

LETTER TO EDITOR

HIGHLIGHTS OF UMT'S OCEAN RESEARCH AND WHY IT IS IMPORTANT FOR MALAYSIA FUTURE?

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Abstract: Universiti Malaysia Terengganu (UMT) notoriety was marginally pampered after a recent statement by the Malaysian Ministry of Education that referenced the purpose behind the proposed merger among UNISZA and UMT is on the grounds that the last is least performing commendably. Considering the weight conferred upon, the UMT niche area, oceanography and marine science field is the one that suffer the most from the ill effect of this uninformed statement. Notwithstanding to the champions of UNISZA has been, the author is grateful for the open door that this issue was exhibited, and herewith, to reaffirm the status and the significance of our establishment to this blessed nation.

Keywords: Reputation, marine science, aquatic science, oceanography, South East Asia.

Introduction

UMT is known as a nucleus varsity in marine and aquatic sciences. In recognition, the Ministry of Education had pronounced UMT's Institute of Oceanography and Environment (INOS) as a Higher Institution Centre of Excellence (HICOE) in 2013. HICOE is the highest accreditation given to an intellectual centre with distinguished excellence in the country. Being comprehensively hard equipped with oceanography facilities and academic experts, the HICOE status had propelled UMT further and positioning itself as a leading institution in ocean and marine science. Now, UMT not only act as a local player but is contributing important role at regional and international level (Figure 1).

As the size of the greater seas is twice than the earth's land, our water is chronically under-sampled. Due to limited amount of data regarding our sea knowledges, our marine environment and biodiversity are poorly understood and mostly were left unknown. For the past five years, UMT had significantly intensified scientific surveys in the open seas, especially in South China Sea. These new knowledge-exercises were made possible by using the university owned research

vessel called 'RV Discovery'. RV Discovery is the only proud fully-equipped-research vessel in this country. The explorations made had also encompassed other scientific field surveys that Malaysia has ever made. We had incorporated advanced-unique technology within the ocean buoy, glider facilities, satellite data and underwater mapping through cooperation with local experts, industry partners and high accolade international institutions. Since then, our understandings of the locale marine environment had improved significantly, as well as our publications influences in scientific journals all over the world.

The comprehensive data collections of evidences are meaningless without any credible accessibility to the enormous data set intelligence. Our database that stored all of these massive data and information has achieved an international standard and was awarded the Associate Data Unit (ADU) from the UNESCO. It is being a nation pride bestowed by an international governing body recognising our ocean data management and mechanism system. Locally, the Ministry of Science, Technology, Environment and Climate Change (MESTECC) has appointed INOS to become a national ocean data centre focal point.

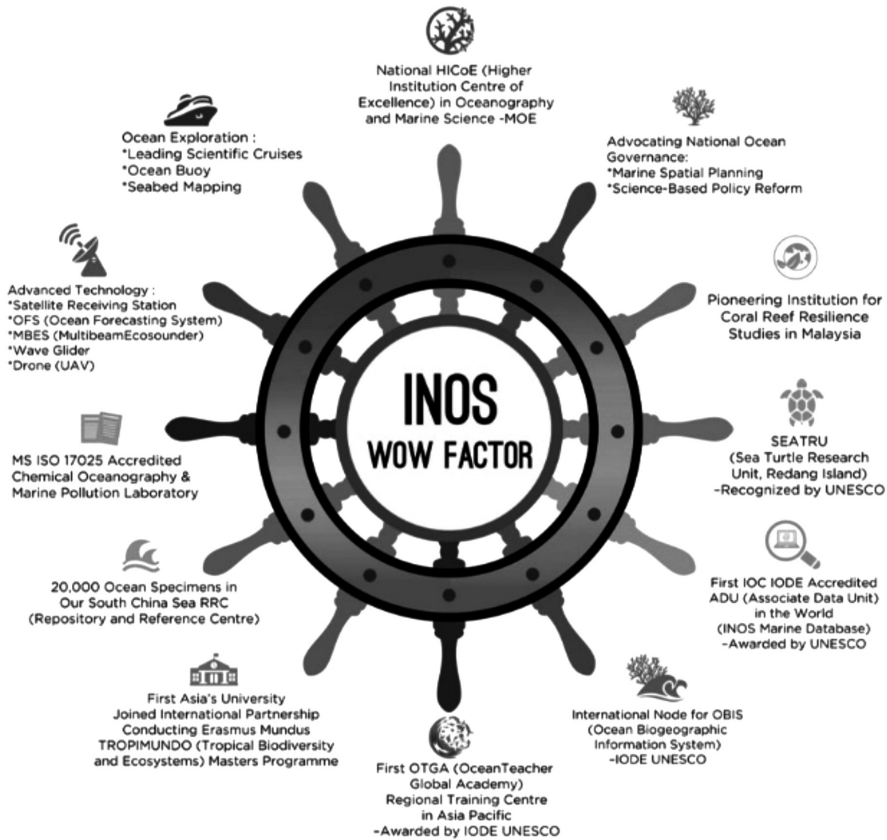


Figure 1: INOS WOW factor highlight important achievements the institute has accomplished by being a focus institution in the ocean and marine science in UMT.

