



This five-day, hands-on intensive course provides attendee with comprehensive training in groundwater modelling using FEFLOW, which is the most intuitive software package for groundwater and porous media modelling. It can simulate a multitude processes involving fluid flow, groundwater age, contaminant and heat transport under fully or variably-saturated conditions from local to regional scale. The efficient user interface and unmatched range of functionality for groundwater modelling make FEFLOW the tool of choice.

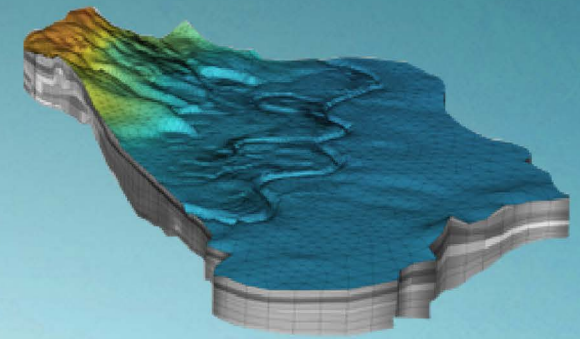
FEFLOW is widely recognized as a comprehensive software package for subsurface flow and transport simulation. FEFLOW's unique mesh capabilities (structured and unstructured) allows you the highest degree of flexibility to account in detail from the most simple to complex geometrical configurations. The software is used by leading research institutes, universities, consulting firms and government organizations all over the world. This comprehensive course consists of two parts. The introductory part and the advanced part. Both parts aim at providing attendee with the skills needed for advanced modelling using FEFLOW.

### **(1) The Introductory Part:**

- Introduction to FEFLOW and its graphical user interface
- Creating 2D and 3D mesh geometries (structured and unstructured meshes)
- FEFLOW's interface with geological software
- Setting up flow models with confined and unconfined aquifers
- Setting up mass-transport models and groundwater age models
- Setting up steady-state and transient models
- Usage of GIS/CAD data interfaces and other formats
- Results evaluation, visualization and animation

### **(2) The Advanced Part:**

- Unsaturated flow modelling
- Density-dependent flow modelling
- Heat transport, geothermal energy systems and closed/open-loop systems
- Fractures and discrete features
- Multicomponent transport and chemical reactions
- Introduction to the FEFLOW programming interface and Python scripting
- Introduction to automatic model calibration with FePEST
- Hands-on exercises



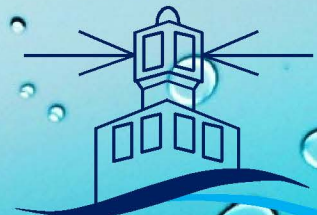
# **FEFLOW Workshop**

**22-26 October, 2017**

*Instructor:*

**Dr. Carlos Rivera**  
DHI, Denmark

*Organizer:*



**Water Research Center**  
**King Abdulaziz University**  
Jeddah, Saudi Arabia

## Chief Organizers

**Prof. Iqbal M.I. Ismail,**  
Director, Water Research Center,  
King Abdulaziz University

**Dr. Burhan A.M. Niyazi,**  
Deputy Director, Water Research Center,  
King Abdulaziz University

**Dr. Milad Z.H. Masoud,**  
Head, Water Resources Unit, Water Research  
Center, King Abdulaziz University

## Venue

Water Research Center,  
King Abdulaziz University,  
Building 4, P.O.Box 80200,  
Jeddah 21589, KSA.

## Registration Fees

A standard fee of 4,000 SR per person for the course. This includes:

- Course fees,
- Training material,
- Access to PC with required software,
- Latest MIKE Powered by DHI demo version,
- Lunch and refreshments,
- Training Certificate.

## Who should attend?

Groundwater professionals working in consulting companies, governmental agencies, universities and research institutions. This course is also useful for graduate students and staff members whose research is related to groundwater modeling.

## Language and Background

Training lectures and course materials are provided in English. Participants are expected to have a basic knowledge of groundwater and basic computer skills.

## Registration and contact

**Dr. Milad Masoud**

Course Coordinator

(+966)563857354



mhmasoud@kau.edu.sa

**Attendee who register before July 15, 2017 will enjoy 20% early registration discount. Group registration is subject to additional discount of 10%.**

# Registration Form

Name:.....

Position:.....

Organization:.....

Address:.....

Phone no.:.....

Fax no.:.....

Email address:.....

Date:.....

Signature

Nominating Authority (if any): .....

*Deadline for submission of Registration Form is:*

***September 21, 2017***