

UMT NEWSLETTER

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Ocean of Discoveries for Global Sustainability

TERENGGANU MONSOON CHALLENGE GP 2021

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UMT is off to a good start for 2022. It has managed to form several strategic partnerships with local and international universities. For the first time, UMT has signed a memorandum of understanding with Universiti Tunku Abdul Rahman, a private university in Malaysia, to collaborate on several projects relating to academic, research, and knowledge transfer especially on aquaculture practices for small-scale fishermen. At the international front, UMT has inked a memorandum of understanding with University of Saskatchewan in Canada and another with National University of Uzbekistan to further strengthen research and exchange programmes between the universities. UMT has also signed an agreement with MSET Inflatable Composit Corporation Sdn Bhd to design and build a prototype of innovative fishing vessels for Malaysian coastal fishermen. The project is made possible through the Strategic Research Fund (SRF) under the Ministry of Science, Technology, and Innovation, from which a team of UMT researchers have been awarded RM3.112 million grant. The project is aimed at modernizing the fishing industry to help increase the fishermen's livelihood and well-being, thus supporting the Sustainable Development Goals 1 (No Poverty), 2 (Zero Hunger), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation, and Infrastructure) and 14 (Life Below Water). The new fishing vessels will not only increase the fishermen's income but will also educate them on sustainable fishing methods that will conserve marine resources. A busy and productive January is a sign of a great outlook for the rest of the year for UMT!



Professor Dr. Fauziah Hj. Abu Hasan
Executive Editor

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UMT Researchers Awarded RM3.1 Million Grant to Develop Innovative Fishing Boats



A new breed of innovative fishing boats are coming to the Malaysian waters, and UMT researchers are the ones to make it happen.

A team of five UMT researchers with relevant expertise has been awarded RM3.1 million grant to build a prototype of the boats, which are expected to benefit the fishermen and the environment as well as sustain fisheries resources.

The team is led by Professor Dato' Dr Nor Aieni Mokhtar, Distinguished Research Fellow at UMT's Institute of Oceanography and Environment (INOS). Her specialisation is sustainable coastal management. She is also a Distinguished Fellow of Maritime Institute of Malaysia.

The grant came from the Ministry of Science, Technology, and Innovation (MOSTI), through its Strategic Research Fund. This special financing scheme programme is for innovative research with a high impact on the country.

The project is titled "Transforming Coastal Fisheries through Model Prototype Design and Development of an Innovative Fishing Vessel."

The prototype will be designed to have features to help fishermen increase the rate of their catch, which will improve their incomes, said Dr Mohd Fazrul Hisam Abd Aziz, one of the team members.

"It will have a fishing gear that only allows full-grown fish to be captured," said the researcher who specializes in fishing gears, fish acoustic, and fish ecology. "It will be able to remain at sea for a longer period, giving fishermen extended catching time."

The prototype will be designed to provide other advantages, added Dr Mohd Fazrul Hisam.

"The innovative fishing gear will reduce side catch, thereby contributing to the sustainability of the country's fisheries resources for future use," he said. "The modern technology will require only low-cost repair and more importantly will help minimize the environmental damage that excessive use of fuel such as petrol has been causing."

The team will be working closely with MSET Inflatable Composit Corporation Sdn Bhd (MSETic), a company that specialises in ship and boat building, to build the prototype. A Memorandum of Agreement with the company has been recently signed, with Vice Chancellor Professor Dr. Mazlan representing UMT.

UMT researchers' effort in designing the prototype represents UMT's commitment in being more involved in the marine industry, in line with its slogan "Ocean of Discovery, for Global Sustainability," Professor Mazlan said.

He is confident the project will be successful, with UMT contributing its fisheries and marine expertise and MSETic its quality ship and boat craftsmanship.

When the prototype is proven successful, it will be commercialised, Professor Mazlan said. These boats will be used in the country's waters to help realize the government's aspiration towards reducing the dependency on imported seafood.

Well-designed fishing boats not only help fishermen increase their income, but they may make the job as fishermen more attractive to the younger generation, Professor Mazlan said.

