

Training Course

Date

Friday, 8 June 2018

Location

UPC BarcelonaTech, Campus Nord
c/ Jordi Girona, 1-3
08034 Barcelona (Spain)

Lecturers

Dr Núria Pinyol
Dr Alexander Rohe

Registration Fee

€ 120,--

Includes: coffee breaks, lunch, tutorials
and a GiD v14 licence for 1 year.
The fee gives access to all GiD convention
courses on 7 and 8 June.

Registration form

www.mpm-dredge.eu/barcelona2018

Registration deadline

13 April 2018

Number of participants

Limited to 20

Additional information

alex.rohe@deltares.nl

The Anura3D Training Course is intended for PhD students, researchers and engineers interested in modelling large deformation and soil–water–structure interaction problems using the material point method.

*The course includes lectures and hands-on computer sessions in which attendees will have the opportunity to have their first experience with the **Anura3D v2017.2** MPM software.*



This course is held in collaboration with:
**9th Convention on
Advances and Applications of GiD 2018
(Workshop and Courses)**

www.gidhome.com

Training Course

Modelling large deformation and
soil–water–structure interaction using
the material point method

8 June 2018 – Barcelona, Spain



Modelling large deformation and soil–water–structure interaction

Large deformation and soil–water–structure interaction problems exist in many environmental and civil engineering problems, such as landslides and slope instabilities, installation of piles in saturated soils, settlement due to consolidation processes, fluidisation and sedimentation processes in submerged slopes, internal erosion in dykes, and scouring around offshore structures.

The material point method (MPM) is a numerical approach capable of modelling large deformations and, within the framework of the Anura3D MPM Research Community, it has been further developed to cope with soil–water–structure interaction.

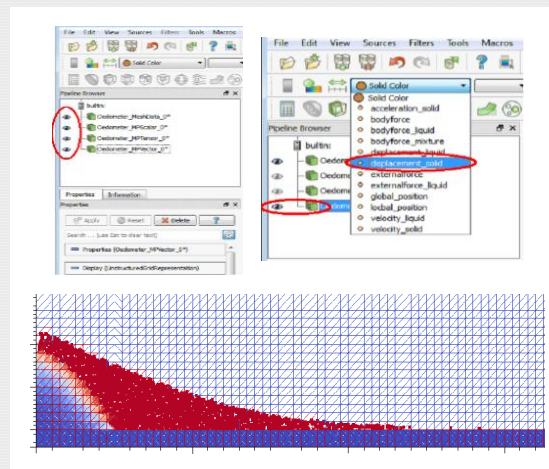
The **Anura3D v2017.2** MPM software uses a dynamic explicit MPM formulation. It is capable of simulating 1- and 2-phase materials and free surface water. A fully coupled hydro-mechanical approach is implemented to model the interaction between soil and water phases in saturated porous media. Contact problems can be solved using a contact algorithm. A library of constitutive laws is included as well as an interface for external user defined soil models.



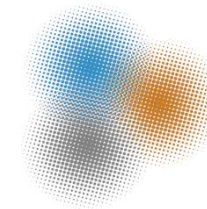
Tutorials

Course participants will gain experience as users of the **Anura3D v2017.2** MPM software. During training lectures, the attendees will learn first-hand capabilities of MPM by means of a set of practical exercises that will be undertaken following a tutorial specially designed for the course. The tutorial will include the following exercises:

- Exercise 1: Oedometer problem
- Exercise 2: Column collapse
- Exercise 3: Shallow foundation
- Exercise 4: Excavation



www.Anura3D.com



Programme

Friday, 8 June 2018

Location:

UPC BarcelonaTech, Campus Nord
C1 Building, Room TBA (see website)

08:30 Opening and introduction

08:45 Theory and formulation Anura3D

09:30 Hands-on using Anura3D

10:00 Tutorial (Exercises 1 & 2)

10:30 Coffee break

11:00 Tutorial (Exercises 1 & 2)

13:00 Lunch

14:30 Tutorial (Exercises 3 & 4)

16:30 Coffee break

17:00 Tutorial (Exercises 3 & 4)

17:30 Discussion and outlook

18:00 Closure