Our data set ingenuities are not mere numbers. The intellectual specimens collected from the arduous work we did are being systematically organised at the INOS repository and reference centre (RRC). Currently, it is a home to more than 20,000 credible specimens and counting. These specimen collections had been recognised by the International node for Ocean Biogeographic Information System (OBIS), under the UNESCO stewardship. Most importantly, it is the first repository centre for marine specimens in Malaysia.

Despite being rather a very young university, our vast ocean research explorations in biodiversity, especially coral reef and turtle studies, has garnered commendable innovative approaches and discoveries. The coral group has

made significant contribution to the coral reef research community by inventing a new survey protocol on monitoring coral health. Coral Video Transect (CVT) has become a major achievement after being officially recognise as the best alternative survey method in Malaysia. The team is now working closely with Marine Park Department in implementing this method to produce a new enhanced indexing system to measure and monitor coral health.

Within the same vain, our Sea Turtle Research Unit (SEATRU) has been conducting research on sea turtles for more than 20 years. Currently they are conducting advanced studies on biotelemetry to population dynamics puzzles. The research programmes also include studies on turtle migration, foraging grounds, turtle health

and development. The long-term investigations of turtle tagging, which had reached 2500 unique turtles and 500,000 hatchlings hatched at the sanctuary, had earned INOS a recognition by the United Nation Environmental Program (UNEP) as one of the best turtle conservation and research institutes in the South-East Asia.

International collaboration with top overseas institutions has allowed INOS to strengthen their capabilities in technical skills, such as the contemporary ocean computational modelling. Our collaboration with First Institute of Oceanography in China and Ocean Institute in Australia, the two leading institutions of respectful countries, has now builds a world leading strong team of ocean modellers. This simulation model tools are useful for amplified ocean forecasting and up-to-the-second applications that benefits wide-range of users. The ocean model produce is capable for advanced insight information to oil and gas offshore operators. The model has proven its usefulness for the search and rescue mission (SAR) to seek missing objects in the sea blindness. In fact, UMT and Ocean Institute, Australia, is the first scientists to come up with a prediction model of Indian Ocean during the MH370 went missing 5 years ago.

The capabilities of our experts and facilities that we offer has allowed us to become the regional training centre for Ocean Teacher Global Academy (OTGA) under the UNESCO's Intergovernmental Ocean Data Exchange (IODE), which are based in Belgium. Since 2016, we have offered 8 international training programs for ocean data management, of which had gathered more than 300 participants from all over the world. Such program reflects our institution's core values of knowledge transfer. Which in essence is to educating young scientists

and enhancing the capacity of our researchers in adapting the adversity of the ocean science field. In addition, in the focus area especially dealing with ocean survey, data management, technical skills and the ever-changing landscape of our ocean biogeography.

These are just some of the tip of highpoints of what UMT has undertook thus far for the oceans, seas and marine resources in the spirit of contributing to human well-being responsibility. Indeed, all of these can never be achieved without exceptionally intensive collaboration with various partners. What I would like to highlight is the needful continuous effort to understand the challenges facing our ocean that must be done with proper strategy, strength and focus. The nation is facing endless marine research pressures which timely solution requires resourcefulness cooperation among government agencies and academic scientists. Many of these problems arise from the ever increasing need to accommodate multiple valuable stakeholders. Eveready institutions alike UMT, has proven to serves as a driving focal point for the country in oceanography and marine sciences.

Through this unique organisational framework, UMT strategic partnerships have facilitated experts from diversified field of universities, agencies and industries. Together, this elite outfit working hand in hand with UMT in exploring our national treasures in understanding the challenges of our ocean for the future. With what we have now, the niche of our research is progressing well, benefitting the nation in absolute. Nevertheless, should the primary focus of the university changes due to a mere merge of two universities to satisfy any reason, the significance of ocean and marine science relevance is gravely in doubt.