

# UNSAT2018 Conference Programme

## Reception: 2<sup>nd</sup> August 2018 (Thursday)

17:30	19:30	Welcome reception with cocktail and light refreshment, and registration <b>Venue:</b> Outside LTA
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## 3<sup>rd</sup> August 2018 (Friday)

7:45		Registration ( <b>Venue:</b> Atrium)
8:30	8:45	<b>Opening ceremony:</b> Introduction and welcoming remark <b>Venue:</b> LTA  <i>Charles Ng</i> , President of ISSMGE; Associate Vice-President (Research and Graduate Studies), HKUST; Chair of the Organising Committee of UNSAT2018  <i>Ringo Yu</i> , Senior Vice-President, The Hong Kong Institution of Engineers (HKIE)  <i>Johnny Cheuk</i> , President, Hong Kong Geotechnical Society (HKGES)

### Plenary session 1 (Venue: LTA)

**Chairperson:** *Ringo Yu*

8:45	9:30	<b>Blight lecture:</b> Role of the soil-water characteristic curve in unsaturated soil mechanics <i>D. Fredlund</i>
9:30	10:10	<b>Keynote:</b> Lessons from the catastrophic landslide of construction waste dump occurred in Shenzhen of China on 20th December 2015 <i>Y.-M. Chen, L.-T. Zhan, X.-G. Guo, Z. Zhang</i>
10:10	10:30	Coffee break and poster presentation

### Plenary session 2 (Venue: LTA)

**Chairperson:** *Johnny Cheuk*

10:30	11:10	<b>Keynote:</b> Advances in landslide modelling of unsaturated soils <i>E. Alonso</i>
11:10	11:40	<b>General report:</b> Fundamental soil behaviour (Part I) <i>D. Toll</i>
11:40	12:10	<b>General report:</b> Fundamental soil behaviour (Part II) - a wider perspective of hydro-mechanical and thermal behaviour of unsaturated soils <i>V. Sivakumar, E. J. Murray, S. Tripathy</i>

12:10	14:00	Lunch/Lab visits
<b>Parallel session 1A (Venue: LTD)</b> <b>Chairperson: Alessio Ferrari</b>		
14:00	14:20	<b>Special lecture:</b> Importance of SWCC equations in modelling vapour flow in unsaturated freezing soils <i>D. Sheng</i>
14:20	14:25	Experimental investigation of the critical state of unsaturated silty sand from Beijing <i>G.Q. Cai, Saman Asreazad, C. Liu, Y.N. Wang, C.G. Zhao</i>
14:25	14:30	The effect of ambient humidity on the stiffness and strength of a hyper-compacted silty clay for earth building <i>A. Cuccurullo, D. Gallipoli, A. W. Bruno, C. La Borderie, C. Augarde, P. Hughes</i>
14:30	14:35	Strength of unsaturated soils in high suction range <i>Y. Gao, D.A. Sun, X. Li, K.L. Ruan, A.N. Zhou, J. Li</i>
14:35	14:40	Unsaturated and saturated soil-interface effect on shearing behavior of soils <i>J. Hajjat, M. Sánchez, G. Avila</i>
14:40	14:45	Electrical resistivity and mechanical behavior of unsaturated soil under multiple cycles of drying and wetting <i>C. Huang, P. N. Hughes, D. G. Toll, J. D. Asquith, D. A. Gunn, B. Dashwood, S. Uhlemann, J. E. Chambers</i>
14:45	14:50	Assessment of micro-porous membrane method to cyclic triaxial test for an unsaturated silty soil <i>T. Nishimura, P. Habasimbi</i>
14:50	14:55	Deformation and suction variation of an unsaturated soil during constant water content triaxial loading <i>L. Li, X. Zhang</i>
14:55	15:00	A soil suction surrogate and its use in the suction-oedometer method for computation of volume change of expansive soils <i>J. Vann, S. Houston, W. Houston, S. Singhar, A. Cuzme, A. Olaiz</i>
15:00	15:05	Experimental study on the unsaturated behaviour of a compacted soil <i>K. Liu, W.B. Chen, W.Q. Feng, J.H. Yin</i>
15:05	15:10	Effect of saturation on compression wave velocity of silty sand <i>X. Liu, J. Yang</i>
15:10	15:15	The mechanical yield stress in unsaturated and saturated soils <i>M. Lloret-Cabot, S.J. Wheeler</i>

