

Posters

Lecture Room 4

Row 1.1	Probing DEM specimen heterogeneity by simulated CPT <i>J. Butlanska, M. Arroyo & A. Gens</i>
Row 1.2	Numerical simulation of liquefaction behavior on gravelly soil in dynamic triaxial test by particle flow code <i>Y. L. Wang, Z. L. Cheng, Y. Wang & Z. B. Wang</i>
Row 1.3	Using CAT to obtain density maps in Sherbrooke specimens of silty soils <i>N. Sau, M. Arroyo, N. Pérez & J. A. Pineda</i>
Row 1.4	Investigation of submerged debris flows via CFD-DEM coupling <i>T. Zhao, G. T. Houlsby & S. Utili</i>
Row 1.5	Grain-scale discrete analysis methods for real granular matter: granular element and coupled level set-discrete element methods <i>K.-W. Lim, R. Kawamoto & J. E. Andrade</i>
Row 1.6	Capturing the state-dependent nature of soil response using DEM <i>X. Huang, C. O'Sullivan, K.J. Hanley & C.Y. Kwok</i>
Row 1.7	Investigation of fabric evolution in elliptical granular materials for kinematic models using the Discrete Element Method <i>M.J. Jiang & T. Li</i>
Row 1.8	Fabric of monosized granular media <i>J. Sánchez, G. Auvinet & B. Cambou</i>
Row 1.9	Change of scale in 2D granular materials: behavior at meso- and macro- scales <i>S.K. Nguyen, H. Magoariéc, E. Vincens & B. Cambou</i>
Row 1.10	Comparison between geometrical and dynamic particle packing <i>I. Koval, M. Roozbahani & D. Frost</i>

Lecture Room 4

- Row 2.1 Instability in granular materials - a micromechanical investigation
J. C. Lopera Perez, C. Y. Kwok, C. O'Sullivan, K. H. Hanley & X. Huang
- Row 2.2 Comparison of fabric tensors for granular materials
A. Theocharis, E. Vairaktaris, P. Fu & Y.F. Dafalias
- Row 2.3 On the role of meso-structures on the instability mechanism of granular soils
J. Wang & B. Zhou
- Row 2.4 Simulation of granular soil behaviour using physics engines
M. Pytlos, M. Gilbert & C.C. Smith
- Row 2.5 Effect of mean grain diameter on vortices, force chains and local volume changes in granular shear zones
M. Nitka, J. Tejchman, J. Kozicki & D. Leśniewska
- Row 2.6 A discrete element analysis of the micromechanical interaction of non-spherical particles in cohesionless granular solids under K0 condition
H. Khan, J.P. Morrissey, J.Y. Ooi & J. Tod Pittam
- Row 2.7 Characterizing and incorporating particle morphology in discrete element modeling
S. Thomas, C. Hurt, C. Cary, D. Barrot, P. Giordano, J. Corriveau, S. Mandayam, N. Das, A. Daouadji & B. Sukumaran
- Row 2.8 Shape effect of elongated soil particles on Discrete Element Modelling of methane hydrate soil sediments
Y. Yu, Y. P. Cheng, X. Xu & K. Soga
- Row 2.9 Coordination number and geometric anisotropy in binary sphere mixtures
J. Sánchez, G. Auvinet & B. Cambou
- Row 2.10 A contribution to the numerical simulation of aggregate crushing
A. Neveu, R. Artoni, P. Richard & Y. Descantes
- Row 2.11 An evaluation of the progressive crushing of granular materials under compression
L. E. Vallejo, S. Lobo-Guerrero, C. Sbarro, Z. Liu & J. R. Valdes

Row 2.12	DEM modelling of a double-porosity crushable granular material <i>M.O. Ciantia, M. Arroyo, J. Butlanska & A. Gens</i>
Row 2.13	Compression behavior for assembly of DEM crushable cylindrical gravels <i>Y. Nakata & Y. Watabe</i>
Row 2.14	A DEM investigation of a simple shear test on crushable materials <i>Y.S. Wang, S.H. Liu, C.M. Shen & Z.J. Wang</i>
Row 2.15	Novel methods of bender element test analysis <i>J. O'Donovan, G. Marketos & C. O'Sullivan</i>
Row 2.16	Macro and micro responses of granular materials under traffic load <i>J.G. Qian, Z.P. You, X.Q. Gu & M.S. Huang</i>