UMT Signs Agreements with Two Universities Abroad



UMT recently signed two Memorandum of Understandings (MOUs), one with University of Saskatchewan (USask) in Canada and another with National University of Uzbekistan (NUUZ) in Uzbekistan, paving the way for future collaborations between the university and its two newest partners.

Several joint academic, research, and scholarly projects will be carried out following the MOUs, said UMT Vice Chancellor Professor Dr. Mazlan Abd Ghaffar. These include exchanges and internships for students, lecturers, and staff; curriculum development; joint research; exchange of publication and training materials; and development of joint academic programmes.

UMT's MOU with USask will see both universities collaborating in several areas of focus, Professor Mazlan said. These include sustainable aquaculture within the framework of circular bioeconomy, a new economic model that emphasizes the use of renewable natural capital, climate change, future food, and indigenous knowledge sharing.

For a start, UMT and USask have been planning to hold a joint conference for the second half of 2022, to take place at UMT.

Prior to the MOU signing, researchers from UMT's Institute of Tropical Aquaculture and Fisheries (AKUATROP) and those from USask have already been collaborating for 12 months. Associate Professor Dr. Meisam Tabatabaei of AKUATROP and Professor Dr. Hassan Vatanparast of USask have worked on projects in the fields of food security and sustainable development, which has led to Dr. Meisam's appointment as USask's Global Ambassador. The MOU enabled the existing collaboration to be extended to the university level, Professor Mazlan said.

USask Associate Vice President for Research Dr. Darcy Marciniuk in his speech during the virtual signing ceremony said the high commitment from UMT and USask will allow both to benefit from the collaboration for years to come.

Meanwhile, the MOU with NUUZ is the first with a university from Uzbekistan, according to Professor Mazlan. The focus of the collaboration is on devising a Covid-19 recovery plan that is sustainable long-term, in line with the Sustainable Development Goals of the United Nations.

Prior to the MOU, UMT and NUUZ have been collaborating since 2019. Per Professor Mazlan, both universities agreed to make their partnership official to show their continuing commitment towards using their expertise and working together in future projects.



The collaboration between the two universities started off in 2019 when Professor Dr. Rakhmatulloh Alov gave several public talks at UMT and suggested a scientific cooperation. Several events involving both universities have taken place since then.

Associate Professor Dr. Zainidin Eshkuvatov was appointed as UMT lecturer. NUUZ academicians have participated in several of UMT's conferences, and UMT researchers have presented their research findings at conferences NUUZ has organised. In 2020, Professor Dr. Rakhmatulloh Alov of NUUZ and Dr. Ilyani Abdullah of UMT submitted a joint Fundamental Research Grant Scheme application and received RM154,000 in grant money. In 2021, UMT welcomed two NUUZ students as its PhD candidates.

Special Workshop Broadens Participants' Knowledge of Underwater Artefact Management

Eighty participants came away with more knowledge about how to properly manage underwater archaeological artefacts after attending a special workshop at UMT in January.

The workshop was called "The Bidong Shipwreck Artefact Inventory and Conservation Workshop," held for the first time by UMT's Centre for Research and Field Management (PPPL) at its Material Science Laboratory.

The workshop's objective was to develop competent human resources at UMT in the field of underwater archaeology," said Associate Professor Dr. Hasrizal Shaari, PPPL director. "This was part of the preparation before UMT establishes Underwater Archaeology Training Centre, which will collaborate with government agencies and other interested parties to promote archaeological activities in the Malaysian waters."



The decision to establish the training centre was made after a shipwreck was discovered near the island of Pulau Bidong in 2012. The Bidong Shipwreck as it was later called carried important historical artefacts made of porcelain and stoneware ceramics, which were said to be produced between the 15th and 17th century AD and originate from Thailand. These treasures may give more information about the early history of trading activities along the Malaysian waters

Forty-five of the workshop participants were UMT staff and students, and the remaining were from several government agencies, including the Malaysian Armed Forces, Army Museum, and Department of National Heritage (JWN).