15:15	15:20	Three-phase coupled analysis about seismic behavior of embankment under cold snowy condition <i>T. Matsumaru, S. Kawajiri</i>
15:20	15:30	Q&A/Discussion
15:30	15:45	Coffee break and poster presentation
<b>Parallel session 1B (Venue: LTE)</b> <b>Chairperson: Sandra Houston</b>		
14:00	14:20	<b>Special lecture:</b> Soil sorptive potential: root of matric potential <i>N. Lu</i>
14:20	14:25	Elastic behavior of partially saturated gas shales during unloading-reloading cycles in uniaxial compression <i>A. Minardi, A. Ferrari, L. Laloui, R. Ewy</i>
14:25	14:30	Effects of shaking intensity on seismic response of unsaturated sand layers <i>M. Mirshekari, M. Ghayoomi</i>
14:30	14:35	Strength and stiffness of silty clay with variable saturation <i>T. Mohyla, J. Jerman, J. Rott, J. Boháč, D. Mašín</i>
14:35	14:40	Influence of environmental relative humidity on unconfined compressive strength of unsaturated residual soils <i>R. Monica, S. M. Rao</i>
14:40	14:45	Validating new simple shear tests on a partially saturated pyroclastic soil <i>M. Moscariello, S. Cuomo, V. Foresta</i>
14:45	14:50	Preliminary study on use of biopolymers in earthen construction <i>S. Muguda, S. Booth, P.N. Hughes, C.E. Augarde, C. Perlot, A.W. Bruno, D. Gallipoli</i>
14:50	14:55	Shearing and compression behavior of compacted sand-clay mixtures <i>W. Mun, M.C. Balci, F. Valente, J.S. McCartney</i>
14:55	15:00	Shear strength of unsaturated sand at different relative densities <i>R. Imam, S. Vaseghi Maghvan, J.S. McCartney</i>
15:00	15:05	A conceptual model for interpreting the evolution of very small strain stiffness in unsaturated soils <i>A.G. Pagano, A. Tarantino, V. Magnanimo</i>
15:05	15:10	Suction-induced dilatancy and stiffness in compacted silty sand via triaxial testing <i>U.D. Patil, A. Banerjee, L.R. Hoyos, A.J., Puppala, X. Yu</i>

15:10	15:15	Shear behaviour of a desiccated loess with three different microstructures <i>H. Sadeghi, C. W. W. Ng</i>
15:15	15:30	Q&A/Discussion
15:30	15:45	Coffee break and poster presentation
<b>Parallel session 2A (Venue: LTD)</b> <b>Chairperson: Feng Zhang &amp; Laureano Hoyos</b>		
15:45	16:05	<b>Special lecture:</b> The UH model for unsaturated soils <i>Y. P. Yao, L. Niu, W. J. Cui</i>
16:05	16:10	Influence of saturation degree on soils behavior towards liquefaction <i>M. Vernay, M. Morvan, P. Breul</i>
16:10	16:15	Small-strain shear modulus behavior from a laboratory scale cross-hole seismic test <i>C. Walton-Macaulay, J. Curd</i>
16:15	16:20	Unsaturated soil water retention curve of road material using evaporation method <i>H. Bhuyan, G. Yan, P. N. Mishra, A. Scheuermann, D. Bodin, R. Becker</i>
16:20	16:25	Laboratory measurement of the mechanical and retention properties of a river embankment silty soil in partially saturated condition <i>C. G. Gragnano, G. Gottardi, M. Moscariello, S. Cuomo, I. Rocchi</i>
16:25	16:30	Comparison of soil water characteristic curves under different stress conditions <i>P. Habasimbi</i>
16:30	16:35	Influence of soil structure on the soil water characteristic curve behavior of compacted loess <i>X. K. Hou, T. L. Li, X. Xiao, S. K. Vanapalli</i>
16:35	16:40	Water retention curves of geosynthetic clay liners <i>E. C. Leong, H. Abuel-Naga, Y. Lu</i>
16:40	16:45	Investigation of transient effects on the soil-water characteristic curve of different granular soils <i>M. Milatz, T. Törzs, J. Grabe</i>
16:45	16:50	An integrated approach for capturing dielectric response of the dredged material from the port of Brisbane <i>P. N. Mishra, P. Patel, T. Bore, A. Scheuermann, L. Li</i>
16:50	16:55	Capillary pressure at irregularly shaped pore throat <i>H.S. Suh, D.H. Kang, J. Jang, K. Y. Kim, T. S. Yun</i>

16:55	17:00	Measurement of water retention curve for different concrete mixtures <i>M. Pap, A. Mahler, S. G. Nehme</i>
17:00	17:05	Determination of soil water retention curve of residual soil from a flysch rock mass <i>J. Peranić, Ž. Arbanas, V. Foresta, S. Cuomo, M. Maček</i>
17:05	17:10	Influence of stress state on water retention characteristics of compacted soil for the complete suction range <i>S. Rajesh, S. Roy</i>
17:10	17:15	Variability of suction in expansive clays <i>P. R. Stott, E. Theron</i>
17:15	17:20	Effect of xanthan gum biopolymer on the water retention characteristics of unsaturated sand <i>T. P. A. Tran, G. C. Cho, S. J. Lee, I. Chang</i>
17:20	17:25	An investigation of soil water retention behavior using large soil column test and multiphase Lattice Boltzmann simulation <i>G. Yan, T. Bore, S. A. Galindo-Torres, A. Scheuermann, L. Li, S. Schlaeger</i>
17:25	17:30	An insight into soil-water retention surface using soil-water space curves <i>W. L. Zou, Y. X. Ye, Z. Han, S. K. Vanapalli</i>
17:30	17:35	Changing and equilibrating water content of triaxial test specimens without suction control <i>M. B. Kenanoğlu, N. K. Toker</i>
17:35	17:40	Comparison of capillary pressure curves and hydraulic conductivity functions of water and vinasse using evaporation method <i>M. A. Alfaro Soto, H. K. Chang, H. R. Silva</i>
17:40	17:45	Predicting air-entry value from saturated permeability of porous materials <i>P. Khaimook, J. C. Chai</i>
17:45	17:50	The effects of fines on the hydraulic properties of well graded materials <i>K. A. Kwa, J. Ghorbani</i>
17:50	17:55	Wettability of natural surface soils of Hong Kong <i>B. H. W. Li, T. H. Y. Lam, S. D. N. Lourenço</i>
17:55	18:00	Wicking fabric interactions with different soil types <i>C. Lin, X. Zhang</i>
18:00	18:20	Q&A/Discussion

