



4th European Conference on Unsaturated Soils

19 to 21 October 2020

ONLINE conference

TENTATIVE PROGRAMME



TENTATIVE PROGRAMME

Lisbon time - 5h	Lisbon time	Lisbon time + 5h	19 th October			20 th October			21 st October		
04:00	9:00	14:00	Opening session			Plenary session Panel Session Codes of Practice			Plenary session Invited Lectures Effective stresses		
	9:30		Plenary session TC106 European Distinguished Lecturer								
	10:00										
	10:30										
	11:00		S1	S2	S3	S10	S11	S12	S19	S20	S21
	11:30										
	12:00		LUNCH			LUNCH			LUNCH		
8:30	13:30	18:30	Plenary session Keynote #1			Plenary session Keynote #2			Plenary session Young Invited Lectures		
	14:00										
	14:30		S4	S5	S6	S13	S14	S15	S22-1	S23-1	S24-1
	15:00								S22-2	S23-2	S24-2
	15:30		S7	S8	S9	S16	S17	S18	Closing session		
11:00	16:00	21:00									

TC106 - 2nd European Distinguished Lecturer on Unsaturated Soils

Chair: David Toll

New research topics in experimental unsaturated soil mechanics. Hydro-mechanical behaviour of compacted vegetated soils.

Enrique Romero

UPC, Barcelona, Spain

KEYNOTE 1

Bentonite clay barriers in nuclear waste repositories.

Lyesse Laloui

EPFL Lausanne, Switzerland

KEYNOTE 2

A sustainable and bioengineered three-layer unsaturated landfill cover system without a geomembrane.

Charles Ng

HKUST Hong Kong, China



YOUNG INVITED LECTURES

Granular Material Point Method or how to model rapid flows of unsaturated granular materials

Wojciech Solowski
AALTO Finland

Unsaturated soils and large deformations with the Material Point Method.

Alba Yerro
Virginia Tech, USA

INVITED LECTURES: SESSION EFFECTIVE STRESSES

Effective stress in unsaturated soils: a microstructure perspective

Jean-Michel Pereira
ENPC Paris, France

Effective stress in unsaturated soils: lessons from capillarity in regular sphere arrangements

João Ribas Maranhã
LNEC, Lisbon, Portugal

Effective stress and microstructure in unsaturated soils

Jean Vaunat
UPC Barcelona, Spain

PANEL SESSION: CODES OF PRACTICE

Invited contributions and discussion

PARALLEL SESSIONS S1 to S24

Detailed below.

Please see the correspondence between the number of paper from easychair and the number of paper in the proceedings book at the end of this document.

The table of contents of the proceedings is also available at:

<https://eunsat2020.tecnico.ulisboa.pt/news/default.html> - see "News"



PARALLEL SESSIONS

Monday 19th October

19/10/2020 Morning 10h45 - 12h15

S1

Chair: To be defined

- 04001 Numerical simulation of a water infiltration test on a proposed backfill material in nuclear waste repositories
Abhishek Rawat, Anne Catherine Dieudonne, Wiebke Baille and Frederic Collin
- 04002 Development of a THMC code for bentonites in Comsol Multiphysics
Angel Yustres, Rubén López-Vizcaíno, Virginia Cabrera and Vicente Navarro
- 04003 Hydro-mechanical behaviour of binary bentonite pellet and powder mixtures
Arisleidy Mesa Alcantara, Enrique Romero, Nadia Mokni and Sebastia Olivella
- 04004 Modelling of oedometer tests on pellet-powder bentonite mixtures to support mock-up test analysis
Arisleidy Mesa Alcantara, Nadia Mokni, Enrique Romero and Sebastia Olivella
- 04006 A coupled hydro – mechanical approach for modelling the volume change behaviour of compacted bentonite
Jose A. Bosch, Alessio Ferrari and Lyesse Laloui
- 04009 Hydro-mechanical behaviour of a pellets based bentonite seal: Numerical modelling of lab scale experiments
Liliana Gramegna, Robert Charlier, Jean Talandier, Frederic Collin and Christophe Imbert
- 02006 Modelling the hydromechanical behaviour of expansive granular mixtures upon hydration
Benjamin Darde, Anh Minh Tang, Jean-Michel Pereira, Jean-Noël Roux, Patrick Dangla, Jean Talandier and Minh Ngoc Vu

