



SEMINAR

How do we protect our coast from sea-level rise?

Date: 15th September, 2026 (Tuesday)

Time: 11:00 a.m.

Venue: Room 7-34 & 7-35
Haking Wong Building
HKU

Speaker: Professor Yuzhu Pearl Li
Department of Civil and Environmental Engineering
National University of Singapore
Singapore



Abstract:

Climate change and sea-level rise pose increasing risks to coastal cities, including flooding, beach erosion, infrastructure failure, and the transport of pollutants. As a small and low-lying city-state, Singapore is particularly vulnerable to rising sea levels and more frequent or intense extreme weather events. Strengthening our capacity to understand and manage these risks therefore requires advances in both coastal science and engineering.

This presentation will discuss recent developments in computational fluid dynamics modelling of coastal processes under rising sea levels and extreme conditions. Particular attention will be given to the turbulent processes generated by breaking waves and wave boundary layers, which play a central role in seabed sediment transport, coastal erosion, scour, and the movement of pollutant particles. A better understanding of these processes is essential for accurately predicting coastal hazards and designing effective adaptation strategies.

The presentation will also introduce recent research projects from the speaker's group, covering both conventional engineering structures and nature-based solutions for coastal protection. Finally, it will highlight Singapore's research priorities in coastal and ocean engineering, as well as opportunities for international research collaboration.

Biography:

Professor Yuzhu Pearl Li is an Assistant Professor in the Department of Civil and Environmental Engineering at NUS. She is a former Marie-Curie Scholar and a Humboldt Experienced Researcher. Her research covers a broad range of coastal engineering topics, with a particular emphasis on computational fluid dynamics (CFD) modelling of complex coastal processes and investigations of coastal protection solutions under climate change. She currently serves as Editors for top journals such as Coastal Engineering, Journal of Ocean Engineering and Marine Energy. She is chairing the Technical Committee on Climate Change at the Institution of Engineers, Singapore.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. Xiaofan Li at 3917 7904.