Copyright of each paper published in this conference proceeding belongs to the authors of the respective paper
Table of contents

Preface  
Organisation  
Acknowledgement to reviewers

VOLUME 1

BLIGHT LECTURE

Role of the soil-water characteristic curve in unsaturated soil mechanics  
D. G. Fredlund

KEYNOTE & SPECIAL INVITED LECTURES

Advances in landslide modelling of unsaturated soils  
E. Alonso

Lessons from the catastrophic landslide of construction waste dump occurred in Shenzhen of China on 20th December 2015  

Macroscopic effects of the hydration mechanisms in smectites; applications to engineered and geological barriers for radioactive waste disposal  
P. Delage

On the hydration of unsaturated barriers for high-level nuclear waste disposal  
A. Gens, B. Pomaro, M. Sánchez, M. V. Villar

Gas shales: geomechanical challenges and analysis  
L. Laloui, A. Ferrari, A. Minardi

Geospatial distribution of unsaturated soil properties for slope stability assessment  
H. Rahardjo, A. Satyanaga, M. M. Nistor, E. C. Leong

The UH model for unsaturated soils  
Y. P. Yao, L. Niu, W. J. Cui

On the modelling of soil-atmosphere interaction in cut and natural slopes  
L. Zdravkovic, A. Tsiampousi, D. M. Potts

THEMED-BASED GENERAL REPORTS

Fundamental soil behaviour (Part I)  
D. G. Toll

Fundamental soil behaviour (Part II) - a wider perspective of hydro-mechanical and thermal behaviour of unsaturated soils  
V. Sivakumar, E. J. Murray, S. Tripathy
New equipment and testing methods  
*F. A. M. Marinho*

Constitutive, numerical and physical modelling  
*D. Mašín*

Geotechnical engineering problems in unsaturated soils  
*J. S. McCartney*

Energy and environmental issues  
*M. Sánchez*

**FUNDAMENTAL SOIL BEHAVIOUR**

**Strength and stiffness**

Experimental investigation of the critical state of unsaturated silty sand from Beijing  
*G.Q. Cai, Saman Asreazad, C. Liu, Y.N. Wang, C.G. Zhao*

The effect of ambient humidity on the stiffness and strength of a hyper-compacted silty clay for earth building  
*A. Cuccurullo, D. Gallipoli, A. W. Bruno, C. La Borderie, C. Augarde, P. Hughes*

Strength of unsaturated soils in high suction range  
*Y. Gao, D.A. Sun, X. Li, K.L. Ruan, A.N. Zhou, J. Li*

Unsaturated and Saturated Soil-Interface Effect on Shearing Behavior of Soils  
*J. Hajjat, M. Sánchez, G. Avila*

Electrical resistivity and mechanical behavior of unsaturated soil under multiple cycles of drying and wetting  
*C. Huang, P. N. Hughes, D. G. Toll, J. D. Asquith, D. A. Gunn, B. Dashwood, S. Uhlemann, J. E. Chambers*

Shear Strength of Unsaturated Sand at Different Relative Densities  
*R. Imam, S. Vaseghi Maghvan, J.S. McCartney*

Deformation and suction variation of an unsaturated soil during constant water content triaxial loading  
*L. Li, X. Zhang*

Testing of unsaturated soil-steel interface shear strength  
*Y. Liu, S.K. Vanapalli*

Experimental study on the unsaturated behaviour of a compacted soil  
*K. Liu, W.B. Chen, W.Q. Feng, J.H. Yin*
Effect of saturation on compression wave velocity of silty sand
X. Liu, J. Yang

The mechanical yield stress in unsaturated and saturated soils
M. Lloret-Cabot, S.J. Wheeler

Three-phase coupled analysis about seismic behavior of embankment under cold snowy condition
T. Matsumaru, S. Kawajiri

Elastic behavior of partially saturated gas shales during unloading-reloading cycles in uniaxial compression
A. Minardi, A. Ferrari, L. Laloui, R. Ewy

Effect of shaking intensity on seismic response of unsaturated sand layers
M. Mirshekari, M. Ghayoomi

Strength and stiffness of silty clay with variable saturation
T. Mohyla, J. Jerman, J. Rott, J. Bohác, D. Mašín

Influence of environmental relative humidity on unconfined compressive strength of unsaturated residual soils
R. Monica, S. M. Rao

Validating new simple shear tests on a partially saturated pyroclastic soil
M. Moscariello, S. Cuomo, V. Foresta