The four-day workshop was divided into several sessions covering the theoretical and practical aspects. Several experts gave a talk on their expertise, while five experienced facilitators from JWN provided guidance during the hands-on sessions.

Participants learned about ceramic and underwater artefact conservation from Professor Dr. Stephen Chia, an archaeology expert from Universiti Sains Malaysia, during a face-to-face session. They also learned about the management of the country's underwater cultural heritage as outlined in the National Heritage Act 2005 from Ruzairy Arbi, director of Archaeology Division, JWN.

Participants were exposed to the method of identifying underwater ceramic artefacts, especially the ones from the Bidong Shipwreck, during an online session with Abdul Aziz Abdul Rashid, head curator from Asia Art Museum, Universiti Malaya.

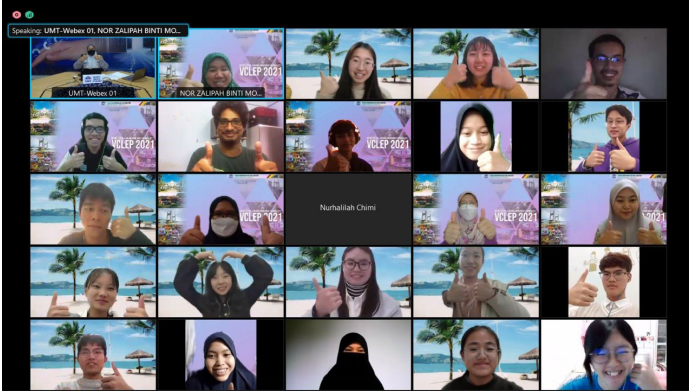
In another online session, Karen Loh, former president of Museum Volunteer Association, shared with the participants her experience being involved in cultural heritage rescue works in the country's waters.



Participants gave positive feedback on the workshop. A participant from UMT, Syahnon Mohamad, said that the workshop enabled participants to learn about a new dimension regarding underwater archaeology. The science officer with the Diving and Field division of PPPL agreed that the workshop equipped the participants with value-added knowledge.

Also present during the workshop to share his knowledge was Lieutenant Colonel Muhammad Zuraiman Abdul Ghani, representative from Malaysia Armed Forces' National Heroes Gallery in Putrajaya.

Virtual Programme Introduces Malaysia to Students in Other Countries



A group of university students from Thailand and China had only positive things to say after they attended a programme that the Department of Languages and Communication had held virtually via an online platform. Some hoped to join the programme again, while others wished they could experience Malaysia's uniqueness in person.

The two-day programme was called "Virtual Culture, Language & Environment Programme 2021" (VCLEP 2021). The programme was open to undergraduate students and admission was free.

"The programme's objective was to introduce Malaysia's culture, national language, and biodiversity," said Dr. Isma Rosila Ismail, programme director.

"Through this programme, participants had the opportunity to explore Malaysia's uniqueness and specialities virtually," Dr. Isma Rosila added. She is also a communication lecturer with the department, which is one of several under the Centre for Fundamental and Continuing Education (PPAL).

Participating students are from three universities, twelve from Rajaphat Songkla University and Yala Rajabhat University in Thailand, and eleven from Ocean University of China.

Participants went through six modules that the organiser had prepared as mediums for sharing information about Malaysia. These modules were "To Know is to Love Malaysia," "Insights into Malaysian Culture," "Intro to Malaysia's Biodiversity," "Mari Belajar Bahasa Melayu (Let's Learn Malay)," "Terengganu Virtual Tour," and "Traditional Dances."

Module instructors were mainly PPAL academic staff, but a service of an outside instructor was engaged for a slot in which participants were taken on a virtual tour to explore the beauty and uniqueness of the state of Terengganu. The instructor, Azahar Jaafar, is a professional tour guide.

For "Traditional Dances," the instructors were two students from UMT Dance Club. Muhammad Daniel Ibrahim and Durrah Mardiah Mohd Zaim Khairi demonstrated several Terengganu traditional dances.

