

Thursday 4th September**08.30 – 09.00 Welcome****09.00 – 10.30 Young Researcher Presentations (10 minute presentation)****Parallel Session 1a Chair: TBC**

Lecture Theatre 1

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| 09.00 – 09.10 | 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> |
| 09.10 – 09.20 | Research of rigid-pile composite foundation with crushed stone cushion based on FDM-PFC coupling method
<i>Y. Li, X. Han, J. Ji & H. Wang</i> |
| 09.20 – 09.30 | Change of scale in 2D granular materials: behavior at meso- and macro- scales
<i>S.K. Nguyen, H. Magoariec, E. Vincens & B. Cambou</i> |
| 09.30 – 09.40 | Simulation of granular soil behaviour using physics engines
<i>M. Pytlos, M. Gilbert & C.C. Smith</i> |
| 09.40 – 09.50 | A discrete element analysis of the micromechanical interaction of non-spherical particles in cohesionless granular solids under K0 condition
<i>H. Khan, J.P. Morrissey, J.Y. Ooi & J. Tod Pittam</i> |
| 09.50 – 10.00 | Shape effect of elongated soil particles on Discrete Element Modelling of methane hydrate soil sediments
<i>Y. Yu, Y. P. Cheng, X. Xu & K. Soga</i> |
| 10.00 – 10.10 | A contribution to the numerical simulation of aggregate crushing
<i>A. Neveu, R. Artoni, P. Richard & Y. Descantes</i> |
| 10.10 – 10.20 | An evaluation of the progressive crushing of granular materials under compression
<i>L. E. Vallejo, S. Lobo-Guerrero, C. Sbarro, Z. Liu & J. R. Valdes</i> |
| 10.20 – 10.30 | Investigation of submerged debris flows via CFD-DEM coupling
<i>T. Zhao, G. T. Houlsby & S. Utili</i> |

Parallel Session 1b Chair: TBC

Lecture Theatre 2

- 09.00 – 09.10 A DEM investigation of a simple shear test on crushable materials
Y.S. Wang, S.H. Liu, C.M. Shen & Z.J. Wang
- 09.10 – 09.20 Novel methods of bender element test analysis
J. O'Donovan, G. Marketos & C. O'Sullivan
- 09.20 – 09.30 Macro and micro responses of granular materials under traffic load
J.G. Qian, Z.P. You, X.Q. Gu & M.S. Huang
- 09.30 – 09.40 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
- 09.40 – 09.50 DEM simulations of methane hydrate dissociation by thermal recovery
M.J. Jiang, C. Fu, L. Cui, Z. F. Shen & F.Y. Zhu
- 09.50 – 10.00 Discrete Element Method for modeling the mechanical behavior of unsaturated granular media
K. Tourani, A. Mahboubi & E. Seyed Hosseininia
- 10.00 – 10.10 Exploring the influence of normal boundary conditions on interface shear test
S. Liu & J. Wang
- 10.10 – 10.20 A coupled CFD-DEM model for fluid-particle flows with free surface: formulation and validation
L. Jing, C.Y. Kwok & Y.F. Leung
- 10.20 – 10.30 Coupled CFD-DEM simulations of submarine landslide induced by thermal dissociation of methane hydrate
M.J. Jiang, C. Sun, W.C. Zhang & F. Liu

10.30 – 11.00 Coffee

11.00 – 12.30 Young Researcher Oral Presentations (10 minute presentation)

Parallel Session 2a Chair: TBC

Lecture Theatre 1

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|---------------|--|
| 11.00 – 11.10 | Theoretical & experimental modeling of settlement of rigid footing over collapsible soil
<i>B. Kafle, H. Hailemariam & F. Wuttke</i> |
| 11.10 – 11.20 | Microstructure evolution of granular soils during liquefaction process
<i>J. Wei & G. Wang</i> |
| 11.20 – 11.30 | A study of the behaviour of fresh and coal fouled ballast reinforced by geogrid using the discrete element method
<i>N.T. Ngo, B. Indraratna & C. Rujikiatkamjorn</i> |
| 11.30 – 11.40 | A 2D DEM mono-pile model under combined loading condition
<i>N. Duan & Y.P. Cheng</i> |
| 11.40 – 11.50 | A microstructural plastic potential for granular materials
<i>M. Pouragha, R. Wan & N. Hadda</i> |
| 11.50 – 12.00 | Modelling the shear strength and dilatancy of dry sand in triaxial compression tests
<i>J. Fern, T. Sakanoue & K. Soga</i> |
| 12.00 – 12.10 | Incorporation of initial static shear stress in the dilatancy flow rule of granular materials under quasi-static loading
<i>H. Shaverdi, F. Kalantary, M. R. Taha</i> |
| 12.10 – 12.20 | Two-phase Material Point Method applied to cone penetration for different drainage conditions
<i>F. Ceccato, L. Beuth, P. A. Vermeer & P. Simonini</i> |
| 12.20 – 12.30 | Centrifuge modeling of wrapped-reinforced sand slope
<i>J. Zhou, Y.-H. Zhou & F. Li</i> |

