TMSI
Tropical Marine Science Institute
National University of Singapore

RESEARCH SEMINAR

CT-imaging based acoustic modelling on noise impacts and hearing in marine fauna

By Dr. Wei Chong
Centre for Marine Science and Technology,
Curtin University (Perth, Australia)

Date: 26 March 2025 (Wednesday)
Time: 15:30 -16:30 pm
Format: ONLINE
Host: Dr Li Kexin
Please register: https://shorturl.at/yOyuE

ABSTRACT:
Human-made noise in the ocean is becoming a serious threat to marine animals, especially endangered species like the Little Penguin (*Eudyptula minor*), the Australian Sea Lion (*Neophoca cinerea*), and commercially important fish. To protect these animals, it is essential to understand how well they can hear and how noise affects them. However, directly measuring their hearing is very difficult or often impossible. To address this challenge, we use CT and microCT scans of naturally deceased animals to create detailed 3D computer models of their ears and heads. These models allow us to simulate how sound travels through their bodies and predict their hearing ranges, known as audiograms. Our research provides valuable new insights into what and how these animals hear, and how noise may impact them. These findings offer powerful tools for conservation and innovative ways to reduce the effects of human-made noise on marine life.

About the Speaker:
Dr. Chong Wei is a Research Associate at the Centre for Marine Science and Technology at Curtin University and the Forrest Research Foundation. His research delves into the intricate dynamics of sound production, propagation, and reception in toothed whales, as well as studies on hearing and the impacts of noise on the auditory systems of diverse marine species, including fish, little penguins, and Australian sea lions. Dr. Wei holds a PhD in Marine Physics from Xiamen University, China, and completed a two-year joint PhD program at the Hawaii Institute of Marine Biology, University of Hawaii, USA. Following his PhD, he served as a Research Fellow at the Tropical Marine Science Institute, National University of Singapore between 2017 and 2019.