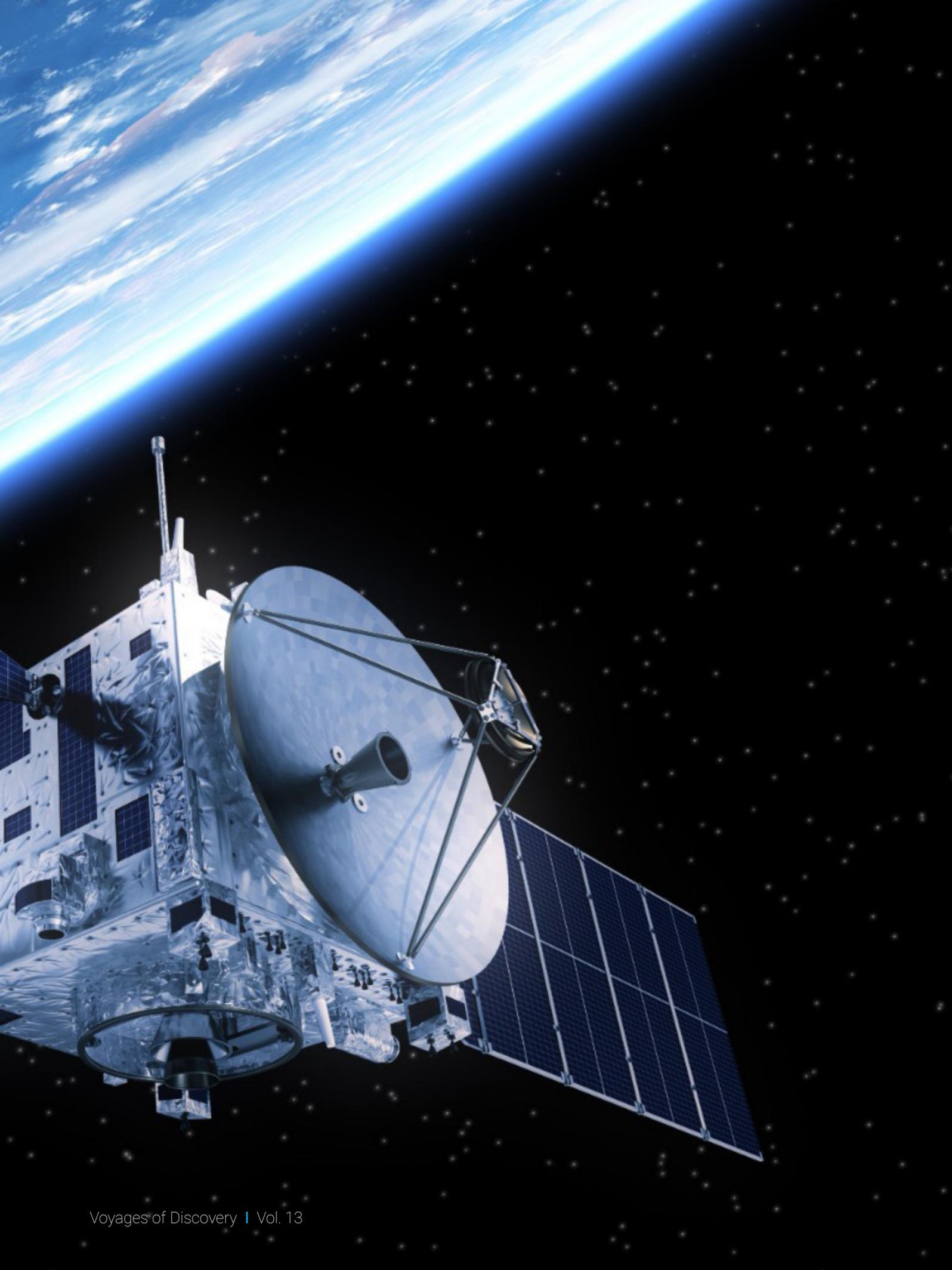
As UMT continues to welcome scholars from around the world, the experiences of Dr. Maenuddin and Muhammad Saleem serve as guiding lights for future international students. Their journeys remind us that education is not confined to textbooks and lecture halls; it’s found in shared meals, thoughtful conversations, and the quiet moments of realization that come from living in a place that feels like home. UMT offers not just academic opportunity, but a transformative experience that shapes character, builds community, and inspires purpose.