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- Row 3.1 DEM analysis on formation of shear band of methane hydrate bearing soil under different temperatures and water pressures
M.J. Jiang, D. Peng, F. Liu & Z.F. Shen
- Row 3.2 Three-dimensional DEM simulation of mechanical behavior of methane hydrate under triaxial compression
M.J. Jiang, J. He, J.F. Wang & F. Liu
- Row 3.3 DEM simulations of methane hydrate dissociation by thermal recovery
M.J. Jiang, C. Fu, L. Cui, Z. F. Shen & F.Y. Zhu
- Row 3.4 A simple three-dimensional bond contact model for cemented sands considering the influence of bond width and thickness
M.J. Jiang & F.G. Zhang
- Row 3.5 Discrete Element Method for modeling the mechanical behavior of unsaturated granular media
K. Tourani, A. Mahboubi & E. Seyedi Hosseininia
- Row 3.6 Significance of DEM input parameters on the modelling of low strength soft rock mechanical behaviour
D. Barreto, M. Rouainia & D. Simpson
- Row 3.7 Blasting of cemented granular material and discrete element simulation of the process
N. Kikkawa, K. Itoh, T. Mizutani, T. Hori, Y. Toyosawa, M. J. Pender & R. P. Orense
- Row 3.8 Exploring the influence of normal boundary conditions on interface shear test
S. Liu & J. Wang
- Row 3.9 Shear flow of dense granular suspensions by computer simulations
L. Amarsid, P. Mutabaruka, J.-Y. Delenne, Y. Monerie & F. Radjai
- Row 3.10 Coupled LBM-DEM modeling of Bingham fluids with suspended particles
S.G. Chen, C.H. Zhang, Q.C. Sun & F. Jin
- Row 3.11 A coupled CFD-DEM model for fluid-particle flows with free surface: formulation and validation
L. Jing, C.Y. Kwok & Y.F. Leung

Row 3.12	Coupled CFD-DEM simulations of submarine landslide induced by thermal dissociation of methane hydrate <i>M.J. Jiang, C. Sun, W.C. Zhang & F. Liu</i>
Row 3.13	A new discontinuous model for three dimensional analysis of fluid-solid interaction behaviour <i>H. Zhang, G. Chen, L. Zheng, Y. Zhang, Y.Q. Wu, Z. Han, F.S. Fan, P.D. Jing & W. Wang</i>
Row 3.14	Contact mechanics in presence of fluid under pressure <i>L. Mongioli</i>
Row 3.15	Microstructure evolution of granular soils during liquefaction process <i>J. Wei & G. Wang</i>
Row 3.16	Numerical analysis of internal stability of granular materials using discrete element method <i>N. Abdoulaye Hama, T. Ouahbi, S. Taibi, J.M. Fleureau, A. Pantet & H. Souli</i>

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- Row 4.1 A study of the behaviour of fresh and coal fouled ballast reinforced by geogrid using the discrete element method
N.T. Ngo, B. Indraratna & C. Rujikiatkamjorn
- Row 4.2 Analysis of micro characteristics and influence factors of foundation pit failure
Y.Q. Li, Z.L. Hu, X. Fang & J. Fonseca
- Row 4.3 Distinct element analysis on uplift resistance of belled and multi-belled piles in layered ground
T. Honda
- Row 4.4 A 2D DEM mono-pile model under combined loading condition
N. Duan & Y.P. Cheng
- Row 4.5 DEM analysis of green rubberised backfills towards future smart Integral Abutment Bridges (IABs)
L.Cui & S. Mitoulis
- Row 4.6 The effect of relative density on tunnelling-induced settlements - DEM simulations versus centrifuge test results
B. Zhou, I. Elkayam & A.M. Marshall
- Row 4.7 SCLAY1S-BS: an anisotropic model for simulation of cyclic behaviour of clays
M. Rezania, H. Dejaloud & M. Mousavi Nezhad
- Row 4.8 Computations of plastic flow in granular assemblies under rotation of principal stresses
N. Hadda, R. Wan & M. Pouragha
- Row 4.9 A microstructural plastic potential for granular materials
M. Pouragha, R. Wan & N. Hadda
- Row 4.10 Modelling the shear strength and dilatancy of dry sand in triaxial compression tests
J. Fern, T. Sakanoue & K. Soga
- Row 4.11 Incorporation of initial static shear stress in the dilatancy flow rule of granular materials under quasi-static loading
H. Shaverdi, F. Kalantary, M. R. Taha
- Row 4.12 A theory predicting breakage dependence of critical state in sand
A. Tengattini, A. Das & I. Einav

