



Sand dunes: dry surface, but wet sub-soil



Agricultural track axis of a natural mirror



Some means of transportation in Ouargla

DEADLINES

- Reception of abstracts: January 24, 2021
- Notification of abstracts: February 28, 2021
- Reception of articles (papers): May 25, 2021
- Notification of articles (papers): July 15, 2021

Link to the submission and registration platform:
<https://cmt3.research.microsoft.com/User/Login?ReturnUrl=%2FUNSATO2021>

REGISTRATION FEES

	Nationals	Foreigners
• Students	5.000 DA	50 €
• Teachers	8.000 DA	100 €
• Other qualities	12.000 DA	150 €

Registration fees cover digital media, lunches and coffee breaks.

CONTACT

Secretariat UNSAT Ouargla 2021

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Abstracts and communications should not be sent by email but via the dedicated platform whose link is indicated above.



University KASDI Merbah - Ouargla

Faculty of Applied Sciences

Laboratory Exploitation and Valorization of Natural Resources in Arid Zones

&

Laboratory of Desert Bio-Geo-Chemistry

In collaboration with:

The UNSAT-DZ network



Organize

**The 5th International Colloquium
on Unsaturated Soils**

Topic

Unsaturated soils and arid areas

UNSAT Ouargla 2021

Ouargla, November 16 and 17, 2021

Postponed to March 15 and 16, 2022

In partnership with:

Aboubakr Belkaid University, Tlemcen
 Faculty of Technology, EOLE Laboratory

University of Le Havre Normandie
 Laboratory LOMC, CNRS UMR 6294



PRESENTATION AND OBJECTIVES

Since its creation on the sidelines of the International Colloquium on Unsaturated Soils (U. Tlemcen 2009), the UNSAT-DZ network has developed continuously and today has twenty research teams, including one Tunisian and five Europeans (unsat-dz.org).

The main objective of the UNSAT-DZ network is to serve as an exchange space for university research teams dealing with the theme of unsaturated soils, in particular in terms of knowledge exchange, and scientific and technical mutual assistance. In this context, UNSAT-DZ organizes its International Colloquium every three years (UNSATlemcen 2009, UNSATAlger 2012, UNSATBatna 2015 and UNSATOran 2018). The University of Ouargla is elected to organize the 5th edition of this Symposium on November 16 and 17, 2021. UNSATOuargla 2021 is a new opportunity to bring together academicians and professionals in relation to the field of unsaturated soils in order to exchange their knowledge, expertises, opinions and experiences. These exchanges are framed in harmony with the overall theme and the sub-themes proposed for this 5th Colloquium.

The proposed themes are chosen so as to highlight the typical problems encountered in geotechnics in arid and semi-arid regions; practitioners are sometimes confronted with soil behaviour that is poorly explained in the technical literature, and sometimes with design techniques that are unsuitable for the geo-environmental context and climatic framework specific to arid regions.

Soil, in its various aspects of use (support for structures, construction material and / or cultivated soil) is a complex material which has, for a long time, brought together geotechnicians and agronomists around concepts of common interest such as the influence of water content on soil behaviour. This colloquium is a new opportunity to erase the boundaries between the sciences and to establish interdisciplinarity for open research which puts people back at the centre of its concerns.

ACTIVITIES ON THE SIDELINES OF THE COLLOQUIUM

1- DOCTORAL COURSE

The day before the opening of the colloquium, a doctoral course on unsaturated soils including a theoretical part and a series of practical work is organized. This course is intended

for doctoral students in geotechnics or agronomy, working on themes integrating the non saturation of soils.

2- WORKSHOP ON TEACHING THE MECHANICS OF UNSATURATED SOILS

This workshop will bring together the teacher-researchers involved or interested in teaching this discipline. It will be a space for exchanging experiences, reflection and debates around how to teach this discipline to future engineers (master level) and doctoral students. The recommendations of this workshop will be transmitted to the guardianship.

3- CONTEST MT180

In addition, doctoral students are invited to participate in the «My Thesis in 180 seconds» competition. Prizes will be awarded to the laureates.

TOPICS

TOPIC 1

Hydromechanical behaviour of unsaturated soils

Characterization of the behaviour of unsaturated soils subjected to mechanical and water loads. Microscopic aspects and macroscopic behaviours. Laws of behaviour. Experimental and numerical analysis.

TOPIC 2

Transfers in unsaturated soils

Solid transport, infiltration, drainage, evaporation, heat transfers. Experimental measurements and mathematical modelling.

TOPIC 3

Phenomena linked to unsaturation in oasis environments

Fluctuation of the groundwater. Capillary rise.shrinkage/swelling. hydric and geoclimatic behaviour of the sebkhas/chotts. Valorisation of dune sands. Road geotechnics in arid environments.

TOPIC 4

Eco-construction in raw earth

Hydromechanical and hygrothermal behaviour of raw earth. Laboratory and field measurements on scale 1. Modelling.

TOPIC 5

Physics of unsaturated soils - natural and agricultural environments

Natural eco-system and Agro-system. Laboratory and field testing. Physical characteristics, structure, texture and physique of non saturated soils. Controlled irrigation.

SCIENTIFIC COMMITTEE

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