**Parallel session 2B (Venue: LTE)**

**Chairpersons:** *Lucio Olivares & Hong Yi*

15:45	16:05	<b>Special lecture:</b> Compacted unsaturated lime treated soils of different aggregate sizes <i>Yu Jun Cui</i>
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16:05	16:10	Time-dependency of soil water repellency induced by dimethyldichlorosilane <i>D. Liu, S. D. N. Lourenço</i>
16:10	16:15	Quantifying the desaturation effect of biogenic gas formation in sandy soil <i>V. P. Pham, L. A. van Paassen, W. R. L. van der Star</i>
16:15	16:20	On the formula of Darcy's law and seepage force <i>L. T. Shao, X. X. Guo</i>
16:20	16:25	Water, heat and electric current flow in saturated and unsaturated sandy soil <i>T. Tokoro, T. Ishikawa</i>
16:25	16:30	Shrinkage cracking in physical model of undisturbed expansive clay slope subjected to wet-dry cycles <i>A. C. Amenuvor, G-W. Li, Y-Z. Hou, W. Chen</i>
16:30	16:35	On the swelling behaviour of shallow Opalinus Clay shale <i>E. Crisci, A. Ferrari, L. Laloui, S. Giger</i>
16:35	16:40	Image-based analysis of unsaturated volcanic sands upon wetting <i>S. Cuomo, M. Moscariello, P. Chauhan, S. Salager</i>
16:40	16:45	Hydro-chemo-mechanical behavior of a sand/bentonite mixture upon wetting paths <i>A. Ferrari, D. Manca, L. Laloui</i>
16:45	16:50	Relationship between the wetting-induced collapse behavior and soil-water characteristic curve of unsaturated uncemented soils <i>P. Li, S. K. Vanapalli</i>
16:50	16:55	Impact of pore fluid salinity on progressive volume change behavior of kaolin <i>P. N. Mishra, A. Liu, T. Bore, A. Scheuermann, L. Li</i>
16:55	17:00	Experimental characterizations of the hydro-mechanical behavior of a pellet/powder bentonite mixture <i>A. Molinero Guerra, N. Mokni, Y.-J. Cui, A. M. Tang, P. Delage, P. Aïmedieu, F. Bernier, M. Bornert</i>
17:00	17:05	Collapse impact of calcium carbonate in unsaturated clay soils <i>A.W. Opukumo, C.T. Davie, S. Glendinning</i>
17:05	17:10	Effect of moisture on volumetric behaviour of compacted laterites <i>P. Osele, G. J. Kasangaki</i>
17:10	17:15	A model for volume change dependency of water retention curve <i>A.Y. Pasha, A. Khoshghalb, N. Khalili</i>
17:15	17:20	Investigation of the mechanical behavior of compacted bentonite <i>H. Sun, D. Mašin, J. Najse</i>
17:20	17:25	Factors affecting the geometrical structure of soil desiccation cracking pattern <i>C. S. Tang, H. Zeng, L. Lin, T. Leng, C. L. Liu, X. P. Gong, K. Gui</i>

17:25	17:30	Stabilization of clayey soil using fiber reinforcement <i>H. Trabelsi, M. Chebbi, H. Guiras, M. Jamei, E., Romero</i>
17:30	17:35	Numerical simulation of soil curling during desiccation process <i>K. M. Tran, H. H. Bui, J. Kodikara, M. Sánchez</i>
17:35	17:40	Bentonite strain due to cyclic suction changes <i>M. V. Villar, A. Lloret</i>
17:40	17:45	Automatic detection of coded targets for rapid measurement of volume changes of unsaturated soil specimens in triaxial tests <i>X. Xia , W. Luo, Z. Yin, X. Zhang</i>
17:45	17:50	Suction effect on the thermal properties of compacted kaolin <i>R. Cardoso, M. Sousa, A. Vieira</i>
17:50	17:55	Wetting-induced collapse of unsaturated compacted loess at various temperatures <i>Q. Cheng, C. Zhou, C. W. W. Ng</i>
17:55	18:00	A study on the thermal properties of near surface thin clay sand liners <i>M. A. Dafalla, A. Al-Mahbashi, M. A. Al-Shamrani, A. Samman</i>
18:00	18:05	Surface area and elemental composition of clay under elevated temperatures <i>C. C. Goodman, N. Latifi, F. Vahedifard</i>
18:05	18:20	Q&A/Discussion
18:20		End of Day 1 <b>TC106 meeting (Venue: Room 2302, Lift 17/18)</b>

