

WEBINAR TALK ON HAPTIC SENSING FOR TELEOPERATION SYSTEMS: BRIDGING HUMAN MOTION AND ROBOTIC PRECISION

Date : 27 September 2025 (Saturday)**Time : 11.00 am - 1.00 pm****Platform : Zoom Webinar****Registration Fees:**

- Student Member : FOC
- IEM Member : RM 15.00
- Non-Member : RM 70.00

Synopsis:

Haptic technology has revolutionized the field of robotic teleoperation, enabling operators to perform precise and intuitive control over robotic systems. This talk delves into the design of haptic manipulator modules that prioritize realistic and responsive interaction. Emphasis is placed on the gripper input device, designed to replicate the intricate motions of a human hand while delivering tactile feedback aligned with the operator's intended actions. By exploring the characteristics and capabilities of current haptic sensing modules, the discussion highlights their potential to enhance teleoperation accuracy and responsiveness. The session will cover key design considerations, such as motion fidelity, sensory feedback integration, and ergonomic adaptability, presenting a roadmap for developing next-generation teleoperated systems. Attendees will gain insights into how innovative gripper designs can bridge the gap between human dexterity and robotic efficiency, paving the way for more immersive and effective teleoperation experiences in diverse applications.

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

Ir. Prof. Ts. Dr. Mohd Rizal bin Arshad is a pioneer in underwater robotics in Malaysia, with recognized expertise in autonomous underwater vehicles (AUVs), robotic vision, and oceanographic instrumentation. He holds a PhD from the University of Liverpool and is a Senior Member of the IEEE. He is also a registered Professional Engineer with the Board of Engineers Malaysia (BEM), a Chartered Engineer with the UK Engineering Council, and a Fellow of the Institute of Marine Engineering, Science and Technology (IMarEST).

He is an active contributor to the advancement of intelligent systems, marine technologies, and robotics innovation. In recognition of his significant contributions to science and engineering, he was elected as a Fellow of the Academy of Sciences Malaysia (ASM) in 2024. His leadership in strategic academic and research initiatives reflects a strong commitment to promoting excellence, global collaboration, and transformative impact in engineering and technology education.