S2 - Special session on reuse of geomaterials

Chair: Olivier Cuisinier

- 06001 Use of class C fly ash for stabilization of fine grained soils
Canan Turan, Akbar Javadi, Raffaele Vinai, Nader Shariatmadari and Raziye Farmani
- 06002 Characterisation of geomaterials and non-conventional waste streams for their reuse as engineered materials
Claudio Oggeri and Raffaele Vinai
- 06003 Hydro-mechanical behaviour of alkali-activated binder treated soil
Enza Vitale, Antonello Marocco, Michael Khatib and Giacomo Russo



- 06004 Water retention curves of lightweight cemented soils
Enza Vitale, Olivier Cuisinier, Giacomo Russo, Dimitri Deneele, Domenico De Sarno, Marco Valerio Nicotera, Raffaele Papa and Gianfranco Urciuoli
- 06005 Biochar for the improvement of soil and rock with acid potential
Erlend Sørmo, Erika Kämäräinen, Matilda Edvardsson and Christian Maurice
- 06006 Amelioration of permeable soil with green liquor dregs for the construction of sealing layers for mine waste storage facilities
Ida Kronsell, Susanne Nigéus, Anna Virolainen, Yu Jia, Thomas Pabst and Christian Maurice
- 06007 Experimental study on the effect of chitosan biopolymer on sandy soil stabilization
Nader Shariatmadari, Mohammad Reza Amiri Tasuji, Pooria Ghadir and A. Akbar Javadi
- 06008 Impact of successive wetting and drying cycles on the hydromechanical behaviour of a treated soil
Olivier Cuisinier
- 06009 Hydromechanical properties and microstructure of a kaolin treated with vinyl-based copolymer
Olivier Cuisinier, Alper Sezer, Sossio Fabio Graziano and Giacomo Russo

S3

Chair: To be defined

- 01027 Numerical study of the application of capillary barrier systems for prevention of rainfall-induced slope instabilities
Riccardo Scarfone, Simon Wheeler and Colin Smith
- 01033 Hydro-mechanical behaviour of a sandy silt from a river embankment
Vincenzo Butticè, Alessio Ferrari, Carmine Gerardo Gragnano and Guido Gottardi
- 01028 Coupled hydro-mechanical modelling of a 1995 Hong Kong landslide
Sabatino Cuomo, Angela Di Perna and Mario Martinelli
- 01025 Hydro-mechanical modelling of rammed earth structures
Parul Chauhan, Elio Moussa, Noémie Prime, Olivier Plé and Simon Wheeler
- 01023 Long-term suction measurements in Greece & Cyprus. A continuous update.
Michail Bardanis and Dimitrios Loukidis
- 01024 Fully-coupled analysis for the behaviour of flexible retaining structures under seismic conditions
Nicola Pontani, Kateryna Oliynyk and Claudio Tamagnini
- 01019 Water retention and characteristic curves representing tropical clay soils from Africa
Khalid Alhaj Abdalla, Giovanna Biscontin, Mohamed Elshafie and Ashraf Osman

19/10/2020 Afternoon 14h45 - 15h45

S4

Chair: To be defined

03037 Cyclic behavior of an unsaturated silty soil subjected to hydro- mechanics damages
Tomoyoshi Nishimura

03002 Very-small to large strain dynamic behaviour of unsaturated sand in a wide range of suction
Ali Akbar Karimzadeh and Anthony Kwan Leung

03018 Cyclic mechanical loading of silty clay soils
Henok Hailemariam and Frank Wuttke

03007 Evaluating the Maximum Shear Modulus (G_0) for different bender-soil coupling energies
Caio de Mattos Azevedo de Paula and Thiago de Souza Carnavale

01005 Centrifuge tests to evaluate the effect of depth of water table on seismic response of shallow foundations on silty sands
Amin Borghei, Majid Ghayoomi and Matthew Turner

S5

Chair: To be defined

02005 Modelling of unsaturated gas flow by Thebes code: Validation tests
Ayman Abed and Wojciech Solowski

02017 A frost heave model of unsaturated coarse-grained soil considering vapour transfer
Jianlong Liu, Jidong Teng, Sheng Zhang and Daichao Sheng