Preliminary study on use of biopolymers in earthen construction
S. Muguda, S. Booth, P.N. Hughes, C.E. Augarde, C. Perlot, A.W. Bruno, D. Gallipoli,

Shearing and compression behavior of compacted sand-clay mixtures
W. Mun, M.C. Balci, F. Valente, J.S. McCartney

Assessment of micro-porous membrane method to cyclic triaxial test for an unsaturated silty soil
T. Nishimura, P. Habasimbi

A conceptual model for interpreting the evolution of very small strain stiffness in unsaturated soils
A.G. Pagano, A.Tarantino, V. Magnanimo

Suction-induced dilatancy and stiffness in compacted silty sand via triaxial testing
U.D. Patil, A. Banerjee, L.R. Hoyos, A.J., Puppala, X. Yu

Influence of water content on matric suction and shear strength of unsaturated compacted silty soil in unconfined conditions
A. M. Rasool, S. Seki, J. Kuwano
Shear behaviour of a desiccated loess with three different microstructures
H. Sadeghi, C. W. W. Ng

Influence of saturation degree on soils behavior towards liquefaction
M. Vernay, M. Morvan, P. Breul

Carbonation of lime treated fine grained soils
E. Vitale, G. Russo, D. Deneele

Small-strain shear modulus behavior from a laboratory scale cross-hole seismic test
C. Walton-Macaulay, J. Curd

Water retention properties

Unsaturated soil water retention curve of road material using evaporation method
H. Bhuyan, G. Yan, P. N. Mishra, A. Scheuermann, D. Bodin, R. Becker

Laboratory measurement of the mechanical and retention properties of a river embankment silty soil in partially saturated condition
C. G. Gragnano, G. Gottardi, M. Moscariello, S. Cuomo, I. Rocchi

Comparison of soil-water characteristic curves under different stress conditions
P. Habasimbi

Influence of soil structure on the soil water characteristic curve behavior of compacted loess
X. K. Hou, T. L. Li, X. Xiao, S. K. Vanapalli

Water retention curves of geosynthetic clay liners
E. C. Leong, H. Abuel-Naga, Y. Lu

Investigation of transient effects on the soil-water characteristic curve of different granular soils
M. Milatz, T. Törzs, J. Grabe

An integrated approach for capturing dielectric response of the dredged material from the port of Brisbane
P. N. Mishra, P. Patel, T. Bore, A. Scheuermann, L. Li

Calculation of retention curves for loams
J. Monnet, D. Mahmutovic, L. Boutonnier, S. Taibi

Measurement of water retention curve for different concrete mixtures
M. Pap, A. Mahler, S. G. Nehme

Determination of soil water retention curve of residual soil from a flysch rock mass
J. Peranic, Ž. Arbanas, V. Foresta, S. Cuomo, M. Macek
Influence of stress state on water retention characteristics of compacted soil for the complete suction range
S. Rajesh, S. Roy

Variability of suction in expansive clays
P. R. Stott, E. Theron

Effect of xanthan gum biopolymer on the water retention characteristics of unsaturated sand
T. P. A. Tran, G. C. Cho, S. J. Lee, I. Chang

An investigation of soil water retention behavior using large soil column test and multiphase Lattice Boltzmann simulation
G. Yan, T. Bore, S. A. Galindo-Torres, A. Scheuermann, L. Li, S. Schlaeger

An insight into soil-water retention surface using soil-water space curves
W. L. Zou, Y. X. Ye, Z. Han, S. K. Vanapalli

Flow and wettability

Changing and equilibrating water content of triaxial test specimens without suction control
M. B. Kenanoglu, N. K. Toker

Comparison of capillary pressure curves and hydraulic conductivity functions of water and vinasse using evaporation method
M. A. Alfaro Soto, H. K. Chang, H. R. Silva

Predicting air-entry value from saturated permeability of porous materials
P. Khaimook, J. C. Chai

The effect of fines on the hydraulic properties of well graded materials
K. A. Kwa, J. Ghorbani

Wettability of natural surface soils of Hong Kong
B. H. W. Li, T. H. Y. Lam, S. D. N. Lourenço

Wicking fabric interactions with different soil types
C. Lin, X. Zhang

Time-dependency of soil water repellency induced by dimethyldichlorosilane
D. Liu, S. D. N. Lourenço

