



Coast to Coast Conference 2016 Monday Marine and Coastal Workshop Day | 29 August

Morphodynamic Shoreline Modelling Workshop, Jim Stynes B

Overview:

The coastal zone is under increased pressure owing to the combined effect of urbanisation of the coastal zone and increased water levels, due to sea level rise from climate change or subsidence. To make the right decisions, you must, as a coastal planner, be thoroughly informed about the physical processes that impact your coastline. This course will provide you with the necessary physical and numerical understanding and knowledge to address these issues in a sustainable way.

Facilitator:

Dr Kasper Kærgaard
Senior Engineer, DHI Water and Environment

Objectives:

The Morphodynamic Shoreline Modelling Workshop at Coast to Coast 2016 aims to:

- provide an overview of the steps required to undertake and complete a successful morphodynamic coastal study
- focus on which field measurements are required and how to integrate the data into a sound understanding of the physical processes using DHI's state of the art numerical modelling tools
- discuss the definition and selection of numerical tools to plan and mitigate problematic developments in the most successful way
- undertake hands-on exercises in the new MIKE 21 FM Shoreline model, which can accurately predict long-term (years to decades) shoreline evolution in complex cases for coastline stretches of 5-10km.

Prior to attending the workshop, please preinstall the 2016 software version from the website link:
<http://www.mikepoweredbydhi.com/download/mike-2016/mike-21?ref={181C63FF-2342-4C41-9F84-F93884595EF3}>

Workshop outline:

Time	Topic	Topic notes
8:00	Registration / Arrival Tea & Coffee	
9:00 - 9:15	Welcome and Introduction	All workshop groups will start together in Olympic Room B
9:15 - 10:45	Challenges in coastal projects Field measurements and remote sensing	<ul style="list-style-type: none"> • Waterfront developments with artificial beaches • Port and Harbours – coastal impact, sedimentation and navigation depth • Coastal protection and coastal flooding – climate adaptation • Useful field measurements • Understanding coastal evolution alongshore and cross-shore
10:45 - 11:15	Morning Tea	
11:15 - 12:45	Numerical Modelling Tools Decision Making	<ul style="list-style-type: none"> • Overview of DHI's state of the art numerical modelling tools • From field measurements to process understanding using numerical tools • Use of advanced morphological models • What to expect and demand from coastal models • When to use Advanced vs. Simple models • Handling uncertainty in predictions
12:45 - 13:30	Lunch	
13:30 - 15:00	Hands on exercises in the MIKE 21 FM Shoreline Model – session 1	<ul style="list-style-type: none"> • Generate inputs to the shoreline model • Setup and run the shoreline model • Analyzing results • Attendees are expected to bring their laptops for the afternoon sessions to download and experience first-hand the modelling software
15:00 - 15:30	Afternoon Tea	

15:30 – 17:00	Hands on exercises in MIKE 21 FM Shoreline Model – session 2	<ul style="list-style-type: none">• Generate inputs to the shoreline model• Setup and run the shoreline model• Analyzing results• Attendees are expected to bring their laptops for the afternoon sessions to download and experience first-hand the modelling software
17.00 – 17.30	Outcomes and Concluding Remarks	All workshop groups will finish together in Olympic Room B