



## THEMATIC COURSE DESCRIPTION

# METOCEAN MODELLING FOR MARINE RENEWABLES

## New trends in off-shore metocean modelling and analysis

This two-day, thematic hands-on course introduces modelling and analyses of relevance for marine renewable energy projects. It enables the practitioner to understand the benefits and limitations of metocean design data and provides guidelines on how to develop these. The course is focused on our 'Best Practices' for coastal and offshore projects for wind turbines wave and tidal power and marine infrastructure projects.

Project managers and others working with coastal or offshore projects are facing the forces of nature and must develop reliable designs, able to withstand the waves and currents in harsh environments and at the same time harness the energy of the oceans to the benefit of society

Part of the planning or design process of marine projects is to find valid data sources either from observations or via modelling and to carry out relevant analyses which can pertinently quantify the environmental conditions.

### COURSE TOPICS

- Metocean data sources and quality assessment
- Recognised standards and guidelines
- Introduction to wave modelling using MIKE 21 models
- Introduction to flow modelling using MIKE 21 models
- Metocean modelling
- Model calibration and skill assessment
- Hindcast and forecast simulations
- Analysis and presentation of metocean data
- Yield estimation for wave and tidal power plants
- Hands-on exercises

### TARGET GROUP AND PREREQUISITES

This two-day thematic course is directed towards project engineers, who need an introduction to off-shore metocean modelling and analysis, or project managers with a need to understand the advantages and limitations of best practice methods in the establishment of normal and extreme environmental parameters.

### DATE AND TIME

21st - 22nd March 2013

### FEES AND DISCOUNTS

**Special price: £495.00 excl. VAT!!**

*Academic discounts are available for students, please contact us for details.*

### THIS IS INCLUDED

- Training material
- Latest MIKE by DHI demo version
- Lunch and refreshments
- Training Certificate

### LANGUAGE

Lectures and training material are in English

### LOCATION AND VENUE

Lion Quays Waterside Resort, Moreton, Oswestry, Shropshire SY11 3EN, United Kingdom

### REGISTRATION AND FURTHER INFORMATION

Deadline for registration is 6th March 2013 (i.e. two weeks before course start). A minimum of trainees is required for the course to proceed. DHI reserves the right to reschedule the training course up to two weeks prior to the course date scheduled.

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## RELATED COURSES

- 'MANAGEMENT, MONITORING AND MODELLING OF ESTUARIES - An introduction to estuarine dynamics, data needs and methods for survey and analysis'
- 'SHORELINE MANAGEMENT - How to protect and develop your coasts'
- 'MIKE 21 Flow Model FM -
- 2D hydrodynamic modelling using flexible mesh'
- 'MIKE 21 SW - Spectral wave modelling'

## COURSE INSTRUCTORS

### Ole Svenstrup Petersen

*Ole Svenstrup Petersen is the head of research in coastal engineering and has 15 years of experience in modelling and analysis of metocean conditions. Ole has been involved in many critical projects and has a solid background in teaching at the highest levels.*

*Ph.D., Environmental Fluid Mechanics, Aalborg University, 1992*



### Hans Fabricius Hansen

*Hans Fabricius Hansen is a senior metocean engineer at DHI and has 10 years of experience in the field of marine infrastructures and energy systems. Hans has been involved in a large number of projects worldwide on establishment of metocean data for assessment of operational conditions and particularly extreme conditions to be used for design.*

*MSc in Civil Engineering, Civil Engineering, Technical University of Denmark, 2002*



## THE ACADEMY BY DHI

The Academy offers a palette of courses and capacity building packages designed to fit your needs and challenges. Our training courses are offered as standard and/or as tailored training.

**MIKE by DHI courses** focus on practical skills, hands-on exercises and on teaching you how to get the most out of your software.

**Thematic courses** allow you to apply concepts, applications and decision support principles to the entire business process within current areas such as aquaculture & agriculture, energy, climate change, flooding, coast & marine, surface & groundwater, urban water, industry, environment & ecosystems, product safety & environment risk, etc.

**MIKE Customised courses** enable you to understand the power of the MIKE Customised tools for building decision support systems.

**Our trainers** are experienced professionals, many of whom are recognised international experts in their fields. The consistent use of highly skilled trainers guarantees the quality of the Academy by DHI courses.

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