**4<sup>th</sup> August 2018 (Saturday)**

8:00		Registration ( <b>Venue:</b> Atrium)
<b>Plenary session 1 (Venue: LTA)</b> <b>Chairperson:</b> <i>Simon Wheeler</i>		
8:45	9:25	<b>Keynote:</b> On the hydration of unsaturated barriers for high-level nuclear waste disposal <i>A. Gens</i>
9:25	10:05	<b>Keynote:</b> Macroscopic effects of the hydration mechanisms in smectites; applications to engineered and geological barriers for radioactive waste disposal <i>P. Delage</i>
10:05	10:25	Coffee break and poster presentation
<b>Plenary session 2 (Venue: LTA)</b> <b>Chairperson:</b> <i>Cristina Jommi</i>		
10:25	10:55	<b>General report:</b> Geotechnical engineering problems in unsaturated soils <i>J. C. McCartney</i>
10:55	11:25	<b>General report:</b> Energy and environmental issues <i>M. Sanchez</i>
<b>11:25</b>	<b>13:00</b>	<b>Lunch/Lab visits</b>
<b>Parallel session 1A (Venue: LTD)</b> <b>Chairpersons:</b> <i>Tacio De Campos &amp; Ryan Yan</i>		
13:00	13:20	<b>Special lecture:</b> Geospatial Distribution of Unsaturated Soil Properties for Slope Stability Assessment <i>H. Rahardjo</i>
13:20	13:40	<b>Special lecture:</b> Chemomechanical Behavior of Unsaturated Soils: Conception and formulation <i>C.-F. Wei</i>
13:40	13:45	Observation of thermally driven water flow in soils via micro-focus X-ray Computed Tomography <i>K. Liu, F. A. Loveridge, R. Boardman, W. Powrie</i>
13:45	13:50	Ice formation in unsaturated frozen soils <i>Y. Mao, E. Romero, A. Gens</i>
13:50	13:55	Thermal effects on the shear behaviour of unsaturated intact and recompacted loess <i>Q. Y. Mu, C. W. W. Ng, C. Zhou</i>
13:55	14:00	Influence of thermal heating on unsaturated bentonite strength <i>T. Nishimura, M. Matsumoto</i>



14:00	14:05	Temperature influence on swelling deformation behaviour of compacted GMZ bentonite <i>B. Qin, F. Z. Zhang, Y. Lu, Z. H. Chen</i>
14:05	14:10	Nonisothermal apparent thermal conductivity function for heat transfer in unsaturated soils <i>R.A. Samarakoon, J. S. McCartney, Y. Dong, L. Nu</i>
14:10	14:15	Experimental evidence for canopy effect: moisture accumulation in unsaturated freezing soils <i>J. Teng, F. Shan, J. Kou, S. Zhang, D. Sheng</i>
14:15	14:20	Molecular level fabric and structure simulations of expansive clays <i>S. N. Abduljawwad, H. R. Ahmed</i>
14:20	14:25	Evolving fabric and its impact on the shearing behaviour of a compacted clayey silt exposed to drying-wetting cycles <i>A. Azizi, G. Musso, C. Jommi, R. M. Cosentini</i>
14:25	14:30	Determination of soil pore size distribution: Application of a new model for soil porous structure <i>S. Ghabezloo, E. Nikooee, G. Habibagahi, R. Mirghaffari</i>
14:30	14:35	Pore-size distributions measured by mercury intrusion porosimetry: implications for functional relationships in hydromechanical models <i>P. Simms, S. Qi</i>
14:35	14:40	Particle size distribution under the microscope <i>P. R. Stott, E. Theron</i>
14:40	14:45	Suction-controlled repeated load triaxial test of subgrade soil at high suction states <i>A. Banerjee, U. D. Patil, A. J. Puppala, L. R. Hoyos</i>
14:45	14:50	Evaluation of TDR measured dielectric constant vs. volumetric water content relationships for different soils <i>K. V. Bicalho, J. C. Gramelich, Y.-J. Cui</i>
14:50	14:55	Evaluation of the behavior of horizontally loaded pile in collapsible and unsaturated soil using 3D numerical modeling <i>P. J. R. Albuquerque, J. R. Garcia, D. Carvalho</i>
14:55	15:00	Shrinkage cracking characteristics of compacted fine-grained soils <i>H. Al-Dakheeli, R. Bulut</i>
15:00	15:05	Effects of confining stress and suction on volume change and shear strength behaviour of a collapsible soil <i>S. Almahbobi, S. Tripathy, P. J. Cleall</i>
15:05	15:10	In-situ shrinkage and swelling in expansive clays induced by climatic conditions <i>H. Assadollahi, H. Nowamooz</i>

15:10	15:15	Shear strength and permeability characteristics of some Sri Lankan residual soils <i>H. P. W. Dilanthi, S. A. S. Kulathilaka, N. Vasanthan</i>
15:15	15:20	Effect of antecedent rainfall on pore-water pressure distribution characteristics in residual soil slopes under tropical rainfall <i>M. E. Elfadil</i>
15:20	15:30	Q&A/Discussion
15:30	15:45	Coffee break and poster presentation
<b>Parallel session 1B (Venue: LTE)</b> <b>Chairpersons: Longtan Shao &amp; Hamed Sadeghi</b>		
13:00	13:20	<b>Special lecture:</b> Unsaturated geosynthetics: a promising intersection for unsaturated soils and geosynthetics <i>M. Bouazza</i>
13:20	13:40	<b>Special lecture:</b> Soil-atmosphere interaction <i>B. Caicedo</i>
13:40	14:00	<b>Special lecture:</b> Hydro-mechanical behavior and strength prediction of unsaturated soils over wide suction range <i>D. Sun</i>
14:00	14:05	Laterally loaded pile in unsaturated soils: a numerical study <i>L. M. Lalicata, A. Desideri, F. Casini, L. Thorel</i>
14:05	14:10	Shakedown behavior of expansive soils under wetting and drying cycles <i>K. Li, H. Nowamooz, C. Chazallon, B. Migault</i>
14:10	14:15	Effect of side ditch water preservation on subsidence characteristics of road pavement under traffic load <i>H. J. Liao, W. Y. Guo, Y. T. Huang, Su-Yi Wu</i>
14:15	14:20	Performance of advanced safety factor theories against field evidences of variable triggering mechanisms <i>J. J. Lizárraga, X. Li, G. Buscarnera, S. Cuomo</i>
14:20	14:25	Wet-dry cycles effect on the saturated hydraulic conductivity <i>F. Louati, H. Trabelsi, J. Mehrez, S. Taibi</i>
14:25	14:30	Identification and classification of an expansive soil of Paulista in Pernambuco, Brazil <i>J. Morais, C. Constantino, S. Ferreira, S. Paiva</i>
14:30	14:35	Suction and thermal conductivity of unsaturated loess from Northern France <i>V. T. Nguyen, H. Heindl, J. D. Frost, J. M. Pereira, A. M. Tang</i>