02027 Modelling free gas overpressure in peat layers
Stefano Muraro and Cristina Jommi

04008 Gas transport in compacted bentonite and their coupled hydro-mechanical interactions
Laura Gonzalez Blanco, Enrique Romero and Paul Marschall

S6

Chair: To be defined

03042 Hydromechanical behaviour of hydrophobised soils of varying degrees of saturation: a comprehensive review
Zheng Zhou and Anthony Leung

03039 Hydrophobisation of clays and nano silica for ground engineering
Yunesh Saulick and Sérgio Lourenço

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02030 Water-entry pressure in water repellent soils: a review
Xin Xing and Sérgio Lourenço

03040 Effect of wetting and drying on menisci structures in hydrophobic sands
Zeynep Karatza, Jim Buckman, Gabriela Medero and Christopher Thomas Stone Beckett

19/10/2020 Afternoon 16h00 - 17h00

S7

Chair: To be defined

03009 An Estimation of the Soil Water Characteristics Curves of Trinidad's Expansive Clays
Damian Alexander, Kyung Park and Derek Gay

03027 Comparison between Soil-Water Characteristic Curves based on filter paper method and grain-size distribution/volume-mass prediction: An evaluation of input data stemmed from hydrometer and Cilas grain-size analyser.
Marcos Felipe da Silva André and Thiago de Souza Carnavale

02002 Exponential Functions for Modelling Hysteresis of Soil-Water Characteristic Curves
Alfredo Satyanaga, Jong Kim, Sung-Woo Moon and Martin Wijaya

02010 Determination of soil water retention curve: an artificial intelligence-based approach
Ehsan Nikooee, Amir Mohammad Nouri, Alireza Ghadamgahi Khorassani, Rasoul Mirghafari and Ghassem Habibagahi

02024 Evaluation of prediction models applied to the soil-water characteristic curve of ideal materials
Roberto Alves, Gilson Gitirana and Sai Vanapalli

S8

Chair: To be defined

01016 Leachate production estimation for a landfill in south of Brazil using Hydrus-1D
Jonathan Tenório and Débora Hianca Da Rosa Waisczik

03028 A comparative assessment of chemical stabilisers including waste materials, for the treatment of swelling-shrinking soils
Maria Mavroulidou, Christopher Gray, Fortunate Gumbochuma and Michael Gunn

03004 Effect of Coal on Mine Tailings' Water Permeability and Water Retention
Andrew Vidler, Stephen Fityus and Olivier Buzzi

02003 M4EKR, Multiphysics for ElectroKinetic Remediation of Polluted Soils
Angel Yustres, Rubén López-Vizcaíno, Virginia Cabrera and Vicente Navarro



S9

Chair: To be defined

01018 Rainfall infiltration simulation on embankment containing soluble material
Katsuyuki Kawai, Kaito Arinishi, Satsuki Kataoka and Koji Nakashima

01004 A numerical study on the effect of salinity on the stability of an unsaturated railway embankment under rainfall
Ali Kolahdooz, Hamed Sadeghi and Mohammad Mahdi Ahmadi

01026 Unsaturated Seepage Analysis at Guayabo's Archaeological Site, Costa Rica
Rafael Baltodano-Goulding

01033 Hydro-mechanical behaviour of a sandy silt from a river embankment
Vincenzo Butticè, Alessio Ferrari, Carmine Gerardo Gragnano and Guido Gottardi



Tuesday 20th October

20/10/2020 Morning 10h45 - 12h15

S10

Chair: Rafaela Cardoso

- 01001 Effect of hydraulic parameters on the computed serviceability of infrastructure slopes
Aikaterini Tsiampousi, Lidija Zdravkovic and David M Potts
- 01029 Field monitoring of soil-moisture to understand the hydrological response of a road-cut slope
Samprada Pradhan, David G. Toll, Nick J. Rosser and Matthew J. Brain
- 01003 Probabilistic analysis of flood embankment stability: the case study of the Adige River embankment in Italy
Alessia Amabile, Fabio De Polo and Alessandro Tarantino
- 01022 Effect of Extreme Rainfall Intensity On Matric Suction and Ground Movement
Mastura Azmi, Muhammad Hazwan Zaki, Muhd Harris Ramli and Siti Aimi Nadia Mohd Yusoff
- 01010 Behavior of unsaturated pelitic soil in a railway context
Bilal Yoka Khail, Pierre Breul and Mathilde Morvan
- 01015 Stability Analysis of Unsupported Vertical Cuts in the Vadose Zone using 2D and 3D Numerical Methods
Gregory Brennan, Won Taek Oh and Othman Nasir
- 01017 Field and laboratory investigation of rainfall-triggered slope failure in unsaturated loess soils, New Zealand
Katherine Yates, Adrian Russell and Clark Fenton

