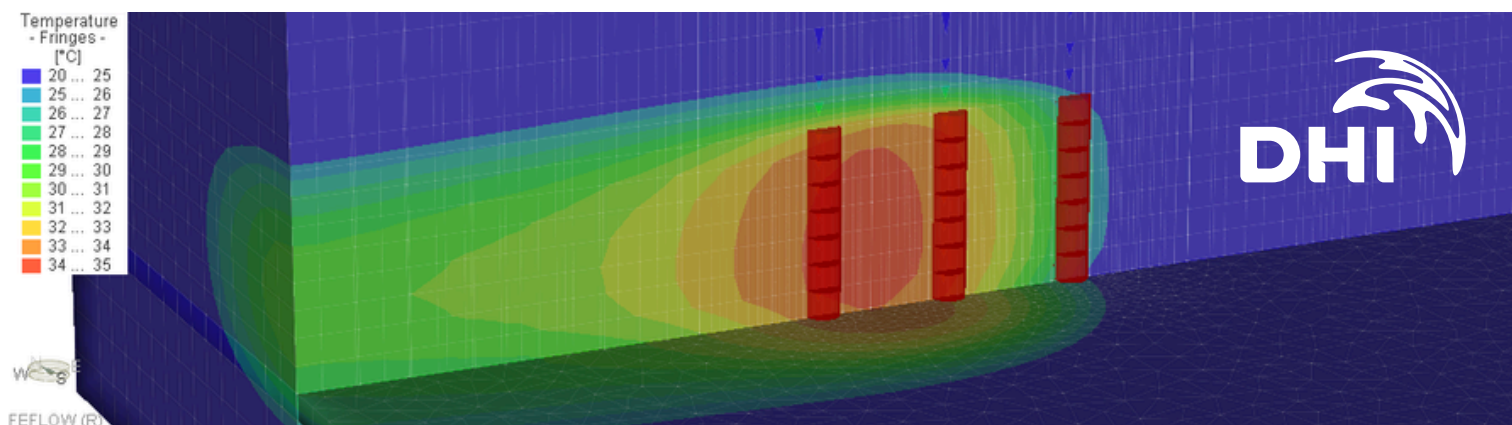




FEFLOW

Modelling Geothermal Systems with FEFLOW

This instructor-led, hands-on course provides comprehensive training in geothermal modelling using FEFLOW, one of the world's leading software solutions for simulating groundwater flow and heat transport in the subsurface.

Designed for geothermal professionals from industry, consulting, academia, utilities, and regulatory organisations, the course combines essential theory with practical modelling workflows and real-world examples. Participants will learn how to develop and apply numerical models to assess geothermal resources, support system design, evaluate thermal performance, and investigate subsurface impacts.

Topics include geothermal reservoirs, groundwater-based energy systems, borehole heat exchangers, aquifer thermal energy storage (ATES), heat transport processes, and long-term sustainability assessments.

Widely used by consultants, research institutes, universities, and government agencies worldwide, FEFLOW offers advanced capabilities for representing complex geology, groundwater flow, and thermal processes. Its flexible structured and unstructured meshing technology enables accurate simulation of geothermal systems ranging from individual installations to regional-scale energy developments.

Whether you are designing, optimising, or assessing geothermal energy systems, this course will provide practical skills directly applicable to real-world geothermal projects.

Learn more about FEFLOW [here](#).

Course topics

- FEFLOW 11: New features for geothermal modelling
- Introduction to FEFLOW and the graphical user interface
- Fundamentals of groundwater flow, heat transport, and geothermal processes
- Building geothermal models: conceptualisation, parameters, and boundary conditions
- Modelling geothermal doublets and groundwater-based energy systems
- Borehole Heat Exchangers (BHE) and Aquifer Thermal Energy Storage (ATES)
- Impact of groundwater flow on geothermal system performance
- Feasibility assessment, thermal sustainability, and interference between neighbouring systems
- Geothermal modelling best practices and common pitfalls
- Evaluation, visualisation, and interpretation of simulation results
- Questions, discussion, and expert exchange



The event is supported and co-organized by the Geothermal Research and Innovation Network for Portugal and Spain.

