

# GEOLAB's Second Next Generation Training Workshop (17<sup>th</sup> – 18<sup>th</sup> November 2022)

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*“Science for Enhancing Europe’s Critical Infrastructure”*

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# GEOLAB's Second Next Generation Training Workshop (17<sup>th</sup> – 18<sup>th</sup> November 2022) Agenda

Day	Session Title	Activity	Speakers
Thursday (09:00 – 12:30)	<b>1A. Fundamentals of Physical modelling, scaling laws, measurement techniques</b>	Interactive lecture that will consider model design, scaling laws, data acquisition and interpretation methods in a form that will help participants in planning their own experiments.	<b>Prof. Dr. Ioannis Anastasopoulos - ETH Zurich</b>
	<b>1B. Image-based analysis techniques in geotechnical modelling</b>	Interactive lecture that will cover the technique specific concerns associated with sample preparation, camera choice, lighting, interpretation, and potential pitfalls to be avoided.	<b>Dr. Sam Stanier - University of Cambridge</b>
Thursday (13:30 – 18:00)	<b>CENTRIFUGE VISIT</b>	Visit to the physical modelling facilities in the Geotechnical Centrifuge Center and the Soil Testing Laboratory of the Institute for Geotechnical Engineering at ETH Zurich	<b>ETH Zurich</b>
	<b>2A. Data collection, processing, and analyses techniques Theory and group based small exercise in class</b>	The participants will learn how to plan experiments in different scales, how to acquire relevant data and how to process them.	<b>Prof. Dr. Luc Thorel – Uni Eiffel Prof. Dr. Hauke Zachert – TUDa</b>

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## Agenda

Day	Session Title	Activity	Speakers
Friday (9:00 – 12:30)	<b>2B. Physical modelling of climate change, geo-hazard and aging</b>	Presentation of case studies using physical modelling to tackle the effects of climate change, geo-hazard and aging on critical infrastructure (CI)	<b>Dr. Suzanne van Eekelen – Deltares</b> <b>Dr. José Estaire – CEDEX</b> <b>Ir. Thomas Sandene – NGI</b> <b>Dr. Amin Askarinejad – TU Delft</b> <b>Dr. Stefano Muraro – TU Delft</b>
Friday (13:30 – 17:30)	<b>3. Case studies of physical and numerical modelling in offshore geomechanics</b>	Presentation on the use of physical modelling for assessing offshore geomechanics related to submarine landslides and offshore foundations	<b>Dr. Miguel Angel Cabrera – TU Delft</b> <b>Dr. Huan Wang – TU Delft</b>
	<b>4. Combining numerical and physical modelling techniques to solve problems for the offshore renewable energy sector</b>	Combined numerical and physical modelling approaches for novel offshore foundation, anchoring and installation systems. The case study examples used will focus on offshore renewable energy applications and in particularly developing novel fixed foundations and anchoring solutions for floating wind.	<b>Prof. Dr. Michael Brown – University of Dundee</b>

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	Day	Time	Session Title	Presenters
Young professionals training	Thursday 17/11	09:00	<b>1A. Fundamentals of Physical modelling, scaling laws, measurement techniques.</b>	<b>Prof. Dr. Ioannis Anastasopoulos – ETHZ</b>
		10:30	Coffee and tea break	
		11:00	<b>1B. Image-based analysis techniques in geotechnical modelling.</b>	<b>Dr. Sam Stanier – UCAM</b>
		12.30	Lunch break	
		13:30	<b>CENTRIFUGE VISIT</b>	<b>ETH Zurich</b>
		15:30	Coffee and tea break	
		16:00	<b>2A. Data collection, processing, and analyses techniques</b> Theory and group based small exercise in class	<b>Prof. Dr. Luc Thorel – Uni Eiffel</b> <b>Prof. Dr. Hauke Zachert – TUDa</b>
		18:00	Adjourn	

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	Day	Time	Session Title	Presenters
Young professionals training	Friday 18/11	09:00	<b>2B. Physical modelling of climate change, geo-hazard and aging</b>	Dr. Suzanne van Eekelen – Deltares Dr. José Estaire – CEDEX Ir. Thomas Sandene – NGI Dr. Amin Askarinejad – TU Delft Dr. Stefano Muraro – TU Delft
		10:30	Coffee and tea break	
		11:00	<b>2B. Physical modelling of climate change, geo-hazard and aging (continuation)</b>	
		12.30	Lunch break	
		13:30	<b>3. Case studies of physical and numerical modelling in offshore geomechanics</b>	Dr. Miguel Angel Cabrera – TU Delft Dr. Huan Wang – TU Delft
		15:00	Coffee and tea break	
		15:30	<b>4. Combining numerical and physical modelling techniques to solve problems for the offshore renewable energy sector</b>	Prof. Dr. Michael Brown – University of Dundee
		16:30	Drinks and snacks	
		17:30	Adjourn	



**GEOLAB** is an European network of renowned institutes bringing together six geo-centrifuges and six other large research facilities: a geo-model container, a pile foundation test pit, a static liquefaction tank, a railway track simulator, a large-scale triaxial apparatus and a set of field test sites. The project is funded by the European Commission Horizon 2020 Research and Innovation programme. The overarching aim of GEOLAB is perform ground-breaking research and innovation that enhances the resilience of Europe's Critical Infrastructure.

Find out more about the project here: <https://project-geolab.eu/>

Information on the processing of personal data can be accessed [here](#).