S11

Chair: To be defined

- 02011 A water retention curve model for compacted clays subjected to salinization and desalinization processes
Gabriele Della Vecchia, Giulia Scelsi and Guido Musso
- 02014 A deformation-dependent soil-water characteristic surface model considering hysteresis
Guoqing Cai, Tianchi Wu, Hao Li, Chenggang Zhao, Jingjing Tian and Jian Li
- 03005 The influence of rates of drying and wetting on measurements of soil water retention curves
Arash Azizi, Ashutosh Kumar and David Geoffrey Toll

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- 02029 Modelling evaporation processes of cement-bentonite mixtures
Vincenzo Sergio Vespo, Gabriele Della Vecchia and Guido Musso
- 03003 Effect of stress state on the water retention curve of pyroclastic soil
Ana Sofia Dias, Abhijith Kamath, Marianna Pirone and Gianfranco Urci
- 02015 Theoretical modeling of retention curve
Jacques Monnet, Boutonnier Luc, Saïd Taïbi, Dino Mahmutovic and Denis Branque
- 01011 Shear strength and retention models of a partially saturated riverbank silty soil
Carmin Gerardo Gragnano, Mariagiovanna Moscariello, Sabatino Cuomo and Guido Gottardi

S12

Chair: To be defined

- 03008 Changes on diametral compression behaviour of compacted marls due to drying
Carmen Covadonga Garcia-Fernandez, Rafaela Cardoso, Martina Inmaculda Alvarez-Fernandez and Celestino Gonzalez-Nicieza
- 03014 Measurement of xylem water pressure using High-Capacity Tensiometer and benchmarking against Pressure Chamber and Thermocouple Psychrometer
Giuseppe Tedeschi, Roberta Dainese and Alessandro Tarantino
- 03020 Developing a high capacity axis translation apparatus for gas shale testing
Jinwoo Kim, Alessio Ferrari, Russell Ewy and Lyesse Laloui
- 03022 Determination of permeability and shear strength properties of unsaturated residual soil from flysch rock mass
Josip Peranić, Mariagiovanna Moscariello, Sabatino Cuomo and Željko Arbanas
- 03026 Retention behaviour of compacted and reconstituted scaly clays
Marco Rosone and Alessio Ferrari
- 01020 Subsidence in cultivated peatlands, is it due to shrinkage, consolidation or oxidation?
Leon van Paassen, Nor Hazwani Md Zain and Cristina Jommi
- 01012 Calibration of a simple 1D model for the hydraulic response of regional dykes in The Netherlands
Ching-Yu Chao, Maarten Bakker and Cristina Jommi

S13

Chair: To be defined

01002 The TERRE project: Towards low-carbon geotechnical engineering by exploiting suction as natural untapped soil reinforcement
Alessandro Tarantino, Grainne El Mountassir, Simon Wheeler, Domenico Gallipoli, Giacomo Russo, Charles Augarde, Gianfranco Urciuoli, Marianna Pirone, Alexia Stokes, Jan Willem van de Kuilen, Wolfgang Gard, Thierry Fourcaud, Enrique Romero, Angel Priegue, Colin C Smith, Pyrène Larrey-Lassalle, Patrick Becker and Alessio Ferrari

01007 Volume change behaviour of root-permeated soils under partially saturated conditions
Anil Yildiz, Frank Graf and Sarah M. Springman

01032 Infiltration behaviour of dike covers made of dredged material on the Rostock Research dike
Tim Jurisch, Stefan Cantre and Fokke Saathoff

01008 Monitoring of thermo-hydrological behaviour in Green Infrastructure
Anil Yildiz, Ross Stirling and Stephanie Glendinning