Each group of participants was assigned a buddy, a UMT student, to help with the given tasks and activities.

"Buddy system not only helped the participants but allowed the ten UMT students who became buddies to improve their soft skills," Dr. Isma Rosila said.

Participants, who later received e-certificates of attendance, agreed that the programme allowed them to learn more about the culture, national language, and biodiversity of Malaysia as well as those of Terengganu. Based on their feedback, participants not only agreed VCLEP 2021 improved their cross-cultural communication, but it also improved their English-speaking skills.



"The programme may potentially become the catalyst for collaborations on teaching and learning as well as research between UMT and participating students' universities," Dr. Isma Rosila said.

She was also grateful that the programme ran smoothly despite some constraints, especially the language barrier and the different time zones. She hoped this programme will be one of the many more to come.

UMT Co-organises Sailing Tournament, First in the Country since Covid-19 Pandemic

UMT and its strategic partners recently organised the 2021 annual sailing tournament Terengganu Monsoon Challenge (TMC), which became the first of any national tournaments held in Malaysia since the outbreak of Covid-19 in March 2020.



UMT had organized the tournament in 2017, 2018, and 2019, in collaboration with Terengganu State Sports Council, Terengganu Sailing Association, and Terengganu Windsurfing Sailing Association. Due to the Covid-19 pandemic, UMT was unable to hold the event in 2020.

“The response was very encouraging,” said TMC deputy chairman Mohd Hafizi Said, referring to the latest tournament, TMC2021, held at Duyong Marina & Resorts, 15 kilometres away from UMT.

Mohd Hafizi is the director of UMT’s Sailing Training Centre, which UMT set up in August 2019 to become a platform for producing more young sailors in the country. UMT was the first university in Malaysia to have set up such a centre, making UMT the national pioneer of programmes related to sailing.

A total of 213 participants took part, who were mostly professional sailors from associations in various states across the country, even as far as Sabah. Several participants were students from higher education institutes.

Five categories were contested, which were Fleet Race, Fleet Race (Young Sailors), UMT-IPT Open, Optimist Team Race, and Hansa Access 2.3, a category TMC2021 reintroduced to cater to sailors with disabilities.

“This was what made TMC2021 special,” Mohd Hafizi said. “It allowed these sailors to become active again after their category had not been offered since the 2016 Rio Paralympic.”

The organizers introduced an innovative system of boat and equipment sharing that offered several advantages. Participating teams did not need to bring their boats and equipment but only needed to wait for their turn. The number of participants also decreased during any one race, which was in line with the Covid-19 preventive measure. The organizers found the system helpful and decided to continue using it in future national regattas.

TMC2021 was not all about making sailors happy again after they had to wait for almost two years to satisfy their passion. The tournament also discovered several new talents who may become the next batch of professional sailors.



“There were 30 of them, as young as 8,” Mohd Hafizi said.

There was another interesting fact about TMC2021. A total of 63 UMT students were heavily involved in the running of the tournament. These students, from two courses, Basic Competencies in Sailing (MNS 3003) and Advanced Sailing (CCS 3162), sat in various committees and became technical officers.

“Being involved in the tournament gave these students hands-on training, where they learned how it was organised and managed, overall and also its individual races or regattas,” Mohd Hafizi said.

The Terengganu team was named the best team and Iqbal Nazham Musmuliadi from Kedah the best sailor. Winners received certificates and cash prizes.