- Row 4.13 A new method for establishing elastic-viscoplastic constitutive model of clay
Z. Wang, M. Jiang, Z. Shen, S. Chen & J. Cai
- Row 4.14 Modelling tertiary creep in geomaterials using a continuum damage mechanics approach
A. S. Osmanm & T. J. Birchall
- Row 4.15 Constitutive modelling of granular soils and interfaces considering their internal state
J. Duriez & É. Vincens
- Row 4.16 Numerical simulation of the macro-micro mechanical behaviour of granular materials based on a two-scale method
X. Chu, C. Yu & Y. Xu

Lecture Room 4

- Row 5.1 FE modelling of sand with micro-characterization
D. Takano & Y. Miyata
- Row 5.2 Fabric anisotropy & DEM informed two-surface hyperplasticity: constitutive formulation, asymptotic states & experimental validation
W.M. Coombs & R.S. Crouch
- Row 5.3 Hydro-mechanical modelling and numerical simulation of the water retention properties of the Callovo-Oxfordian argillites
X.P. Nguyen, B. Bary & C. Imbert & P. Sémété
- Row 5.4 Evolution of the soil water characteristic curve with void ratio using a fractal approach
A. Khoshghalb, A.Y. Pasha & N. Khalili
- Row 5.5 A study on the causes of debris flow focusing on groundwater infiltration
Y. Kochi & M. Suzuki
- Row 5.6 3D neurofuzzy modeling of Lugeon values at the abutments of a dam site
S.R. García, V. Castellanos, J. López, J. Landa & J. Alemán
- Row 5.7 Support mechanism of anchor type retaining wall and influence of existing structure in braced excavation
H.M. Shahin, T. Nakai, K. Okuda & M. Kato
- Row 5.8 Research of rigid-pile composite foundation with crushed stone cushion based on FDM-PFC coupling method
Y. Li, X. Han, J. Ji & H. Wang
- Row 5.9 Sensitivity analyses on the influence of constitutive parameters on the numerical simulation of the behaviour of a cavern in rock salt
E. Mahmoudi, K. Khaledi, D. König & T.Schanz
- Row 5.10 Winkler springs (p-y curves) for liquefied soil from element tests
M. Rouholamin, S. Bhattacharya & D. Lombardi
- Row 5.11 Two-phase Material Point Method applied to cone penetration for different drainage conditions
F. Ceccato, L. Beuth, P. A. Vermeer & P. Simonini

Row 5.12	Numerical simulation of a series of flume tests with dry and wet sands by using depth averaged material point method <i>K. Abe & K. Konagai</i>
Row 5.13	Development of the cellular automaton model for simulating the propagation extent of debris flow at the alluvial fan: a case study of Yohutagawa, Japan <i>Z. Han, G. Chen, Y. Li, H. Zhang, F. Fan, P. Jing, W. Wang, S. Zhou, L. Xu & S. Chen</i>
Row 5.14	Development of Moving Particle Simulation method using a rigid plastic constitutive model <i>K. Isobe, S. Ohtsuka & T. Hoshina</i>
Row 5.15	An experimental investigation of the micromechanical behaviour of cemented sand particles <i>V. Nardelli & M.R. Coop</i>
Row 5.16	Photo-elastic and DIC techniques to study development of shear and compaction bands within granular materials <i>D. Lesniewska, M. Pietrzak & J. Tejchman</i>