S14

Chair: To be defined

03023 Failure mode transitions of unconfined granular media from dry, to unsaturated, to “quasi-fully” saturated states
Katherine Winters, Woodman Berry, Greg Siemens and Oliver-Denzil Taylor

02008 A micromechanical analysis of a drying sand castle using DEM
Carlos Pereira, João Ribas Maranhã and Rafaela Cardoso

03033 An experimental study of the behaviour of two rockfills accounting for the effects of degree of saturation
Roberta Ventini, Alessandro Flora, Stefania Lirer, Claudio Mancuso and Antonio Cammarota

02018 Development of an unfrozen water retention curve for capturing soil density and specific surface effects
Jiwen Zhang, Qingyi Mu, Hongjian Liao and Jie Cao

S15

Chair: To be defined

03019 Preliminary study on the contribution of osmotic effects for the electrical resistivity of sands
Inês Borges, Vikas Gingine and Rafaela Cardoso

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03015 Monitoring drying and wetting of a cement bentonite mixture with Electrical Resistivity Tomography
Guido Musso, Antonio Zibisco, Renato Maria Cosentini, Paolo Trischitta and Gabriele Della Vecchia

03016 Electric Conductivity Probes to Study Change in Degree of Saturation - Bench Top Laboratory Tests
Hadi Kazemiroodsari, Mishac K Yegjian, Akram Alshawabkeh and Seda Gokyer

03012 A new approach of accounting for impedance effects in Gardner's method of determining the hydraulic conductivity of unsaturated soils
Filip Stanic, Pierre Delage and Yu Jun Cui

20/10/2020 Afternoon 16h00 - 17h00

S16

Chair: To be defined

01021 Physical modelling of piles under lateral loading in unsaturated soils
Leonardo Maria Lalicata, Giada Rotisciani, Augusto Desideri, Francesca Casini and Luc Thorel

01009 Analysis of massive sulphate attack to cement-treated compacted soils
Anna Ramon Tarragona and Eduardo Alonso

01030 Performance of a driven battered mini-pile group against expansive soil induced ground movement
Shirin Aminzadeh Bostani Taleshani, Robert Evans, Emad Gad and Mahdi Miri Disfani

04005 Impacts of Unsaturated Conditions on The Ultimate Axial Capacity of Energy Piles
Fatemah Behbehani and John S. McCartney

S17

Chair: To be defined

02022 Application of single-board computers in experimental research on unsaturated soils
Marius Milatz

03006 Expansive Clay Cracking Behavior through Digital Image Correlation
Arthur Gomes Dantas De Araújo, Nayara Torres Belfort, Felipe Araujo Silva Barbosa, Thalita Cristina Rodrigues Silva, Silvio Romero De Melo Ferreira and Leonardo José Do Nascimento Guimarães

03017 Capillary Rise Determination Using Simplified Image Analysis Method
Harris Ramli, Lee Zheng Xian, Mastura Azmi and Fauziah Ahmad

03010 Image-based measurements of degree of saturation
Ferran Parera, Núria M. Pinyol and Eduardo E. Alonso



03021 Experimental and numerical analysis of soil desiccating cracks in compacted and non-compacted specimens

Josbel Cordero, Abdallah Najdi, David Encalada, Pere C. Prat and Alberto Ledesma

S18

Chair: To be defined

03034 Characterization of Sand and Zeolite Stabilized Expansive Soil as Landfill Liner Material under Environmental and Climatic Effects

Şerife Öncü and Huriye Bilsel

03035 Effect of external hydraulic head on swelling of unsaturated clay

Shay Nachum, Mark Talesnick and Sam Frydman

03036 Frost heave and thaw settlement of initially saturated-slurried and compacted-saturated materials

Snehasis Tripathy, Osama Mahdi Al-Hussaini, Peter John Cleall, Stephen William Rees and Han-Lin Wang

03038 Yielding of partially saturated soils from saturated to dry state

Vincenzo Butticè, Alessio Ferrari and Marco Rosone

Wednesday 21st October

21/10/2020 Morning 10h45 - 12h15

S19

Chair: To be defined

02025 Numerical investigation on water exchange of shale samples
Sara Incollingo, Alessio Ferrari and Guido Musso

02026 A semi-empirical model to predict excess pore pressure generation in partially saturated sand
Sayedmasoud Mousavi and Majid Ghayoomi