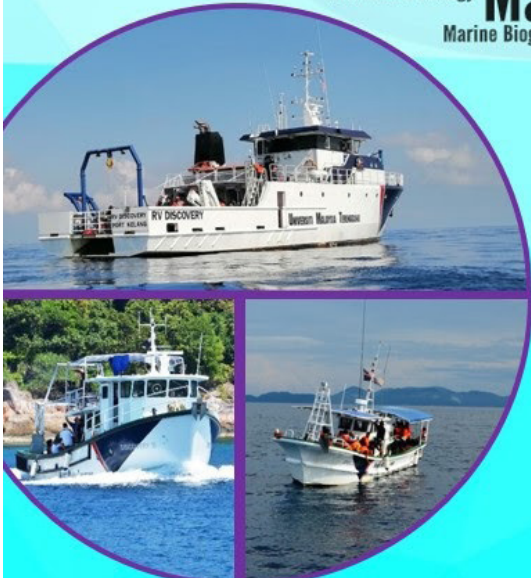


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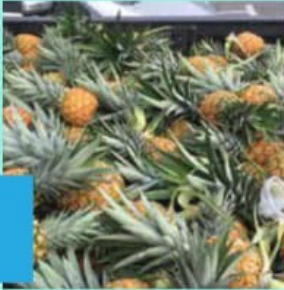


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List of Speakers

Norman Borlaug Lecture



Prof. Dr. Richard Visser
Chair & Head Plant Breeding
Wageningen University and Research, The Netherlands
*Challenges and Opportunities in Breeding Future Proof
and Sustainable Solanaceous Crops*

Plenary Speakers



Prof. Dr. Daniel Tan Kean Yuen
University of Sydney, Australia
*Pre-Breeding Methods for
Heat Tolerant Cotton and Okra*



Prof. Dr. Nigel Maxted
University of Birmingham,
United Kingdom
*How to Double the Genetic
Diversity Available to Breeders*



Prof. Dr. Richard M Trethowan
University of Sydney, Australia
*Experiences from
Trait Focused Pre-Breeding*



Dr. B P Mallikarjuna Swamy
International Rice
Research Institute, Philippines
Nutritional Improvement of Rice



Prof. Dr. Rony Swennen
International Institute of
Tropical Agriculture, Nigeria
*Accelerated Breeding and
Delivering Plantain and Cooking
(Matooke and Mchare)
Banana Hybrids for Africa
and Contributions from Asia*



Prof. Dr. Paul Arens
Wageningen University
and Research, The Netherlands
*Developments within Genetics and
Genomics of Ornamental Plants:
Breeding in Ornamentals is
Coming of Age*



Prof. Dr. Hou Yu
National University
of Singapore
*Breeding for Urban
Farming Crops*



Hj. Tapsir B. Serin
Malaysian Agricultural
Research and Development
Institute
*MARDI's Way in Promoting
Bioeconomy*

Emerging Trends in Plant Breeding
Towards Sustainable Bioeconomy



List of Speakers

Lead Speakers



Prof. Dr. Kuswanto
Universitas Brawijaya
*Pre-Breeding Strategies of
Winged Bean and Yardlong Bean*



Dr. Abdul Rahim Harun
Agensi Nuklear Malaysia
*From Lab to Market:
A Case Study of NMR 152
Rice Variety using
Nuclear Technology*



Muhamad Nizam Haron
Sime Darby Research Sdn Bhd
*Towards the Production of Pure
MATAG Coconut Hybrid Planting
Materials using Marker-Assisted
Selection*



**Assoc. Prof. Ts. Dr.
Shamsiah Abdullah**
Universiti Teknologi
MARA Cawangan Melaka
*In Vitro Mutation
Breeding Of Banana
(Musa Acuminata Cv Berangan)*



Dr. Mohd Razik Midin
International Islamic
University Malaysia
*Apomixis: Mechanism and
Its Agricultural Potentials*



Marhalil Bin Marjuni
MPOB Research
Station Bagan Datuk
*Evaluation and Selection
for Economically Important Traits
in Oil Palm Breeding*



Dr. Mohd Zaki Hj Abdullah
Forest Research
Institute Malaysia
*Forest tree breeding
in Malaysia:
Challenges & Opportunities*



**Dr. Noraziyah Abd
Aziz Shamsudin**
Universiti Kebangsaan Malaysia
*Development of Rice for
Tolerance to Multiple Abiotic
Stresses through Marker Assisted
Breeding*



**Dr. Mohamad Kamal B.
Haji Abdul Kadir**
Malaysian Agricultural
Research and
Development Institute
*MARDI's Plant Breeding:
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