Quantifying the desaturation effect of biogenic gas formation in sandy soil
V. P. Pham, L. A. van Paassen, W. R. L. van der Star

On the formula of Darcy law and seepage force
L. T. Shao, X. X. Guo
Water, heat and electric current flow in saturated and unsaturated sandy soil
*T. Tokoro, T. Ishikawa*

**Volume change and desiccation cracks**

Shrinkage cracking in physical model of undisturbed expansive clay slope subjected to wet-dry cycles
*A. C. Amenuvor, G-W. Li, Y-Z. Hou, W. Chen*

On the swelling behaviour of shallow Opalinus clay shale
*E. Crisci, A. Ferrari, L. Laloui, S. Giger*

Image-based analysis of unsaturated volcanic sands upon wetting
*S. Cuomo, M. Moscariello, P. Chauhan, S. Salager*

Hydro-chemo-mechanical behavior of a sand/bentonite mixture upon wetting paths
*A. Ferrari, D. Manca, L. Laloui*

Relationship between the wetting-induced collapse behavior and soil-water characteristic curve of unsaturated uncemented soils
*P. Li, S. K. Vanapalli*

Impact of pore fluid salinity on progressive volume change behavior of kaolin
*P. N. Mishra, A. Liu, T. Bore, A. Scheuermann, L. Li*

Experimental characterizations of the hydro-mechanical behavior of a pellet/powder bentonite mixture
*A. Molinero Guerra, N. Mokni, Y.-J. Cui, A. M. Tang, P. Delage, P. Amedieu, F. Bernier, M. Bornert*

Collapse impact of calcium carbonate in unsaturated clay soils
*A.W. Opukumo, C.T. Davie, S. Glendinning*

Effect of moisture on volumetric behaviour of compacted laterites
*P. Osele, G. J. Kasangaki*

A model for volume change dependency of water retention curve
*A.Y. Pasha, A. Khoshghalib, N. Khalili*

Investigation of the mechanical behavior of compacted bentonite
*H. Sun, D. Mašín, J. Najser*

Factors affecting the geometrical structure of soil desiccation cracking pattern
*C. S. Tang, H. Zeng, L. Lin, T. Leng, C. L. Liu, X. P. Gong, K. Gui*

Stabilisation of clayey soil using fiber reinforcement
*H. Trabelsi, M. Chebbi, H. Guiras, M. Jamei, E., Romero*
Numerical simulation of soil curling during desiccation process
K. M. Tran, H. H. Bui, J. Kodikara, M. Sánchez

Bentonite strain due to cyclic suction changes
M. V. Villar, A. Lloret

Automatic detection of coded targets for rapid measurement of volume changes of unsaturated soil specimens in triaxial tests
X. Xia, W. Luo, Z. Yin, X. Zhang

Thermal effects

Suction effect on the thermal properties of compacted kaolin
R. Cardoso, M. Sousa, A. Vieira

Wetting-induced collapse of unsaturated loess at various temperatures
Q. Cheng, C. Zhou, C. W. W. Ng

A study on the thermal properties of near surface thin clay sand liners
M. A. Dafalla, A. Al-Mahbashi, M. A. Al-Shamrani, A. Samman

Surface area and elemental composition of unsaturated clay under elevated temperatures
C. C. Goodman, N. Latifi, F. Vahedifard

Observation of thermally driven water flow in soils via micro-focus X-ray computed tomography
K. Liu, F. A. Loveridge, R. Boardman, W. Powrie

Ice formation in unsaturated frozen soils
Y. Mao, E. Romero, A. Gens

Thermal effects on the shear behaviour of unsaturated intact and recompacted loess
Q. Y. Mu, C. W. W. Ng, C. Zhou

Influence of thermal heating on unsaturated bentonite strength
T. Nishimura, M. Matsumoto

Temperature influence on swelling deformation behaviour of compacted GMZ bentonite
B. Qin, F. Z. Zhang, Y. Lu, Z. H. Chen

Nonisothermal apparent thermal conductivity function for heat transfer in unsaturated soils
R.A. Samarakoon, J. S. McCartney, Y. Dong, L. Nu

Experimental evidence for canopy effect: moisture accumulation in unsaturated freezing soils
J. Teng, F. Shan, J. Kou, S. Zhang, D. Sheng
Microscopic behaviour

Molecular level fabric and structure simulations of expansive clays
S. N. Abduljauwad, H. R. Ahmed