02028 Evaluation of direct shear strength of compacted bentonite having pore-water pressure
Tomoyoshi Nishimura and Masaaki Fukaya

03013 A physical model for the interaction between unsaturated soils and retaining structures
Gianluca Speranza, Alessio Ferrari and Lyesse Laloui

03030 Laboratory testing of seepage in concrete
Miklós Pap, András Mahler and Salem Georges Nehme

03031 Analysis of the suction evolution during direct shear test in a silty sand soil
Omar Al-Emami, Gabriela Medero, Fernando Marinho and Melis Sutman

03032 Preliminary investigation on the water retention behaviour of cement bentonite mixtures
Paolo Trischitta, Renato Maria Cosentini, Gabriele Della Vecchia and Guido Musso

S20

Chair: To be defined

02007 Bounding surface constitutive model for unsaturated soils considering microscopic pore structure and bonding effect
Bowen Han, Guoqing Cai, Jian Li, Chenggang Zhao and Hao Li

02009 Modeling multiphase flow with a hybrid model based on Pore-network and lattice Boltzmann method
Eduard Puig Montellà, Chao Yuan, Bruno Chareyre and Antonio Gens

02012 Numerical modelling of the response of an unsaturated silty soil under wetting and gravitational loading processes
Giada Maria Rotisciani, Leonardo Lalicata, Augusto Desideri and Francesca Casini

02013 Overview and conceptual constitutive framework for pellet-based buffer materials
Giulia Marianna Ghiadistri, Lidija Zdravković, David M. Potts and Aikaterini Tsiampousi

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- 02001 A single-stress model for the prediction of yielding of unsaturated cemented soils under isotropic loads
Agostino Walter Bruno, Domenico Gallipoli, Mohamed Rouainia and Marti Lloret-Cabot
- 02004 An extended generalized effective stress for active clays
Angelica Tuttolomondo, Alessio Ferrari and Lyesse Laloui
- 02016 A plastic volumetric strain dependent soil water retention curve
Jayantha Kodikara and Chathurika Jayasundara
- 01006 Numerical study on bearing capacity of a pile group next to a slope in unsaturated soils
Amirreza Pourfatollah, Ali Pirjalili and Aliakbar Golshani

S21

Chair: To be defined

- 04010 Low-suction water retention capacity of bentonite at high temperature
María Victoria Villar, Carlos Gutiérrez-Álvarez and Rubén Iglesias
- 04011 Swelling behavior of unsaturated claystone/ bentonite mixtures
Marvin Middelhoff, Olivier Cuisinier, Farimah Masrouri, Jean Talandier and Nathalie Conil
- 04012 Restoring initial conditions in a deep argillaceous rock with induced suction on retrieval
Nuria Sau Valenzuela, Enrique Romero Morales and Hervé Van Baelen
- 04013 Effect of initial conditions on the predicted response of thermally-activated piles
Peter John Bourne-Webb, Teresa Maria Bodas Freitas, Donatella Sterpi and Martina Zito
- 04014 Effect of Elevated Temperatures on Lateral Earth Pressures in Unsaturated Soils
Sannith Kumar Thota and Farshid Vahedifard
- 04007 Effects of temperature, test time duration and heat flux in thermal conductivity measurements under transient conditions in dry and fully saturated states
Kamar Aljundi, Ana Vieira, José Lapa and Rafaela Cardoso
- 04015 Numerically reproduced HE-E experiment of Mt Terri project by Thermo-Hydro-Mechanical coupled model
Shin Sato, Shuichi Yamamoto, Masaaki Fukaya, Yasuhiro Tawara, Kei Tanaka, Florian Kober and Seda Torisu
-

21/10/2020 Afternoon 14h45 - 15h15

S22-1

Chair: To be defined

01014 Stabilization of soil erosion using vetiver (*Chrysopogon zizanioides* L.) in slopes: a field case study of selected grounds at Guatemala

Eduardo Garzón Garzón, Flor M. González-Miranda, Juan Reca and Pedro José Sánchez-Soto

