# GETTING STARTED WITH WATER QUALITY AND ECOLOGICAL MODELLING
## Using ECO Lab

This modular, self-paced, online course gives you an introduction to water quality and ecological modelling and how to apply ECO Lab, DHI's numerical modelling tool for ecological modelling, in real life applications. The course consists of a number of modules including lectures and hands-on exercises.

Evaluating water quality issues covers a broad range of challenges. A number of different models already exist which assess the various challenges and their levels of complexity. The course presents the different models and guide you in which model to choose for the specific purpose.

ECO Lab is DHI's numerical modelling tool for ecological modelling integrated in both MIKE 21 and MIKE 3, which gives easy access to the equations of an ecological model. ECO Lab allows for quantitative, dynamic descriptions of water quality in the short- or long-term and includes nutrient dynamics, plankton, eelgrass, macro algae and benthic fauna. A number of different standard ECO Lab models are developed which address specific environmental challenges.

## COURSE MODULES AND TOPICS

- Module 1 - General introduction to ECO Lab modelling
- Module 2 - Process modelling in ECO Lab
- Module 3 - Existing ECO Lab models (templates)
- Module 4 - Models and data
- Module 5 - Introduction to advanced ECO Lab modelling

## TARGET GROUP AND PREREQUISITES

Professionals in environmental engineering and management in the public or private sector working environmental assessment. Students who want a quick introduction to water quality and ecological modelling.

A background in applied water quality aspects and/or biology and experience with hydraulic modelling is an advantage but no condition.

## DATE AND TIME
Modular, self-paced online course.
Five modules including lectures and hands-on exercises.

## LOCATION AND VENUE
Online.

## FEES AND DISCOUNTS
Free of charge.

## LANGUAGE
Lectures and training material are in English.

## FURTHER INFORMATION AND CONTACT
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The expert in **WATER ENVIRONMENTS**

**THE ACADEMY** by DHI

## RELATED COURSES

- MIKE 21/3 ECO Lab - 2D and 3D water quality and ecological modelling
- ABM Lab - Agent based modelling
- MARINE HABITAT CONNECTIVITY - A numerical approach to study biological connectivity between marine habitats
- MIKE 21 Flow Model FM - 2D hydrodynamic modelling using flexible mesh
- MIKE 3 Flow Model FM - 3D hydrodynamic modelling using flexible mesh
- MIKE 21/3 OS FM - Oil spill modelling using flexible mesh
- OIL SPILL ANALYSIS: MODELLING APPROACH - How to model the fate and transport of oil in water environments
- ENVIRONMENTAL IMPACT ASSESSMENTS - EIAs and support tools
- WATER QUALITY MANAGEMENT - Data collection, analysis and validation
- BATHING WATER AND WARNING SYSTEMS - How to improve bathing water management with focus on health

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## INSTRUCTOR

### ANDERS CHR. ERICHSEN

Anders Chr. Erichsen works as a Senior Project Manager at DHI. Anders has a background in ecological modelling of fresh water systems and the marine environment. He has profound knowledge of 2D and 3D hydrodynamic and environmental issues, including pycnocline modelling, algae blooms and oxygen depletion. Anders is presently involved in real time modelling, forecasting and research utilising the 3-dimensional ecological model developed for the Danish waters. Responsible for the development and evaluation of early warning systems for bathing water quality

MSc, Environmental Engineering, Technical University of Denmark.

## THE ACADEMY BY DHI

THE ACADEMY offers a palette of courses and capacity building packages designed to fit your needs and challenges. We offer standard and/or tailored training.

**MIKE Powered by DHI** courses focus on practical skills, hands-on exercises and teaching you how to get the most out of your software. These courses also enable you to understand the power of the MIKE tools for building decision support systems.

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

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

Learn more about THE ACADEMY on www.theacademybydhi.com

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