

WEBINAR TALK ON AUTONOMOUS PLATFORMS FOR CORAL REEF MONITORING: SHALLOW WATER MAPPING IN MALAYSIA

ORGANISED BY:

MARINE ENGINEERING AND NAVAL ARCHITECTURE TECHNICAL DIVISION, IEM

BEM APPROVED CPD: 2

REF NO: IEM25/HQ/101/T (w)

SPEAKER:

Ir. Prof. Ts. Dr. Mohd Rizal bin Arshad



3 MAY 2025, SATURDAY



11.00AM - 1.00PM

FEES FOR TALK:

IEM Members

Registration Fee : FOC

Administrative Fee:

Online: RM15

Walk-in: RM20

Non IEM Member

Registration Fee : RM50

Administrative Fee: RM20



SYNOPSIS

Malaysia's Marine Parks host a rich diversity of coral reefs critical to marine biodiversity and coastal protection. Effective monitoring of these ecosystems is vital for conservation, yet traditional diver-dependent methods are often resource-intensive and pose operational challenges. This talk explores a camera-based approach for mapping coral reef conditions and locations in shallow waters, leveraging autonomous surface vessels (ASVs) and autonomous underwater vehicles (AUVs). Deployable directly from beaches or jetties, these platforms enable non-invasive, high-visibility surveys in areas with minimal human intervention. The integration of advanced mapping tools ensures precise spatial localization of reefs, supporting ecosystem management and conservation strategies. This presentation highlights the technological advancements, platform selection, and operational considerations, demonstrating how innovative methodologies can enhance coral reef monitoring in Malaysia's coastal areas while ensuring sustainability and accessibility for marine research.

SPEAKER'S PROFILE

Mohd Rizal Arshad is a professor at the School of Electrical and Electronic Engineering at Universiti Sains Malaysia, where he specializes in ocean robotics technology. He received his B.Eng. in Medical Electronics and Instrumentation from the University of Liverpool in 1994, and his MSc. in Electronic Control Engineering from the University of Salford in 1995. He earned his PhD in Electronic Engineering in 1999 with a specialization in underwater imaging using diffused laser source. Prof Rizal has supervised many postgraduate students and has published extensively in local and international publications. He is a professional engineer with the Board of Engineer Malaysia and a professional technologist with the Malaysian Board of Technologist. He is also a Chartered Marine Engineer (C.MarEng) with the Institute of Marine Engineering, Science and Technology, a senior member of the IEEE, and a Chartered Engineer (C.Eng) with the Engineering Council in the UK. He is recognized as a pioneer in underwater system technology and robotics research in Malaysia.