Lecture Room 4

Row 6.1	Effect of particle crushing on the dynamic properties of pumice sand <i>R.P. Orense, M.J. Pender & L. Liu</i>
Row 6.2	The effect of particle characteristics on shear behaviour with methane hydrate bearing sand <i>S. Kajiyama, M. Hyodo, Y. Nakata, N. Yoshimoto & A. Kato</i>
Row 6.3	Effect of particle shape on the mechanical response of a granular ensemble <i>R. K. Kandasami & T. G. Murthy</i>
Row 6.4	Investigation of the fracture behaviour of individual LBS particle using Nanofocus X-ray CT <i>B. D. Zhao, J. Wang & M. R. Coop</i>
Row 6.5	Visualisation of grain crushing using micro-focused X-ray CT scanning <i>W.M. Yan, Y. Shi, T. Mukunoki, T. Sato & J. Otani</i>
Row 6.6	XRCT scanning of unsaturated soil: microstructure at different scales? <i>J.C. Smith & C.E. Augarde</i>
Row 6.7	Micro-focus X-ray CT scanning of chemically improved sand <i>Y.Nakata, K.Ogawa, H.Akagi, J.Kawamura & Y.Watanabe</i>
Row 6.8	Challenges in analyzing micro-CT images of dam filter materials <i>H.F. Taylor, C. O'Sullivan & W.W. Sim</i>
Row 6.9	Chemo-mechanical couplings characterisation by nuclear magnetic resonance in lime-treated soil <i>O.Cuisinier & G. Kervern</i>
Row 6.10	The liquefaction resistance of weakly cemented sands <i>A.D. Vranna & Th. Tika</i>

Baker Foyer

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| BF 1 | Collapsibility study of Najran soils
<i>A. Rouaiguia & M.A. Dahim</i> |
| BF 2 | The composition of freshwater and saltwater lacustrine soft soil deposits in Mexico City
<i>J.L. Rangel-Núñez, F. Almanza-Hernández & E. Garfias-García</i> |
| BF 3 | Microstructural identification in a clayey mix material at the ultimate state
<i>T. Hammad, M. Hattab & J.-M. Fleureau</i> |
| BF 4 | Effect of fines content on monotonic and cyclic shear characteristics of sand-clay mixtures
<i>S. Watanabe & M. Hyodo</i> |
| BF 5 | The influence of fines on the deformation properties of sands imposed to dynamic loading
<i>P. A. Kallioglou & Th. Tika</i> |
| BF 6 | Unconfined compression strength of unsaturated completely decomposed granite soil with different clay mixing ratios
<i>W.H. Zhou & X. Xu</i> |
| BF 7 | An investigation of the particle breakage behaviour of rubber reinforced sand
<i>R. Fu, M. R. Coop, K. Senetakis & X.Q.Li</i> |
| BF 8 | Size effect study on fibre-reinforced cement-treated clay
<i>H.W. Xiao, Ng Choy Hing Yannick, F.H. Lee, M.H. Zhang & B. S. Ahmad</i> |
| BF 9 | In-situ shearing response and shear strength of various solid waste ground focused on fibrous materials composition
<i>S. Miyamoto, N. Yasufuku, K. Omine, R. Ishikura, S. Kawai & A. Yamawaki</i> |
| BF 10 | Effects of random fibre reinforcement on the density of granular materials
<i>O. Ajayi, L. Le Pen, A. Zervos & W. Powrie</i> |
| BF 11 | Mechanical properties of glass foam, sand and cement mixtures
<i>B. Teymur & E.Y. Tuncel</i> |
| BF 12 | Determination of geotechnical properties of sand-EPS foam and cement mixtures
<i>B. Teymur & R. Ahmadov</i> |

