GETTING STARTED WITH DYNAMIC MODELING IN *FLAC3D*

Duration	7 Hours
Location	Online – Microsoft Teams Platform
Instructor	Mr. Ali HAIDAR
Registration fees	€950,00 (excl. Taxes)
Audience	Engineers with experience in numerical modeling
Pre-requirements	Pass the entrance test with 70% correct answers. Questions are related to basics of FLAC3D and earthquake engineering
Teaching Methods	Our instructors have a wealth of knowledge gained from the consulting studies they conduct for our clients. We value this knowledge by stimulating exchanges between professionals and promoting learning sharing within the group. The topics covered during the training are approached evolutionarily, from simple to more complex. All our training courses are based on: • Concrete cases: examples of applications made by Itasca to illustrate and apply key concepts. • Theoretical contributions: the instructors review theoretical background essential to the understanding of the key numerical modelling concepts that are taught during the training. • Sharing practices and experiences: Sharing practices and experiences enhances and enriches the training experience.
Training Materials	• Practical cases and scenarios • PowerPoint presentation • Free exchanges with the group • Theoretical contributions
Assessment Method	The course ends with an individual test – composed of questions on concepts covered during the course - to validate the knowledge acquired, consisting of a quiz of a few questions about the concepts covered during the course.
Objectives	• Describe and apply the workflow for dynamic analyses in FLAC3D. • Simulate a dynamic problem using FLAC3D.

Program:

1. **Introduction: overview and objectives**
2. **Wave propagation in *FLAC3D***
   a. Wave types
   b. Dynamic timestep
   c. Mesh verification
3. **Dynamic boundary and internal conditions**
   a. Effect of Internal Boundaries
   b. Effect of Material Yield
   c. Boundary conditions options in a dynamic model
      i. Quiet boundary condition
      ii. Free-field boundary condition
4. **Input signal**
   a. Deconvolution Analysis
   b. Signal application in *FLAC3D*
   c. Baseline correction
   d. Dynamic Input Wizard
5. **Models and Damping**
   a. Constitutive soil models
   b. Rayleigh damping
   c. Hysteretic damping
   d. Maxwell damping