“To future international students, embrace the journey,” advised Muhammad Saleem. “UMT is not just a university; it’s a gateway to growth, connection, and purpose.” ♦

VOYAGES OF  
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# Researcher **Spotlights**



# Guarding the Ocean's Future

**A**ssoc. Prof. Dr. Mohd Uzair Rusli, a proud alumnus of Universiti Malaysia Terengganu (UMT), has dedicated his career to advancing marine science, conservation, and public education. His journey began in 2006 as a passionate student involved in sea turtle conservation, eventually leading to his current role as Head of the Sea Turtle Research Unit (SEATRU), Institute of Oceanography and Environment (INOS), where he leads impactful research and outreach initiatives at the global level.

Hailing from Kuantan, Dr. Uzair holds a Bachelor's degree in Marine Biology from UMT and a PhD in Animal Physiology from The University of Queensland, Australia. He assumed leadership of SEATRU in 2017, using the platform to bridge scientific research with community engagement and policy advocacy.

Dr. Uzair's research focuses on improving hatchery practices, hatchling energetics, and predator-prey interactions in Malaysian waters. His work has helped establish national standards for turtle hatchery management and enhanced understanding of environmental effects, such as sand type, humidity, and acoustic cues, on hatchling survival.

Beyond the laboratory, Dr. Uzair is a passionate science communicator, having appeared in documentaries, news, radio interviews, and popular science articles. He helped revise the Turtle Enactment 1951 (Amendment 2021), which ended legal sea turtle egg commercialisation in Terengganu.

Under his leadership, SEATRU's volunteer program at Chagar Hutang Turtle Sanctuary has engaged over 5,000 global participants. In 2022, he introduced Malaysia's first Public Viewing Lab, a national gold medal-winning initiative linking scientific research with public interaction, at The Taaras Beach & Spa Resort. A second facility is being developed on the West Coast.

Committed to capacity building, Dr. Uzair has supervised numerous postgraduate students and leads a multidisciplinary team of 12 researchers exploring ecological and physiological studies, digital conservation, ecotourism, marketing, socioeconomics, legal frameworks, and bioinformatics.

His work has secured substantial grants, including a RM 500,000 Translational Research Grant, and fostered corporate partnerships with Berjaya Hotels & Resorts, Yayasan Bank Rakyat, BERNAMA, RTM, Astro Awani, MajalahSains.com, RHB Islamic Bank, MISC Marine, Mr DIY, Aquaria KLCC, Laguna Redang Island Resort and many more.



Dr. Uzair serves as Chairman of the Board for Conservation Management Solutions (CMS) Sdn. Bhd., a UMT-linked spin-off commercialising digital conservation tools like the Turtle Imprinting Database System (TIDES). His entrepreneurial efforts focus on sustainability and innovation in conservation funding.

His latest initiative with UMT Ihsan and RHB Islamic Bank, Waqf for Wildlife, aims to raise RM5 million to support sea turtle conservation through Islamic philanthropy (Sadaqah Jariah), beginning with Chagar Hutang Turtle Sanctuary.

With over 15 years of experience, Dr. Uzair remains committed to inspiring change through research, nurturing future conservationists, and ensuring a thriving future for marine ecosystems. ♦

To discover more UMT experts and their work, scan the code or visit [www.umt.edu.my/umt-wise](http://www.umt.edu.my/umt-wise)



# Pioneering Coastal Sustainability

**A**ssoc. Prof. Dr. Effi Helmy Ariffin holds a PhD in marine geoscience from Université de Bretagne Sud, France, a master's degree in oceanography geology, and a bachelor's degree in marine science from UMT.