- BF 13 Monotonic and cyclic shear behaviour of tire chips
M. Fuchiyama, M. Hyodo, Y. Nakata, N. Yoshimoto, K. Imada & A. Konja
- BF 14 Shear strength and dilatancy of partially saturated sand in direct shear tests
J. Fern, D. J. Robert & K. Soga
- BF 15 Water retention curve of soils with distinct pore space characteristics
T. Mine, L. Handoko & N. Yasufuku
- BF 16 Influences of grain shape and size distribution on permeability
N. Akbulut, M. Wiszniewski & A. F. Cabalar
- BF 17 Effects of flow velocity and particle size distribution on the filtration of polydisperse particles in saturated porous medium
A. Hammadi, N.-D. Ahfir, A. Alem & H.-Q. Wang
- BF 18 Soil erosion characteristics of a residual soil under wetting-drying cycles
K. Vilayvong, N. Yasufuku & K. Iwami
- BF 19 Self-potential method applied to the characterization of a clogged porous medium
S. Taoudiat, N.-D. Ahfir, A. Jardani, H.-Q. Wang & J.-P. Dupont
- BF 20 Clay-bearing rocks slaking characterization using artificial vision
O. Rincón, L. Florez & M.S. Ocampo

Baker First Floor

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| BFF 1 | Soil particle composition effect on the strengthening behaviour of biopolymer treatment
<i>I. Chang, J. Im & G.C. Cho</i> |
| BFF 2 | Multi-scale analysis of lime treated sand-bentonite mixtures
<i>M.A. Hashemi & B. François, T.J. Massart, S. Salager & G. Herrier</i> |
| BFF 3 | Immediate soil-lime reaction studied on the basis of the lime consumption rate
<i>F. Gueridi & Z. Derriche</i> |
| BFF 4 | Coral sand solidification test using ureolytic bacteria
<i>T. Danjo, S. Kawasaki, S. Shimazaki & K. Koizuka</i> |
| BFF 5 | A chemo-mechanical coupling for lime treated soils
<i>V. Robin, O. Cuisinier, A. Javadi & F. Masrouri</i> |
| BFF 6 | Effect of microstructure on heat transfer through compacted cement-stabilised soils
<i>C. Beckett & D. Ciancio</i> |
| BFF 7 | Microwave absorption and its thermo-mechanical consequences in heterogeneous rocks
<i>M. Toifl, R. Meisels, P. Hartlieb, F. Kuchar & T. Antretter</i> |
| BFF 8 | Simulation of granular soil behaviour using the Bullet physics library
<i>E. Izadi & A. Bezuijen</i> |

Marquee

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| Mar 1 | Crush characteristics of abrasive particles during abrasive waterjet rock cutting
<i>T.M. Oh, G.W. Joo, K.J. Yun & G.C. Cho</i> |
| Mar 2 | Micromechanics on scour of sandy soil due to tsunami flow with multiphase interaction
<i>T. Matsuda & K. Maeda</i> |
| Mar 3 | Sand displacement field analysis during pile installation using x-ray tomography and digital image correlation
<i>M. Silva & G. Combe</i> |
| Mar 4 | Centrifuge modeling of wrapped-reinforced sand slope
<i>J. Zhou, Y.-H. Zhou & F. Li</i> |
| Mar 5 | Theoretical & experimental modeling of settlement of rigid footing over collapsible soil
<i>B. Kafle, H. Hailemariam & F. Wuttke</i> |
| Mar 6 | How local perturbation in regularity changes force chains in model granular soil under the shallow foundation
<i>Y.-H. Jung, J.-W. Jung & T.-G. Kim</i> |
| Mar 7 | Suitability of the superpave gyratory compactor for the assessment of compaction characteristics of unbound materials
<i>C.E. Cary, C. Kumpel, A. Bagriacik, R. Cohen, M. Lecorvaisier, J. Clark, B. Sukumaran & A. Daouadji</i> |
| Mar 8 | Dilatancy based similitude of small-scale 1g models and prototypes for cohesionless soils
<i>O. Cinicioglu, A. Altunbas, B. Soltanbeigi & A.T. Gezgin</i> |
| Mar 9 | New insights into the micromechanics of soft clay shearing on rough and smooth interfaces
<i>M. Y-H. Kuo</i> |
| Mar 10 | TBC
<i>E. Jensen</i> |
| Mar 11 | Mechanics of fluid injection into a packing of soft particles
<i>C. MacMinn</i> |
| Mar 12 | Finite element modeling of the behavior of salt caverns under cyclic loading
<i>K. Khaledi, E. Mahmoudi, M. Datcheva & T. Schanz</i> |