Evolving fabric and its impact on the shearing behaviour of a compacted clayey silt exposed to drying-wetting cycles
A. Azizi, G. Musso, C. Jommi, R. M. Cosentini

Determination of soil pore size distribution: application of a new model for soil porous structure
S. Ghabezloo, E. Nikooee, G. Habibagahi, R. Mirghaffari

Pore-size distributions measured by mercury intrusion porosimetry: implications for functional relationships in hydromechanical models
P. Simms, S. Qi

Particle size distribution under the microscope
P. R. Stott, E. Theron
NEW EQUIPMENT AND TESTING METHODS

Suction-controlled repeated load triaxial test of subgrade soil at high suction state
A. Banerjee, U. D. Patil, A. J. Puppala, L. R. Hoyos

Evaluation of TDR measured dielectric constant vs. volumetric water content relationships for different soils
K. V. Bicalho, J. C. Gramelich, Y.-J. Cui

Shear strength of compacted residual soils via constant water content direct shear tests
S. Bulolo, E. C. Leong

Sol-gel relative humidity sensors incorporated in oedometer cells for soil suction measurement
R. Cardoso, S. Cardoso, L. Ilharco

Calibration of TDR probes for water content measurements in partially saturated pyroclastic slope
A.S. Dias, M. Pirone, G. Urciuoli

Variation of shear strength of an unsaturated silica sand during drying
P. Ghasemi, A. Khosravi

Suction measurements by a fixed-matrix porous ceramic disc sensor
Y. Karagoly, S. Tripathy, P. J. Cleall, T. Mahdi

Water retention characteristics of water repellent soils using continuous pressurization method
B.-S. Kim, Y. Takeshita, S. Kato, S.-W. Park

Temperature-controlled oedometer testing on compacted bentonite
A. D. Kirkham, A. Tsiampousi, D. M. Potts

Effects of a heat injection on the settlement behavior of unsaturated soil
C. Koy, K. T. Chhun, C. Y. Yune

Unsaturated permeability prediction using natural evaporation method in cracked clay
F. Louati, H. Trabelsi, M. Jami, A. Mabrouk

Addition of bentonite to residual soil
C. F. Mahler, L. de L. Moura, P. P. F. Gouveia Filho

Saturation studies of tropical residual soils - special laboratory tests

Swelling behaviour of an expansive clay at high suction
V. Mantikos, A. Tsiampousi, J. R. Standing
Water retention curves of a dyke: in-situ vs laboratory determination
P. A. Mayor, S. M. Springman, W. F. Morales

Estimating osmotic suction using a chilled mirror hygrometer
G. A. Miller, Y. Wei

Measuring in-situ dry density using dynamic penetrometer
M. Morvan, P. Breul

Wetting test and X-ray Computed Tomography of an unsaturated sand
M. Moscariello, S. Cuomo, S. Salager

Evaluation of in-situ saturation condition for an unsaturation method for liquefaction countermeasures
H. Nakazawa, T. Takagi, H. Hayashi, K. Tabata, K. Nagao

A novel thermo-hydro-mechanical column device for testing compacted expansive soils
A. Rawat, W. Baille, T. Schanz, S. Tripathy

Engineering water repellency in granular solids
Y. Saulick, S. D. N. Lourenço, B. A. Baudet

A comparison of wettability measurements on a synthesised water repellent sand
Y. Saulick, S. D. N. Lourenço, B. A. Baudet

The use of moisture probes to infer changes in suction due to controlled inundation behind a full scale trial retaining wall

Investigations on the water-retention behaviour of water-permeable pavement materials based on innovative binder materials
T. Törzs, J. Grabe, G. Lu, M. Oeser

Hygroscopicity issues in powder and grain technology
J. Torres-Serra, E. Romero, A. Rodríguez-Ferran

Investigating some irregularities observed during suction measurements using the Hyprop device
L. A. van Paassen, R. N. Tollenaar, C. Jommi, A. Steins, G. von Unold

CONSTITUTIVE, NUMERICAL AND PHYSICAL MODELLING

Inclusion of chemical effect in a fully coupled THM finite element code
A. A. Abed, W. Solowski, E. Romero, A. Gens

An evolutionary-based modelling approach for predicting the effective stress parameter in unsaturated soils
A. Ahangar Asr, A. A. Javadi
Modelling the elastic axial force-displacement behaviour of a buried pipeline subjected to permanent ground deformation in the axial direction
M. Al-Khazaali, S. K. Vanapalli