14:35	14:40	Essential elements for an early warning system to detect flow-slides in pyroclastic deposits <i>L. Olivares, E. Damiano, M. De Cristofaro, N. Netti, G. Capparelli</i>
14:40	14:45	Stability analysis of unsaturated instrumented fly ash embankment <i>S. Rajesh, C. Prabu, J. Selvaraj</i>
14:45	14:50	In-situ measurements of soil water content and suction to assess river embankments stability under transient flow conditions <i>I. Rocchi, C. G. Gragnano, G. Gottardi, L. Govoni, M. Bittelli</i>
14:50	14:55	Analysis of rainfall-induced slope failures <i>G. M. Rotisciani, A. Desideri, F. Casini</i>
14:55	15:00	Degradability of unpaved roads submitted to traffic and environmental solicitations: laboratory scale <i>O. Sediki, A. R. Razakamanantsoa, O. Sediki, M. Hattab, T. Le Borgne, J-M. Fleureau, P. Gotteland</i>
15:00	15:05	Hydro-mechanical coupling in dewatering simulations for mine tailings management <i>S. Qi, P. Simms</i>
15:05	15:10	Physical and numerical modelling of buried footing for unsaturated sand <i>B. J. Shwan</i>
15:10	15:15	Drainage and reinforcement effect of steel drainage pipes in stabilization of levee subjected to seepage flow <i>J. Singh, K. Horikoshi, A. Takahashi</i>
15:15	15:20	Need for correction of PMT's parameter with water content variation for silty clayey soils <i>J. C. Gress</i>
15:20	15:30	Q&A/Discussion
15:30	15:45	Coffee break ad poster presentation
<b>Parallel session 2A (Venue: LTD)</b> <b>Chairpersons: Chan-Young Yune &amp; Paul Simms</b>		
15:45	15:50	Bearing capacity equations for shallow foundations on unsaturated soils with uniform and linearly varied suction profiles <i>Y. Tang, K. Senetakis</i>
15:50	15:55	Soil nutrient effects on correlations between plant characteristics and induced suction in heavily compacted soil <i>R. Tasnim, J. L. Coe, C. W. W. Ng, V. Capobianco</i>
15:55	16:00	Water migration in unsaturated clays underneath a raft foundation <i>E. Theron, D. M. Bester, P. R. Stott</i>

16:00	16:05	Seismic behavior of unsaturated embankment after rainfall <i>R. Uzuoka, D. Hizen, Y. Nakai, T. Matsumaru, K-H. Yang</i>
16:05	16:10	Testing of unsaturated soil-steel interface shear strength <i>Y. Liu, S.K. Vanapalli</i>
16:10	16:15	Analysis of suction induced hang-up in an ore pass <i>T. Vo, A.R. Russell, H. Yang</i>
16:15	16:20	A discussion on the design criteria of capillary barrier <i>F. Wang, X. Li, Y. Wu</i>
16:20	16:25	Stability analysis of a slope based on the peak and the residual shear strength of unsaturated soils <i>X. Yang, S. Vanapalli</i>
16:25	16:30	Numerical investigation of soil-atmosphere interaction in an experimental embankment <i>N. An, S. Hemmati, Y.-J. Cui, C.S. Tang</i>
16:30	16:35	Characterizing drought in the south of France using the standardized precipitation-evapotranspiration index SPEI <i>H. Assadollahi, H. Nowamooz</i>
16:35	16:40	Effect of sand ratio on Swelling pressure and Hydraulic conductivity of an Indian bentonite-sand mixture <i>R. Bag, K. Jadda, R. Naga Srikanth</i>
16:40	16:45	Examining the hydromechanical behaviour of water repellent sand <i>C. T. S. Beckett, D. G. Toll, A. B. Fourie, P. R. Ward</i>
16:45	16:50	Large test to study the role of soil-air interaction in soil cracking <i>J. Cordero, P. Prat, A. Ledesma, A. Cuadrado</i>
16:50	16:55	An infiltration column to investigate experimentally the response of the Soil-Plant-Atmosphere Continuum <i>R. Dainese, A. Belli, T. Fourcaud, A. Tarantino</i>
16:55	17:00	Effects of compaction on desiccation cracking of clayey soils <i>A. Demagistri, A. Ledesma, J. Cordero, R. Moreno, P. Prat, A. Jacinto</i>
17:00	17:05	Moisture movement and mechanisms of desiccation crack development in engineered clay fills <i>O. O. Eminue, C. T. Davie, R. A. Stirling</i>
17:05	17:10	Physical and numerical modelling of sheet pile wall for unsaturated sand <i>B. J. Shwan</i>