His expertise includes geomorphology, coastal erosion, coastal management, and hydrodynamic modelling.

The incumbent deputy director of the Institute of Oceanography and Environment (INOS) has led multiple research projects on climate change impacts, coastal erosion, and hydrodynamic modelling, securing significant research grants. His work has earned him an H-index of 18, with over 604 citations. He has published widely in academic journals, conferences, and book chapters, contributing valuable insights into coastal and marine sciences.

In addition to being an active researcher, Dr. Effi is also a dedicated supervisor, having guided 14 PhD students and 23 master's students in areas related to coastal dynamics, erosion management, and marine environmental sustainability. Many of his students have successfully graduated and proceeded to contribute to research and industry.

He has also been invited as a keynote speaker at international conferences, sharing his expertise in coastal protection and sustainability.

Beyond academia, Dr. Effi works with industries on consultancy projects, including coastal erosion assessments and hydrodynamic modelling. His contributions continue to support efforts in managing and protecting coastal environments in Malaysia and beyond.

The marine geoscientist is actively involved in national committees, such as the National Geoinformation and Geomatic Research under the Ministry of Energy and Natural Resources. He also leads the Geohazards and Marine Solutions (GeMS) research programme and serves as an Associate Editor for the Journal of Sustainability Science and Management. ♦



To discover more UMT experts and their work, scan the code or visit [www.umt.edu.my/umt-wise](http://www.umt.edu.my/umt-wise)



# Guardians of the Reef



**A**ssoc. Prof. Dr. Tan Chun Hong (James) joined Universiti Malaysia Terengganu (UMT) as an Academic Fellow in 2015 before becoming a permanent lecturer in 2016. He received his bachelor's and master's degrees from UMT. James Tan obtained his PhD from James Cook University, Australia, in 2013. He is currently a senior lecturer at the Faculty of Science and Marine Environment.

James Tan is a marine biologist whose research interests revolve around coral biology and ecology. He studies the demographics (e.g., growth, mortality, and reproduction) and population dynamics of coral populations in Malaysia as well as in Australia. His research has shown that there are reproductive constraints in coral populations across a wide latitudinal area. He has also recently recorded multi-species coral spawning in tropical regions.

In addition, James Tan examines the impact of climate change (e.g., abnormally high seawater temperatures and ocean acidification) on coral communities. The results have been used to support marine resource management and conservation in Malaysia.

He is actively involved in public awareness programmes to disseminate scientific knowledge to Malaysians. He has been invited to appear on national TV channels such as *Selamat Pagi Malaysia*, *Bernama*, and *8TV*, as well as at talks organized by private organizations and NGOs.

At present, James Tan leads the Research and Education on Environment for Future Sustainability (REEFS) Research Interest Group. REEFS was awarded the International SeaKeepers Asia Achievement Award in 2022.

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# Bridging Science, Society, and Sustainability

**D**r. Roslizawati Ab Lah joined Universiti Malaysia Terengganu (UMT) as tutor in 2006 before becoming a permanent lecturer in 2017. She received her bachelor's degree in fisheries from UMT, her master's degree in fish biology and management from University of Bergen, Norway, and her PhD in marine science from Southern Cross University, Australia.

She is a marine ecology expert who studies about the effects of climate change on the nutritional properties and biological quality of marine species, particularly molluscs. Her research focuses on the nutritional value of marine species for human consumption, the impact of ocean warming and acidification towards the nutritional properties of molluscs, and molluscs' heat tolerance in areas exposed to global warming.

In her studies involving turban snails, she has investigated the effects of ocean warming and acidification on the nutritional quality of marine gastropod molluscs in the superfamily Trochoidea considered important in the fishing industry, as well as the heat tolerance levels and temperature preferences of this species in areas exposed to global warming. This line of research has demonstrated how climate change has forced this species to migrate to more suitable areas, thus impacting fisheries resource management. In addition, she also conducts research on molluscs' biodiversity and its relationship with their breeding cycle and quality.