Modelling anisotropy of unsaturated soils using Bishops stress
M. A. Al-Sharrad, D. Gallipoli

Techniques to model the stress-settlement behaviours of shallow foundations in unsaturated sands
G. Brennan, W. T. Oh

A coupled micromechanical model for triphasic granular system
A. P. Das, J.D. Zhao, T. Sweijen

Lateral Earth Pressure on Buried Concrete Pits
M. Falzon, A. Scheuermann, C. Abeysinghe

Hydro-mechanical finite element modelling of rammed earth construction submitted to moisture variations
B. François, P. Gerard

Effective stress dependent failure criterion for desiccation cracking in fine-grained soils
P. Gerard, I. Murray, A. Tarantino

Application of cone penetrometer for unsaturated soil inside geotechnical centrifuge
M. Ghayoomi, P. Jarast, M. Mirshekari, A. Borghei

A new double structure model for expansive clays
G. M. Ghiadistri, D. M. Potts, L. Zdravkovic, A. Tsiampousi

Predicting desaturation by biogenic gas formation via denitrification during centrifugal loading

Influence of rainfall infiltration on the stand-up time of unsupported vertical trench in an unsaturated sand
V. T. Ileme, W. T. Oh, G. Brennan

A simplified modelling method of seasonal tree root-water uptake effects on pore-water pressure and ground subsidence
V. Kamchoom, A. K. Leung

Numerical modeling of piled retaining wall in unsaturated Adelaide clays
Y. L. Kuo, B. T. Scott, M. B. Jaksa, J. B. Tidswell, G. D. Treloar, T. J. Treacy, P. Richards

Fully coupled hydro-mechanical modelling of a conceptual slope considering river level fluctuations
X. Li, M. Datcheva, T. Schanz
Computer simulation of 3D desiccation cracks in soils  
*M. A. Maedo, M. Sánchez, O. L. Manzoli, L. Guimarães*

Modeling unsaturated soils with artificial neural network  
*C. F. Mahler, I. P. L. Thomaz, L. P. Caloba, M. G. G. Nacinovivi*

Investigation of three-dimensional behavior for unsaturated soils using hyperbolic model  
*M. Mokhberi, K. P. Nasab*

Numerical analysis of vacuum consolidation considering dissolved gasses  
*T. Nagaura, Y. Sugiyama, T. Takeyama, A. Iizuka*

Bounding surface modeling for compacted silty sand  
*U. D. Patil, M. Morvan, A. J. Puppala, L. R. Hoyos, T. V. Bheemasetti*

Prediction of shear strength of unsaturated soils in landslide-prone areas using direct shear and suction tests under low normal stress condition  
*S. Ravindran, I. Gratchev, D. Jeng*

Estimation of the critical height of unsupported trenches in an unsaturated sand  
*A. Richard, W. T. Oh, G. Brennan*

Numerical modelling of water breakthrough in coarse soils initially at very low degree of saturation  
*R. Scarfone, M. Lloret-Cabot, S. J. Wheeler*

Evaluating different yield surface assumptions in representing constant axial load tests which follow anisotropic consolidation  
*P. Sitarenios, F. Casini*

Molecular dynamics modeling of unsaturated clay-water systems at elevated temperature  
*X. Song, M. Wang, K. Zhang*

Swelling properties of expansive clays from the mooreville chalk formation in perry county, Alabama  
*E. G. Stallings, J. B. Anderson, D. T. Jackson*

Capillary pressure at irregularly shaped pore throat  
*H.S. Suh, D.H. Kang, J. Jang, K. Y. Kim, T. S. Yun*

Effect of hydraulic hysteresis on the consolidation of unsaturated soils  
*Y. Tang, H. A. Taiebat, A. R. Russell*

A fully automated and accurate method for 3D reconstruction of unsaturated soil specimens  
*X. L. Xia, W. Luo, Z. Z. Yin, X. Zhang*
Prediction of tensile strength of compacted soils: a review
P. Yin, S. K. Vanapalli

Centrifuge modeling of excess pore-water pressure build-up and instability of a fill slope subject to rapid surcharge and high water level
L. T. Zhan, Z. Zhang, X. G. Guo, Y. M. Chen

Numerical implementation of a stress-saturation model in unsaturated soils with fully coupled system equations
Y. Zhang, A. N. Zhou, M. Nazem

A constitutive model for unsaturated soils using capillary effective stress and capillary degree of saturation as two constitutive variables
A. N. Zhou, S. S. Wu, J. Li