17:10	17:15	Solute movement analysis on unsaturated ground using advection-diffusion model considering growth of plants <i>Z. Furukawa, K. Kasama, A. Fujisawa</i>
17:15	17:20	Slope instrumentation and unsaturated stability evaluation for steep natural slope close to railway line <i>H. Heyerdahl, Ø. A. Høydal, K. G. Gislås, Y. Kvistedal, P. Carotenuto</i>
17:20	17:40	Q&A/Discussion
<b>Parallel session 2B (Venue: LTE)</b> <b>Chairpersons: Athula S. Kulathilaka &amp; Irene Rocchi</b>		
15:45	15:50	Geomechanical modeling of gas hydrate bearing sediment <i>X. Gai, M. Sanchez, J. C. Santamarina</i>
15:50	15:55	Field study of water infiltration into a vegetated sustainable three-layer landfill cover system <i>H. W. Guo, C. W. W. Ng, J. L. Coe, J. J. Ni</i>
15:55	16:00	Influence of suction on root-reinforced soil strength <i>A. Jotisankasa, K. Mahannopkul, D. Taworn</i>
16:00	16:05	Image analysis of wetting in granular materials <i>J. K. C. Lai, S. D. N. Lourenço</i>
16:05	16:10	Correlation between applied suction, total suction and swelling pressure in compacted bentonite-based materials <i>L. Z. Lang, W. Baille, T. Schanz, S. Tripathy</i>
16:10	16:15	Influence of thermal gradient and vapor content of landfill gas on water storage in the loess-gravel cover <i>G.-Y. Li, L.-T. Zhan, W.-J. Xu</i>
16:15	16:20	Prediction on the effective thermal conductivity of highly compacted GMZ01 bentonite based on intermingled fractal units theory <i>Z.-R. Liu, Y.-J. Cui, W.-M. Ye</i>
16:20	16:25	A stochastic approach to the modelling of gas transport in bentonite <i>A. Madaschi, L. Laloui</i>
16:25	16:30	Effects of plant characteristics and soil type on transpiration reduction <i>J. J. Ni, C. W. W. Ng, H. W. Guo</i>

16:30	16:35	Heat storage performance of a pile heat exchanger installed in partially saturated swelling clay <i>A. K. Sani, R. M. Singh, I. Cavarretta, S. Bhattacharya</i>
16:35	16:40	Experimental and numerical study of capillary barrier diversion lengths on embankment slopes <i>T. Sato, T. Matsumaru</i>
16:40	16:45	Effective thermal conductivity of modified geomaterials <i>D. Shrestha, Z. H. Rizvi, F. Wuttke</i>
16:45	16:50	Microstructure of bio-mediated sand by enzyme induced carbonate precipitation: relevance to physio-mechanical properties <i>J. Y Song, Y. Kim, J. Jang, T. S. Yun, Y. Sim</i>
16:50	16:55	The behaviour and influence of desiccation cracking on a full-scale, vegetated infrastructure embankment <i>R. A. Stirling, S. Glendinning, C. T. Davie, R. M. Hen-Jones, P. N. Huges</i>
16:55	17:00	A semi-analytical model for landfill gas migration through finite fractured unsaturated landfill cover soil <i>S.-Y. Wu, H.-J. Xie, Q. Wang, Z.-H. Qiu, Y.-M. Chen</i>
17:00	17:05	Investigation on the swelling pressure of compacted GMZ01 bentonite pellets/powder mixtures <i>W. M. Ye, Z. Zhang, Q. Wang, Y. G. Chen</i>
17:05	17:10	Shear strength of compacted residual soils via constant water content direct shear tests <i>S. Bulolo, E. C. Leong</i>
17:10	17:15	Sol-gel relative humidity sensors incorporated in oedometer cells for soil suction measurement <i>R. Cardoso, S. Cardoso, L. Ilharco</i>
17:15	17:20	Simplified stability analysis of unsaturated soil slopes under rainfall <i>W. Huang, E. C. Leong, H. Rahardjo</i>
17:20	17:25	Numerical Modelling of stone columns in unsaturated silty sand <i>R. Imam, A.R. Fotowat</i>
17:25	17:40	Q&A/Discussion
17:40	<b>Banquet</b>	

**5<sup>th</sup> August 2018 (Sunday)**

8:00		Registration ( <b>Venue:</b> Atrium)
<b>Plenary session 1 (Venue: LTA)</b> <b>Chairperson:</b> <i>Anthony Leung</i>		
8:45	9:25	<b>Keynote:</b> Gas shales: geomechanical challenges and analysis <i>L. Laloui</i>
9:25	10:05	<b>Keynote:</b> On the modelling of soil-atmosphere interaction in cut and natural slopes <i>L. Zdravkovic</i>
10:05	10:25	Coffee break and poster presentation
<b>Plenary session 2 (Venue: LTA)</b> <b>Chairperson:</b> <i>Abraham Chiu</i>		
10:25	10:55	<b>General report:</b> New equipment and testing methods <i>F. Marinho</i>
10:55	11:25	<b>General report:</b> Constitutive, numerical and physical modelling <i>D. Masin</i>
<b>11:25</b>	<b>13:00</b>	<b>Lunch/Lab visits</b>
<b>Parallel session 1A (Venue: LTD)</b> <b>Chairpersons:</b> <i>Xiong Zhang &amp; Tomoyoshi Nishimura</i>		
13:00	13:05	Calibration of TDR probes for water content measurements in partially saturated pyroclastic slope <i>A.S. Dias, M. Pirone, G. Urciuoli</i>
13:05	13:10	Variation of shear strength of an unsaturated silica sand during drying <i>P. Ghasemi, A. Khosravi</i>
13:10	13:15	Suction measurements by a fixed-matrix porous ceramic disc sensor <i>Y. Karagoly, S. Tripathy, P. J. Cleall, T. Mahdi</i>
13:15	13:20	Water retention characteristics of water repellent soils using continuous pressurization method <i>B.-S. Kim, Y. Takeshita, S. Kato, S.-W. Park</i>
13:20	13:25	Temperature-controlled oedometer testing on compacted bentonite <i>A. D. Kirkham, A. Tsiampousi, D. M. Potts</i>