03025 Wetting-induced collapse behaviour of a natural and vegetated coarse pyroclastic soil

Leonardo Cascini, Vittoria Capobianco, Sabatino Cuomo and Vito Foresta

03001 Tensile strength of a vegetated and partially saturated soil

Alessandro Fraccica, Enrique Romero, Thierry Fourcaud, Mercedes Sondon and Luis Gandarillas

03011 Water retention and transfer properties of a Green roof volcanic substrate

Filip Stanic, Pierre Delage and Yu Jun Cui

S23 - 1 - Special session on biocementation

Chair: Annette Esnault-Filet

05001 BOREAL, Bio- reinforcement of embankments by biocalcification

Annette Esnault Filet, Ira Gutjahr, Aurelie Garandet, Amandine Viglino, Rémi Béguin, Jean-Michel Monier, Laurent Oxarango, Fabrice Emeriault and Sabine Castanier Perthuisot

05002 Physical and geotechnical properties of a silty sand soil treated with calcium carbonate fixing bacteria

Eduardo Garzón Garzón, Laura Morales, Juan Reca, Enrique Romero and Pedro José Sánchez-Soto

05003 Unsaturated Fluid Flow through Granular Soils Treated with Microbial Induced Desaturation and Precipitation

Elizabeth Stallings Young, Leon van Paassen and Claudia Zapata

05004 Comparison of experimental techniques for biocementation of sands considering homogeneous volume distribution of precipitated calcium carbonate

Francisco Centeno Dias, Inês Borges, Sofia O.D. Duarte, Gabriel A. Monteiro and Rafaela Cardoso



S24-1

Chair: To be defined

02020 Calibration of a generalized plasticity model for compacted silty sand under constant-suction shearing tests

Marcos García-García, Ujwalkumar Patil, Diego Manzanal, Laureano Hoyos, Anand Puppala and Manuel Pastor

02019 The mechanical behavior of an expansive soil due to long-term seasonal rainfalls

Kai Li, Liang Kong, Hossein Nowamooz and Cyrille Chazallon

02021 Modelling of simple shear tests on volcanic unsaturated sands

Mariagiovanna Moscariello, Yanni Chen, Sabatino Cuomo and Giuseppe Buscarnera

02023 Swelling Curve in Terms of Effective Stress for Expansive Clays

Rafael Baltodano-Goulding

21/10/2020 Afternoon 15h30 - 16h15

S22 - 2

Chair: To be defined

01013 Development of a Thornthwaite Moisture Index Map for Trinidad and Tobago

Damian Alexander, Derek Gay and Kyung Park

03029 Modeling Unsaturated Soil Response Beyond Residual Suction State via Vapor-Pressure Controlled Triaxial Testing

Mathilde Morvan, Ujwalkumar Patil, Laureano Hoyos, Anand Puppala and Surya S.C. Congress

03024 Unsaturated Shear Strength Parameters of Compacted Clayey Soil via Suction-controlled Ring Shear Testing

Laureano R. Hoyos, Jairo E. Yepes and Anand J. Puppala

S23 - 2 - Special session on biocementation

Chair: Annette Esnault-Filet

05005 Discrete Element Modelling for biocemented sand: effect of calcite distribution at the microscopic scale

Mohammad Abbas, Deepak Kunhappan, Abdelali Dadda, Christian Geindreau, Fabrice Emeriault, Annette Esnault-Filet and Aurélie Garandet

05006 Implementation of biocementation for a partially saturated problematic soil of the UK railway network

Muhammad Umair Safdar, Maria Mavroulidou, Michael Gunn, Christopher Gray, Diane Purchase, Jonathan Garelick and Ian Payne

05008 Effect of the soil type on the biocementation process by enzymatic way

Paulo Venda Oliveira and Luís Freitas



05009 The effect of microbial calcite precipitation on the retention properties of unsaturated fine-grained soils: discussion of the governing factors
Rahim Saffari, Ehsan Nikooee and Ghassem Habibagahi

S24-2 - Special session

Chair: *Yu-Jun Cui*

3041 Fall cone test on biopolymer-treated clay
Zhanbo Cheng, Jing Ni, Haotian Ding and Xueyu Geng

3043 Investigating the contribution of claystone to the swelling pressure of its mixture with bentonite
Zhixiong Zeng, Yu-Jun Cui, Nathalie Conil and Jean Talandier

3044 Changes in microstructure and mineralogy of a lime-treated silty soil during curing time
Zi Ying, Yu-Jun Cui, Nadia Benahmed and Myriam Duc

1031 Monitoring of earthen long linear embankments by geophysical tools integrated with geotechnical probes
Stefano Utili

21/10/2020 Afternoon 16h30 - 17h00

CLOSURE

Chair: To be defined

CORRESPONDENCE TABLES

Table 1 - Number from the table of contents vs numbers from easychair system (130 papers in total).

Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number
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1002	173	1026	35	2014	217	3005	89	3029	82	4006	123	6002	203		
1003	224	1027	51	2015	165	3006	193	3030	212	4007	109	6003	180		
1004	86	1028	59	2016	48	3007	76	3031	178	4008	215	6004	229		
1005	69	1029	220	2017	14	3008	70	3032	150	4009	67	6005	209		
1006	18	1030	56	2018	5	3009	25	3033	23	4010	49	6006	211		
1007	33	1031	236	2019	43	3010	222	3034	104	4011	57	6007	202		
1008	32	1032	225	2020	226	3011	129	3035	61	4012	214	6008	177		
1009	247	1033	164	2021	42	3012	131	3036	163	4013	159	6009	186		
1010	7			2022	9	3013	130	3037	15	4014	196				
1011	105			2023	36	3014	122	3038	34	4015	12				
1012	250	Table of contents	Paper number	2024	2	3015	152	3039	21						
1013	26	2001	213	2025	246	3016	197	3040	179	Table of contents	Paper number				
1014	157	2002	248	2026	87	3017	183	3041	242	5001	118				
1015	125	2003	167	2027	219	3018	132	3042	64	5002	156				
1016	238	2004	227	2028	16	3019	38	3043	168	5003	39				
1017	27	2005	53	2029	245	3020	228	3044	74	5004	37				
1018	17	2006	148	2030	79	3021	243			5005	117				
1019	194	2007	218			3022	22	Table of contents	Paper number	5006	140				
1020	158	2008	126	Table of contents	Paper number	3023	73	4001	72	5007	145				
1021	103	2009	96	3001	244	3024	97	4002	166	5008	13				
1022	170	2010	83	3002	138	3025	88	4003	119	5009	221				
1023	113	2011	149	3003	60	3026	20	4004	249						
1024	233	2012	95			3027	77*								

Table 2 - Number from easychair system versus the number in the table of contents (130 papers in total).

Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents	Paper number	Table of contents
2	2024	37	5004	77	3027	128	1025	173	1002	221	5009
3	3004	38	3019	79	2030	129	3011	177	6008	222	3010
5	2018	39	5003	82	3029	130	3013	178	3031	224	1003
7	1010	42	2021	83	2010	131	3012	179	3040	225	1032
9	2022	43	2019	86	1004	132	3018	180	6003	226	2020
12	4015	48	2016	87	2026	134	4005	183	3017	227	2004
13	5008	49	4010	88	3025	138	3002	186	6009	228	3020
14	2017	50	1001	89	3005	140	5006	193	3006	229	6004
15	3037	51	1027	94	3028	145	5007	194	1019	233	1024
16	2028	53	2005	95	2012	148	2006	196	4014	236	1031
17	1018	56	1030	96	2009	149	2011	197	3016	238	1016
18	1006	57	4011	97	3024	150	3032	199	6001	242	3041
20	3026	59	1028	103	1021	152	3015	202	6007	243	3021
21	3039	60	3003	104	3034	156	5002	203	6002	244	3001
22	3022	61	3035	105	1011	157	1014	209	6005	245	2029
23	3033	62	2013	109	4007	158	1020	211	6006	246	2025
25	3009	64	3042	113	1023	159	4013	212	3030	247	1009
26	1013	67	4009	117	5005	163	3036	213	2001	248	2002
27	1017	69	1005	118	5001	164	1033	214	4012	249	4004
32	1008	70	3008	119	4003	165	2015	215	4008	250	1012
33	1007	72	4001	122	3014	166	4002	217	2014		
34	3038	73	3023	123	4006	167	2003	218	2007		
35	1026	74	3044	125	1015	168	3043	219	2027		
36	2023	76	3007	126	2008	170	1022	220	1029		