GEOTECHNICAL ENGINEERING PROBLEMS

Evaluation of the behavior of horizontally loaded pile in collapsible and unsaturated soil using 3D numerical modeling
P. J. R. Albuquerque, J. R. Garcia, D. Carvalho

Shrinkage cracking characteristics of compacted fine-grained soils
H. Al-Dakheeli, R. Bulut

Effects of confining stress and suction on volume change and shear strength behaviour of a collapsible soil
S. Almahbobi, S. Tripathy, P. J. Cleall

In-situ shrinkage and swelling in expansive clays induced by climatic conditions
H. Assadollahi, H. Nowamooz

Shear strength and permeability characteristics of some Sri Lankan residual soils
H. P. W. Dilanthi, S. A. S. Kulathilaka, N. Vasanthan

Effect of antecedent rainfall on pore-water pressure distribution characteristics in residual soil slopes under tropical rainfall
M. E. Elfadil

Need for correction of PMTs parameter with water content variation for silty clayey soils
J. C. Gress

Slope instrumentation and unsaturated stability evaluation for steep natural slope close to railway line
H. Heyerdahl, Ø. A. Høydal, K. G. Gisnás, Y. Kvistedal, P. Carotenuto

Simplified stability analysis of unsaturated soil slopes under rainfall
W. Huang, E. C. Leong, H. Rahardjo
Numerical modelling of stone columns in unsaturated silty sand
R. Imam, A.R. Fotowat

Laterally loaded pile in unsaturated soils: a numerical study
L. M. Lalic, A. Desideri, F. Casini, L. Thorel

Shakedown behavior of expansive soils under wetting and drying cycles
K. Li, H. Nowamooz, C. Chazallon, B. Migault

Effect of side ditch water preservation on subsidence characteristics of road pavement under traffic load
H. J. Liao, W. Y. Guo, Y. T. Huang, Su-Yi Wu

Performance of advanced safety factor theories against field evidences of variable triggering mechanisms
J. J. Lizárraga, X. Li, G. Buscarnera, S. Cuomo

Wet-dry cycles effect on the saturated hydraulic conductivity
F. Louati, H. Trabelsi, J. Mehrez, S. Taibi

Identification and classification of an expansive soil of Paulista in Pernambuco, Brazil
J. Morais, C. Constantino, S. Ferreira, S. Paiva

Suction and Thermal conductivity of unsaturated loess from Northern France
V. T. Nguyen, H. Heindl, J. D. Frost, J. M. Pereira, A. M. Tang

Essential elements for an early warning system to detect flowslides in pyroclastic deposits
L. Olivares, E. Damiano, M. De Cristofaro, N. Netti, G. Capparelli

Stability analysis of unsaturated instrumented fly ash embankment
S. Rajesh, C. Prabu, J. Selvaraj

In-situ measurements of soil water content and suction to assess river embankments stability under transient flow conditions
I. Rocchi, C. G. Gragnano, G. Gottardi, L. Govoni, M. Bittelli

Analysis of rainfall-induced slope failures
G. M. Rotisciani, A. Desideri, F. Casini

Degradability of unpaved roads submitted to traffic and environmental solicitations: laboratory scale
O. Sediki, A. R. Razakamanantsoa, O. Sediki, M. Hattab, T. Le Borgne, J-M. Fleureau, P. Gotteland

Hydro-mechanical coupling in dewatering simulations for mine tailings management
Q. Shunchao, S. Paul

Physical and numerical modelling of buried footing for unsaturated sand
B. J. Shwan
Physical and numerical modelling of sheet pile wall for unsaturated sand
B. J. Shwan

Drainage and reinforcement effect of steel drainage pipes in stabilization of levee
subjected to seepage flow
J. Singh, K. Horikoshi, A. Takahashi

Bearing capacity equations for shallow foundations on unsaturated soils with uniform
and linearly varied suction profiles
Y. Tang, K. Senetakis

Soil nutrient effects on correlations between plant characteristics and induced suction in
heavily compacted soil
R. Tasnim, J. L. Coo, C. W. W. Ng, V. Capobianco

Water migration in unsaturated clays underneath a raft foundation
E. Theron, D. M. Bester, P. R. Stott

Seismic behavior of unsaturated embankment after rainfall
R. Uzuoka, D. Hizen, Y. Nakai, T. Matsumaru, K-H. Yang