Date and time

09 March 2027

The course starts at 09:00 AM and finishes at 4:30 PM.

Location

Venue of GeoRIN 2 Conference
University of the Azores - Campus de Ponta Delgada
São Miguel, Azores
Portugal

Fees and discounts

Workshop is free-of-charge for conference participants.

Included in your training

- Full access to FEFLOW software during course
- Training material (digital version)
- Training Certificate upon completion of course

Participants are required to bring their own laptops for the training sessions.

Language

Lectures and training material are in English.

Registration and contact

The registration is via the GEO-RIN Conference website ([here](#)).
Registration deadline: 12 February 2027.

A minimum number of trainees is required for the course to proceed. DHI reserves the right to reschedule the training course up to 2 weeks prior to the published course date.

Contact details

Dr. Carlos Rivera Villarreyes
cvi@dhigroup.com

Target group and prerequisites

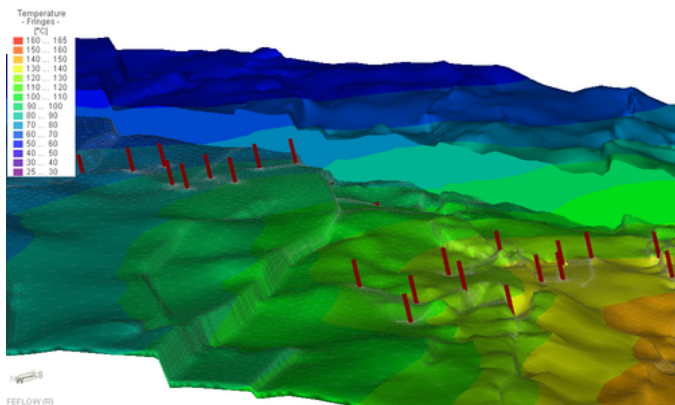
The course is intended for engineers, geoscientists, hydrogeologists, researchers, consultants, regulators, and energy professionals involved in geothermal projects. Whether you are new to geothermal modelling or looking to expand your expertise, the course provides a practical introduction to numerical simulation with FEFLOW.

Participants are expected to have a basic understanding of subsurface processes and general computer applications. No prior experience with FEFLOW is required.

Case Study

Deep geothermal energy for carbon-neutral district heating in Munich, Germany:

Munich aims to achieve carbon-neutral district heating with deep geothermal energy as a key pillar of its strategy. A large-scale 3D FEFLOW model was developed to evaluate the performance and sustainability of geothermal resources beneath the city. By integrating geological, hydrogeological, and operational data, the model supports resource assessment, uncertainty analysis, and the optimization of geothermal doublets for long-term energy production.



Read the full success story on the DHI blog [here](#).

Instructor

Dr. Carlos A. Rivera Villarreyes

Dr. Carlos A. Rivera is the Global Product Specialist and Business Owner for FEFLOW at DHI Group, where he is responsible for the strategic vision, business development, and long-term product direction of FEFLOW, one of the world's leading software solutions for subsurface flow and heat transport modelling. With more than 15 years of international experience in subsurface modelling, he has led and supported projects in geothermal energy, groundwater resources, mining, environmental applications, and reactive transport modelling. Carlos combines extensive technical expertise with practical industry experience, supporting organizations worldwide in the application of numerical modelling for geothermal and groundwater challenges. He regularly delivers professional training courses, workshops, and conference presentations across Europe, the Americas, Asia, and Australia.



Education

- PhD, Hydrology, University of Potsdam, Germany
- MSc, Water Resources Management, Ben-Gurion University of the Negev, Israel
- BSc, Civil Engineering, University of Piura, Peru

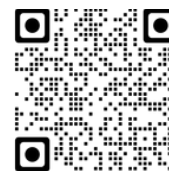
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