


## Woh Hup Distinguished Lecture: Some Applications of Machine Learning to Ocean Hydrodynamics by Prof Thomas Adcock | | 25 Mar


19 Mar 2025 || TO NUS Community

Professor Thomas Adcock, Professor of Engineering Science at the University of Oxford, will be delivering the WOH HUP Distinguished Lecture on some applications of machine learning to ocean hydrodynamics.

You are invited to sign up for the lecture, which is organised by the Department of Civil and Environmental Engineering and Coastal Protection and Flood Resilience Institute Singapore (CFI).

 **25 March 2025**

 **4 pm – 5.30 pm**

 **Engineering Auditorium  
National University of Singapore  
College of Design and Engineering  
9 Engineering Drive 1. Singapore 117575**

**Click [here](#) to register!**

### WOH HUP DISTINGUISHED LECTURE

#### Some applications of Machine Learning to Ocean Hydrodynamics

**Abstract**  
Machine learning has opened up new possibilities for how we analyse and understand the ocean. The present talk will look at a few ways in which we have applied machine learning to ocean modelling. The focus of the talk will be on a new version of Munk and Cartwright's "Response Method" for water level prediction. Our implementation shows machine learning can overcome the key difficulties of the original method enabling us to make tidal predictions based on an order of magnitude less data than required for the standard harmonic analysis method. Our approach can also be used for coastal flooding prediction and is being trialed by various agencies for operational flood forecasting. I will also touch on other applications of machine learning including the assimilation of experimental data for loading on offshore wind turbines and the generation of new conserved quantities for wave evolution equations.

**Speaker Biography**  
Thomas (Tom) Adcock is a Professor of Engineering Science at the University of Oxford and Official Fellow at St Peter's College, Oxford. He has been in Oxford since he started his studies as an undergraduate in 2001 save for a year out as a metocean engineer. His group looks at a number of metocean engineering problems including ocean wave dynamics, wave structure interactions, and tidal flows. The main applications of his work are offshore wind, tidal energy and coastal flooding. He served as Senior Proctor to the University in the year 2024-25.

 **Professor Thomas Adcock**  
Professor of Engineering Science at the University of Oxford  
and Official Fellow at St Peter's College, Oxford

**Host**  
Professor Richard Liew  
Department of Civil and Environmental Engineering, NUS

 25 March 2025  
 4.00 pm - 5.30 pm

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9 Engineering Drive 1  
Singapore 117575

**FREE ADMISSION  
REGISTER NOW**

RSVP by  
21 Mar 2025, 12 PM  
PDU points pending



Organised by

 Department of Civil & Environmental Engineering  
College of Design and Engineering

 COASTAL PROTECTION AND FLOOD RESILIENCE INSTITUTE SINGAPORE

**Refreshments will be served after the lecture.**