13:25	13:30	Effects of heat injection on the settlement behavior of unsaturated soil <i>C. Koy, K. T. Chhun, C. Y. Yune</i>
13:30	13:35	Unsaturated permeability prediction using natural evaporation method in cracked clay <i>F. Louati, H. Trabelsi, M. Jamei, A. Mabrouk</i>
13:35	13:40	Addition of bentonite to residual soil <i>C. F. Mahler, L. de L. Moura, P. P. F. Gouveia Filho</i>
13:40	13:45	Saturation studies of tropical residual soils – special laboratory tests <i>C. F. Mahler, G. P. Mendez, V. L. F. S. Ramos, F. B. Mainier</i>
13:45	13:50	Swelling behavior of an expansive clay at high suction <i>V. Mantikos, A. Tsiamposi, J. R. Standing</i>
13:50	13:55	Water retention curves of a dyke: in-situ vs laboratory determination <i>P. A. Mayor, S. M. Springman, W. F. Morales</i>
13:55	14:00	Influence of water content on matric suction and shear strength of unsaturated compacted silty soil in unconfined conditions <i>A. M. Rasool, S. Seki, J. Kuwano</i>
14:00	14:05	Measuring in-situ dry density using dynamic penetrometer <i>M. Morvan, P. Breul</i>
14:05	14:10	Wetting test and X-ray Computed Tomography of an unsaturated sand <i>M. Moscariello, S. Cuomo, S. Salager</i>
14:10	14:15	Evaluation of in-situ saturation condition for an unsaturation method for liquefaction countermeasures <i>H. Nakazawa, T. Takagi, H. Hayashi, K. Tabata, K. Nagao</i>
14:15	14:20	A novel thermal-hydro-mechanical column-device for testing compacted expansive soils <i>A. Rawat, W. Baille, T. Schanz, S. Tripathy</i>
14:20	14:25	Engineering water repellency in granular solids <i>Y. Saulick, S. D. N. Lourenço, B. A. Baudet</i>
14:25	14:30	A comparison of wettability measurements on a behavior of a water repellent sand <i>Y. Saulick, S.D.N. Lourenço, B. A. Baudet</i>



14:30	14:35	The use of moisture probes to infer changes in suction due to controlled inundation behind a full scale trial retaining wall <i>B. T. Scott, S. A. Desa, Y. L. Kuo, K. Farries, M. B. Jaksa, J. A. Woodburn, R. A. Herraman</i>
14:35	14:40	Investigations on the water-retention behavior of water-permeable pavement materials based on innovative binder materials <i>T. Törzs, J. Grabe, G. Lu, M. Oeser</i>
14:40	14:45	Hygroscopicity issues in powder and grain technology <i>J. Torres-Serra, E. Romero, A. Rodríguez-Ferran</i>
14:45	14:50	Investigating some irregularities observed during suction measurements using the Hyprop device <i>L. A. van Paassen, R. N. Tollenaar, C. Jommi, A. Steins, G. von Unold</i>
14:50	14:55	Inclusion of chemical effect in a fully coupled THM finite element code <i>A. A. Abed, W. Solowski, E. Romero, A. Gens</i>
14:55	15:00	An evolutionary-based modelling approach for predicting the effective stress parameter in unsaturated soils <i>A. Ahangar Asr, A. A. Javadi</i>
15:00	15:05	Modelling the elastic axial force-displacement behavior of a buried pipeline subjected to permanent ground deformation in the axial direction <i>M. Al-Khazaali, S. K. Vanapalli</i>
15:05	15:10	Modelling anisotropy of unsaturated soils using Bishop's stress <i>M. A. Al-Sharrad, D. Gallipoli</i>
15:10	15:15	Techniques to model the stress-settlement behaviours of shallow foundations in unsaturated sands <i>G. Brennan, W. T. Oh</i>
15:15	15:20	A coupled micromechanical model for triphasic granular system <i>A. P. Das, J.D. Zhao, T. Sweijen</i>
15:20	15:35	Q&A/Discussion
15:35	16:00	Coffee break and poster presentation
<b>Parallel session 1B (Venue: LTE)</b> <b>Chairpersons: Ha-Hong Bui &amp; Schalk Jacobs</b>		
13:00	13:05	Lateral Earth Pressure on Buried Concrete Pits <i>M. Falzon, A. Scheuermann, C. Abeyasingh</i>