A soil suction surrogate and its use in the suction-oedometer method for computation of
volume change of expansive soils
J. Vann, S. Houston, W. Houston, S. Singhar, A. Cuzme, A. Olaiz

Analysis of suction induced hang-up in an ore pass
T. Vo, A.R. Russell, H. Yang

A discussion on the design criteria of capillary barrier
F. Wang, X. Li, Y. Wu

Stability analysis of a slope based on the peak and the residual shear strength of
unsaturated soils
X. Yang, S. Vanapalli
ENERGY AND ENVIRONMENTAL ISSUES

Numerical investigation of soil-atmosphere interaction in an experimental embankment
N. An, S. Hemmati, Y.-J. Cui, C.S. Tang

Characterizing drought in the south of France using the standardized precipitation-evapotranspiration index SPEI
H. Assadollahi, H. Nowamooz

Effect of sand ratio on Swelling pressure and hydraulic conductivity of an Indian bentonite-sand mixture
R. Bag, K. Jadda, R. Naga Srikanth

Examining the hydromechanical behaviour of water repellent sand
C. T. S. Beckett, D. G. Toll, A. B. Fourie, P. R. Ward

One-dimensional infiltration test of an earthen three-layer landfill cover system
J. L. Coo, P. S. So, C. W. W. Ng

Large test to study the role of soil-air interaction in soil cracking
J. Cordero, P. Prat, A. Ledesma, A. Cuadrado

An infiltration column to investigate experimentally the response of the Soil-Plant-Atmosphere Continuum
R. Dainese, A. Belli, T. Fourcaud, A. Tarantino

Effects of compaction on desiccation cracking of clayey soils
A. Demagistri, A. Ledesma, J. Cordero, R. Moreno, P. Prat, A. Jacinto

Moisture movement and mechanisms of desiccation crack development in engineered clay fills
O. O. Eminue, C. T. Davie, R. A. Stirling

Solute movement analysis on unsaturated ground using advection-diffusion model considering growth of plants
Z. Furukawa, K. Kasama, A. Fujisawa

Geomechanical modeling of gas hydrate bearing sediment
X. Gai, M. Sanchez, J. C. Santamarina

Field study of water infiltration into a vegetated sustainable three-layer landfill cover system
H. W. Guo, C. W. W. Ng, J. L. Coo, J. J. Ni

Influence of suction on root-reinforced soil strength
A. Jotisankasa, K. Mahannopkul, D. Taworn

Image analysis of wetting in granular materials
J. K. C. Lai, S. D. N. Lourenço
Correlation between applied suction, total suction and swelling pressure in compacted bentonite-based materials
L. Z. Lang, W. Baille, T. Schanz, S. Tripathy

Influence of thermal gradient and vapor content of landfill gas on water storage in the loess-gravel cover
G.-Y. Li, L.-T. Zhan, W.-J. Xu

Prediction on the effective thermal conductivity of highly compacted GMZ01 bentonite based on intermingled fractal units theory
Z.-R. Liu, Y.-J. Cui, W.-M. Ye

A stochastic approach to the modelling of gas transport in bentonite
A. Madaschi, L. Lalouï

Effects of plant characteristics and soil type on transpiration reduction
J. J. Ni, C. W. W. Ng, H. W. Guo

Heat storage performance of a pile heat exchanger installed in partially saturated swelling clay
A. K. Sani, R. M. Singh, I. Cavarretta, S. Bhattacharya

Experimental and numerical study of capillary barrier diversion lengths on embankment slope
T. Sato, T. Matsumaru

Effective thermal conductivity of modified geomaterials
D. Shrestha, Z. H. Rizvi, F. Wuttke

Microstructure of bio-mediated sand by enzyme induced carbonate precipitation: relevance to physio-mechanical properties
J. Y Song, Y. Kim, J. Jang, T. S. Yun, Y. Sim

The behaviour and influence of desiccation cracking on a full-scale, vegetated infrastructure embankment
R. A. Stirling, S. Glendinning, C. T. Davie, R. M. Hen-Jones, P. N. Hughes

A semi-analytical model for landfill gas migration through finite fractured unsaturated landfill cover soil
S.-Y. Wu, H.-J. Xie, Q. Wang, Z.-H. Qiu, Y.-M. Chen

Investigation on the swelling pressure of compacted GMZ01 bentonite pellets/powder mixtures
W. M. Ye, Z. Zhang, Q. Wang, Y. G. Chen