



## FEFLOW/ FEPEST

Introduction to model calibration, uncertainty analysis and predictive analysis

In this three-day hands-on course DHI WASY will provide you with an introductory training in FePEST. FePEST is the graphical user interface of PEST for FEFLOW models. We will explain and discuss the basic PEST definitions required for understanding the FePEST interface and achieving FePEST best practice.

The training covers topics of automatic model calibration, sensitivity analysis and uncertainty analysis (Monte Carlo methods). Practical sessions will be provided so that attendees can gain experience in setting up a FePEST project and the required preliminary preparation in FEFLOW.

With FePEST, the FEFLOW package now features a graphical user interface for easy integration of your FEFLOW models into the PEST framework. FePEST covers the essential PEST methods for automatic calibration and uncertainty/predictive analysis of FEFLOW models such as efficient definition of parameters (including the pilot-point method) and parallelization across local and wide area networks, interaction with the FEFLOW programming interface and immediate feedback of the PEST optimization progress.

### COURSE TOPICS

- Best practice how to set up a FEFLOW model for PEST/FePEST
- FePEST graphical user interface (definition of observations/parameters)
- Parallelization settings, FePEST server and cloud computing (start/stop slave manipulation)
- Pilot points, regularization techniques and prior information (preferred values, preferred parameter distributions and spatial parameter correlation)
- Analysis and interpretation of results in FePEST and FEFLOW (sensitivity maps, parameter identifiability maps, analysis of data worth, etc.)
- General linear predictive uncertainty and error analysis
- Sensitivity analysis (SENSAN utility in PEST)
- Predictive analysis (definition of worst and best case scenarios)
- Monte Carlo and Null Space Monte Carlo methods
- Use of Pareto methods
- Advanced FePEST operations, customizations and third-party software
- Hands-on exercises and open discussion

### TARGET GROUP AND PREREQUISITES

Groundwater professionals working in consulting companies, public authorities, university and research institutions. Participants are expected to have both a basic knowledge of groundwater modelling as well as computer application.

### 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 - face-2-face as well as online.

**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.

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