13:05	13:10	Hydro-mechanical finite element modelling of rammed earth construction submitted to moisture variations <i>B. François, P. Gerard</i>
13:10	13:15	Effective stress dependent failure criterion for desiccation cracking in fine-grained soils <i>P. Gerard, I. Murray, A. Tarantino</i>
13:15	13:20	Application of cone penetrometer for unsaturated soil inside geotechnical centrifuge <i>M. Ghayoomi, P. Jarast, M. Mirshekari, A. Borghei</i>
13:20	13:25	A new double structure model for expansive clays <i>G. M. Ghiadistri, D. M. Potts, L. Zdravković, A. Tsiampousi</i>
13:25	13:30	Predicting desaturation by biogenic gas formation via denitrification during centrifugal loading <i>C. A. Hall, L. A. van Paassen, B. E. Rittmann, E. Kavazanjian Jr., J. T. DeJong, D. W. Wilson</i>
13:30	13:35	Influence of rainfall infiltration on the stand-up time of unsupported vertical trench in an unsaturated sand <i>V. T. Ileme, W. T. Oh, G. Brennan</i>
13:35	13:40	A simplified modelling method of seasonal tree root-water uptake effects on pore-water pressure and ground subsidence <i>V. Kamchoom, A. K. Leung</i>
13:40	13:45	Numerical modeling of piled retaining wall in unsaturated Adelaide clays <i>Y. L. Kuo, B. T. Scott, M. B. Jaksa, J. B. Tidswell, G. D. Treloar, T. J. Treacy, P. Richards</i>
13:45	13:50	Fully coupled hydro-mechanical modelling of a conceptual slope considering river-level fluctuations <i>X. Li, M. Datcheva, T. Schanz</i>
13:50	13:55	Computer simulation of 3D desiccation cracks in soils <i>M. A. Maedo, M. Sánchez, O. L. Manzoli, L. Guimarães</i>
13:55	14:00	Modeling unsaturated soils with artificial neural network <i>C. F. Mahler, I. P. L. Thomaz, L. P. Caloba, M. G. G. Nacinovivi</i>
14:00	14:05	Investigation of three-dimensional behavior for unsaturated soils using hyperbolic model <i>M. Mokhberi, K. P. Nasab</i>
14:05	14:10	Numerical analysis of vacuum consolidation considering dissolved gasses <i>T. Nagaura, Y. Sugiyama, T. Takeyama, A. Iizuka</i>

14:10	14:15	Bounding surface modeling for compacted silty sand <i>U. D. Patil, M. Morvan, A. J. Puppala, L. R. Hoyos, T. V. Bheemasetti</i>
14:15	14:20	Prediction of shear strength of unsaturated soils in landslide-prone areas using direct shear and suction tests under low normal stress condition <i>S. Ravindran, I. Gratchev, D. Jeng</i>
14:20	14:25	Estimation of the critical height of unsupported trenches in an unsaturated sand <i>A. Richard, W. T. Oh, G. Brennan</i>
14:25	14:30	Numerical modelling of water breakthrough in coarse soils initially at very low degree of saturation <i>R. Scarfone, M. Lloret-Cabot, S. J. Wheeler</i>
14:30	14:35	Evaluating different yield surface assumptions in representing constant axial load tests which follow anisotropic consolidation <i>P. Sitarenios, F. Casini</i>
14:35	14:40	Molecular dynamics modeling of unsaturated clay-water systems at elevated temperature <i>X. Song, M. Wang, K. Zhang</i>
14:40	14:45	Swelling properties of expansive clays from the mooreville chalk formation in perry county, Alabama <i>E. G. Stallings, J. B. Anderson, D. T. Jackson</i>
14:45	14:50	Effect of hydraulic hysteresis on the consolidation of unsaturated soils <i>Y. Tang, H. A. Taiebat, A. R. Russell</i>
14:50	14:55	A fully automated and accurate method for 3D reconstruction of unsaturated soil specimens <i>X. L. Xia, W. Luo, Z. Z. Yin, X. Zhang</i>
14:55	15:00	Prediction of tensile strength of compacted soils: a review <i>P. Yin, S. K. Vanapalli</i>
15:00	15:05	Centrifuge modeling of excess pore-water pressure build-up and instability of a fill slope subject to rapid surcharge and high water level <i>L. T. Zhan, Z. Zhang, X. G. Guo, Y. M. Chen</i>
15:05	15:10	Numerical implementation of a stress-saturation model in unsaturated soils with fully coupled governing equations <i>Y. Zhang, A. N. Zhou, M. Nazem</i>

15:10	15:15	A constitutive model for unsaturated soils using capillary effective stress and capillary degree of saturation as two constitutive variables <i>A. N. Zhou, S. S. Wu, J. Li</i>
15:15	15:35	Q&A/Discussion
15:35	16:00	Coffee break and poster presentation
<b>Plenary session 3 (Venue: LTA)</b> <b>Chairperson: Apiniti Jotisankasa</b>		
16:00	16:20	<b>Bright Spark Lecture: A bounding surface model for cyclic thermo-mechanical behaviour of unsaturated soil</b> <i>C. Zhou</i>
16:20	16:40	<b>Bright Spark Lecture: Seismic response of unsaturated soil systems</b> <i>M. Ghayoomi</i>
16:40	17:00	<b>Bright Spark Lecture: Hydromechanical coupled behaviour of unsaturated soils and constitutive modeling</b> <i>A. N. Zhou</i>
17:00	17:20	<b>Bright Spark Lecture: Landslides-induced by water exfiltration from the bedrock</b> <i>A. Askarinejad</i>
17:20		<b>Closing ceremony</b>