## Capacity Development and Innovations in Ocean Science and Marine Engineering for Sustainable Development

Prof. Noraieni Haji Mokhtar

Abstract

UN Decade Global Challenges for a clean, healthy, safe, productive, predicted, resilient, accessible, and engaging oceans obviously demand for progressive actions towards research capacities and competencies for building sound knowledge and technology applications particularly in integrated observations and data management for informed decision making. At the regional level, this Symposium on Underwater Technology and Marine Engineering should entice the multi-stakeholders amongst researchers, scientists and engineers and innovators**,** particularly from universities, Professional Associations, Academies, Research Institutes, and Industries of Practice including the technical groups of younger generation of Young Ocean and Marine Professionals namely Gen Ocean or Early Career Ocean Professionals.

Leveraging on Regional Initiatives for Specialised Training and Transfer of Marine Technology, the role of talented professionals, collaborative centres and innovators labs would provide the catalysts for the transformation and economic shift in the ocean sector of which it is also expected greater response to be given for the 30 x 30 campaign for nature preservation, sustainability of marine ecosystem resources and climate change adaptation measures for management of coastal areas and islands, maritime surveillance and security within and beyond EEZ. Endorsed programmes and projects in Ocean Science and Engineering will lead the mission whilst commitment from national priorities and leaders amongst investors, financiers, Philanthropists in Blue Economy would add up to the equation.

As we go green into the blue ocean, eco-shift advancement in underwater technologies, whilst job opportunities in Marine Skilled Services, Marine Transport, Marine Engineering, Marine Archaeology, Remote-Operating Vessels or Autonomous systems, Remote sensing and Drone Technology, Marine Spatial Planning, Data Analytics and Management, IOT and Cyber Security, forecasting systems and monitoring applications, Renewable Energy and Offshore Aquaculture, will be in demand. UN Decade aspires 80% of the seabed floor is to be mapped out. Special call for more deep-sea, climate and ocean change researchers and practitioners in partnerships to collaborate, innovate, design, create, construct, develop prototypes, provide solutions, and inspire for the future we want in Sustainable Development.

Prof. Dato' Dr. Nor Aieni Haji Mokhtar has been serving in the public and academic sector since 1980, and has contributed significantly in the higher education and national capacity building at the Ministry of Higher Education and Ministry of Science, Technology and Innovation Malaysia. She worked as an academic at Universiti Technologi Malaysia for over 30 years, as a full professor since 2002. She specialized in physics, hydraulics, physical modelling, data management, coastal and island studies, environmental engineering and policy studies and related consultancies. She served as the Director/Undersecretary at the National Oceanography Directorate, Ministry of Science Technology and Innovation (MOSTI) Malaysia in 2008-2014, and then was appointed as the Vice Chancellor of Universiti Malaysia Terengganu in 2015 until April 2021. She was the national focal point of Malaysia for the Intergovernmental Oceanographic Commission (IOC), whilst served as the Vice Chair of IOC Sub-commission for WESTPAC. She has been instrumental in the IOC/WESTPAC, in particular, towards capacity development in oceanography and marine science in the region, through for example, leading the WESTPAC Working Group on Marine Renewable Energy Technology Development. Most recently Dr. Nor Aieni was appointed as one of the 15 global experts of the Advisory Board for the UN Decade of Ocean Science for Sustainable Development.