



POLITECNICO
MILANO 1863



POLITECNICO
DI TORINO



Communauté
UNIVERSITÉ Grenoble Alpes



16th International Conference of the International Association
for Computer Methods and Advances in Geomechanics



Short course

MECHANICS *of* GEOMATERIALS

— from MICRO to MACRO —

GRENOBLE • FRANCE
June 29-30, 2020

Save
the
date

www.iacmag2020.org



TOPIC ***Mechanics of geomaterials: from micro to macro***

This short course will take place in Grenoble and will be devoted to multi-scale numerical modelling in geotechnical engineering and geomechanics. The first half-day session will take place in the afternoon of June 29 at the Synchrotron in Grenoble. This will provide the opportunity to visit this unique facility and to learn the basic concepts of full-field measurement. The second half-day session, in the morning of June 30, will take place at Laboratoire 3SR on the Grenoble university campus. Lectures introduce multiscale modelling and discuss various methods such as DEM, FEMxFEM and FEMxDEM. Selected engineering and material science applications will be presented. A technical visit of the lab, including the x-ray tomograph, will be also organised. After lunch, a bus will take all participants to Torino for the official beginning of the IACMAG conference.

Organizers: ***Alice Di Donna, Angela Casarella and Cino Viggiani***
Laboratoire 3SR, Grenoble

PROGRAM

June 29, 2020: Synchrotron Grenoble

14:00 - 18:00 Opening at the Synchrotron facilities of Grenoble, technical visit.
19:30 *Social event: dinner*

June 30, 2020: Laboratoire 3SR/Grenoble Campus

9:00 - 9:15 Welcome

9:15 - 9:45 Use of X-Ray tomography to assess the predictability of a FE meso-model:
 application to failure mechanisms of cementitious materials under different confinement pressure
E. Roubin

9:45 - 10:15 Three contributions of the discrete element method to geomechanics
 fundamentals
F. Darve

10:15 - 10:45 A clay-DEM involving mesoscopic-molecular interactions of
 flexible platelets
V. Richefeu

10:45 - 11:00 *Coffee break*

11:00 - 11:30 Introduction to FEMxFEM and FEMxDEM
J. Desrues

11:30 - 12:00 Considering heterogeneity of argillaceous rock microstructure
 in a FEMxFEM double scale model
B. Pardoën

12:00 - 13:00 Laboratory visit

13:00 - 14:30 *Lunch time*

INFORMATION

Registration fees

IACMAG attendees: € 120,00

Non-IACMAG attendees: € 160,00

(coffee breaks, dinner on day 1 and lunch on day 2 included)

Pre-registrations

Pre-registration deadline: **January 31, 2020**

Pre-registration requests can be addressed to iacmagcourses@symposium.it

The course will take place with a minimum of 30 attendees.

Pre-registered attendees will be notified by the organizing secretariat as soon as the required number is reached. Registration fee payment will have to be made on receipt of the course confirmation.

A bus service to Torino, the IACMAG conference host city, will be additionally proposed according to the number of interested participants.

Please express your possible interest in the pre-registration e-mail.