As an academic at UMT, Dr. Roslizawati has been making significant contributions towards marine ecosystem research and marine resource management. On top of that, she has been offering guidance to students involved in research projects examining the impact of climate change on molluscs. ♦



To discover more UMT experts and their work, scan the code or visit [www.umt.edu.my/umt-wise](http://www.umt.edu.my/umt-wise)



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# About Terengganu

About **Terengganu**

# Natural Treasure

Terengganu's beautiful Kenyir Lake is more than just a holiday destination

By Rozita Alias@Abdul Latiff, Dr. Aini Hasanah Abd Mutalib

There is a stunning natural spot in Malaysia, and it is located at the heart of the Hulu Terengganu district. A man-made lake, it is also the largest in Southeast Asia and also rich in flora, fauna, and rocks formed by the Earth itself. Its uniqueness makes it more than just a holiday destination. The Kenyir Lake is now considered a national resource, valued by the people of Terengganu and Malaysia as a whole.

The unique aspects of Kenyir Lake are not just its large size and scenic beauty, but also its remarkable biodiversity and scientific significance.

Kenyir Lake was created by Tenaga Nasional Berhad (TNB) when it constructed the Kenyir Hydroelectric Dam in 1985 that has since enabled the supply of sustainable electricity. In constructing the dam, over 260,000 hectares of land were submerged, leaving behind a lake today dotted with over 340 islands, which are former hilltops rising from below. Each island has its own unique character, making the lake one of Malaysia's most distinctive holiday destinations.

Since the lake is so large, a key feature of the signature experience here is going on a houseboat tour. It offers tourists an ideal way to explore the islands. Properly equipped with essential facilities, these houseboats take travelers from island to island, where there is no way to avoid crowds, and only the sounds of nature can be heard.

While Kenyir Lake has become a popular holiday destination, maintaining a sustainable development and environmental protection in the areas is still highly prioritized. To this end, the Terengganu State Government and associated agencies focus on sustainable tourism. In these sensitive areas, logging is banned; tourism waste is strictly controlled; and conservation zones are established.

## Home to Remarkable Biodiversity

Surrounded by part of Taman Negara, the oldest known natural forest reserve in the world, Kenyir Lake is home to remarkable biodiversity. Found here are more than 800 species of orchids, along with many types of medicinal herbs and valuable hardwoods such as cengal and meranti.

Among the inhabitants of the lake and its forests are over 300 bird species, 200 species of freshwater fish, and famous creatures like elephants, tigers, and tapirs. Also present are bears, sun bears, and deer. This richness makes Kenyir Lake an essential centre for scientific research, bird-watching, and nature tourism.



Remarkable biodiversity also abounds on the popular islands in Kenyir Lake. Pulau Sah Kecil has a Herb Garden with over 200 species of medicinal plants. Pulau Bawah is home to the thousand-year-old Gua Bawah and the Sungai Petang Kelah Sanctuary, known for protecting one of the world's most endangered species, the Malaysian mahseer (kelah). Gua arsi has yielded historical artifacts and passed on significant findings inside its caves, including human remains estimated to be around 8000 years old, lending evidence to early human settlement.



### Favourite Research Site

With remarkable biodiversity found in abundance at Kenyir Lake, the site has become a favourite place for research.

The lake is home to the freshwater fish community, which is a research focus for the Institute of Tropical Biodiversity and Sustainable Development (IBTPL, <https://www.ibtpl.edu.my>) at Universiti Malaysia Terengganu (UMT). Their research combines wildlife biodiversity with ecosystem services to protect habitats, plants, and animals. This is achieved by studying microorganisms from the lake bed to the forest canopy.

Supported by the Nagao Research Grant Fund and FRGS, these studies on wetlands and river habitats directly affect how these resources are managed. The primary research includes a soil-fauna taxonomy project led by Dr. Petr Hedeneč, which has identified more than 700 meso- and macrofaunal species. Freshwater fish research is led by Prof. Dr. Amirrudin Ahmad and Dr. Aqmal Naser, who have not only identified native species but also detected alien species that threaten the ecosystem.

Kenyir Lake is a key research station for dragonflies. These insects are used as bioindicators of habitat health. So far over 60 dragonfly species have been recorded by researchers.

Reptile and amphibian surveys at Kenyir Lake led by Dr. Biaizul Hafsham have found 33 reptile species and 26 amphibian species, including the first record for Peninsular Malaysia of the tree frog *Philautus davidlabangi*.

Small mammal research by Dr. Juliani Shafie identified 49 species that play crucial roles in the food web and in monitoring zoonotic diseases like leptospirosis. The bird species recorded are also quite diverse, totaling over 500, including nine of the ten hornbill species found in Malaysia. Examples include Enggang Badak (Rhinoceros Hornbill) and Enggang Gunung. This work is conducted in partnership with non-government organizations (NGOs) like the Nature Sustainable Ecosystem Society (NEST) to promote public awareness of bird conservation and sustainable ecotourism.

Another subject of study at the lake is primates. Here, seven primate species have been recorded, including monkeys, pig-tailed macaques, langurs, slow lorises, white-handed gibbons, and siamangs. Bioacoustic research conducted by Dr. Aini Hasanah along with colleagues from Cornell University (US) analyzes the different ‘dawn chorus’ of these primates to map their geographical distribution. The project is supported by the Merdeka Award Grant for International Attachment (MAGIA) and other international grants.

### Unique Flora

Kenyir Lake also features unique flora. Notable finds include two microscopic plant species of the genus *ThatMia*—*T. domei* and *T. terengganuensis*—found only in this area. Giant parasitic blossoms such as *Rafflesia cantleyi* and *Rhizanthus infanticida* are also documented. Studies on bryophytes and forest trees are led by Assoc. Prof. Dr. Lee Gaik Ee and Assoc. Prof. Dr. Jamilah Salim, while lake water research by Dr. Teh Sabariah Teh Manan evaluates biological, physical, and chemical water quality to maintain a stable aquatic ecosystem.

There are also various development projects for every local community at Kenyir Lake, conducted by IBTPL and other agencies. At Sungai Berua, the Orang Asli families have been targeted through community education projects backed by the Ministry of Finance (MOF) and local schools. IBTPL promotes the conservation message and a sense of care for nature among tomorrow’s citizens.

Community events in Kenyir, such as the Kenyir Festival organized by KETENGAH (Central Terengganu Development Authority), combine tourism, environmental awareness, and public participation.

At Kenyir Lake, tourism and research can work together while protecting the environment. This is demonstrated through the ongoing efforts in conservation, research, and community participation.

A popular destination for Malaysians and foreign tourists alike, it acts as a strong symbol of sustainability that should make all Malaysians proud. ♦



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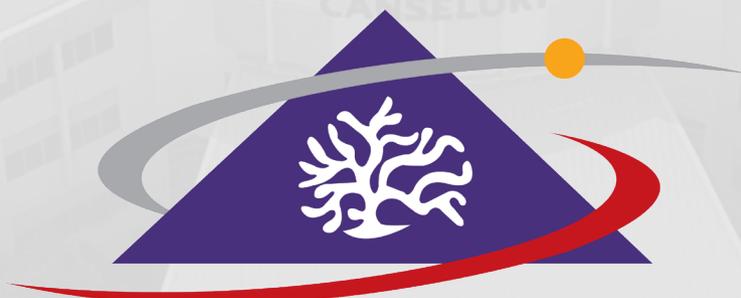
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**UMT**

CONTACT US

**Corporate Communications Office  
Universiti Malaysia Terengganu  
21030 Kuala Nerus, Terengganu  
MALAYSIA**

Tel : +609-668 4100

Fax : +609-668 4390

email : [pro@umt.edu.my](mailto:pro@umt.edu.my)

[www.umt.edu.my](http://www.umt.edu.my)