Parallel Session 2b Chair: TBC

Lecture Theatre 2

- 11.00 – 11.10 A theory predicting breakage dependence of critical state in sand
A. Tengattini, A. Das & I. Einav
- 11.10 – 11.20 A new method for establishing elastic-viscoplastic constitutive model of clay
Z. Wang, M. Jiang, Z. Shen, S. Chen & J. Cai
- 11.20 – 11.30 Modelling tertiary creep in geomaterials using a continuum damage mechanics approach
A. S. Osmanm & T. J. Birchall
- 11.30 – 11.40 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
- 11.40 – 11.50 A study on the causes of debris flow focusing on groundwater infiltration
Y. Kochi & M. Suzuki
- 11.50 – 12.00 Support mechanism of anchor type retaining wall and influence of existing structure in braced excavation
H.M. Shahin, T. Nakai, K. Okuda & M. Kato
- 12.00 – 12.10 Sensitivity analyses on the influence of constitutive parameters on the numerical simulation of the behavior of a cavern in rock salt
E. Mahmoudi, K. Khaledi, D. König & T.Schanz
- 12.10 – 12.20 Finite element modeling of the behavior of salt caverns under cyclic loading
K. Khaledi, E. Mahmoudi, M. Datcheva & T. Schanz
- 12.20 – 12.30 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

12.30 – 13.30 Lunch

13.30 – 15.00 Young Researcher Oral Presentations (10 minute presentation)**Parallel Session 3a Chair: TBC**

Lecture Theatre 1

- 13.30 – 13.40 Development of the cellular automaton model for simulating the propagation extent of debris flow at the alluvial fan: a case study of Yohutagawa, Japan
Z. Han, G. Chen, Y. Li, H. Zhang, F. Fan, P. Jing, W. Wang, S. Zhou, L. Xu & S. Chen
- 13.40 – 13.50 An experimental investigation of the micromechanical behaviour of cemented sand particles
V. Nardelli & M.R. Coop
- 13.50 – 14.00 Application of digital image technology for investigation of shear band of soil specimen in triaxial test
L.T. Shao, G. Liu & X. X. Guo,
- 14.00 – 14.10 The effect of particle characteristics on shear behavior with methane hydrate bearing sand
S. Kajiyama, M. Hyodo, Y. Nakata, N. Yoshimoto & A. Kato
- 14.10 – 14.20 Investigation of the fracture behaviour of individual LBS particle using Nanofocus X-ray CT
B. D. Zhao, J. Wang & M. R. Coop
- 14.20 – 14.30 Visualisation of grain crushing using micro-focused X-ray CT scanning
W.M. Yan, Y. Shi, T. Mukunoki, T. Sato & J. Otani
- 14.30 – 14.40 XRCT scanning of unsaturated soil: microstructure at different scales?
J.C. Smith & C.E. Augarde
- 14.40 – 14.50 Challenges in analyzing micro-CT images of dam filter materials
H.F. Taylor, C. O'Sullivan & W.W. Sim
- 14.50 – 15.00 Multi-scale analysis of lime treated sand-bentonite mixtures
M.A. Hashemi & B. François, T.J. Massart, S. Salager & G. Herrier

Parallel Session 3b Chair: TBC

Lecture Theatre 2

- 13.30 – 13.40 Microstructural identification in a clayey mix material at the ultimate state
T. Hammad, M. Hattab & J.-M. Fleureau
- 13.40 – 13.50 Transition fines contents of sand-clay mixtures under one dimensional compression
A. F. Cabalar, N. Akbulut & H. Isik
- 13.50 – 14.00 Effect of fines content on monotonic and cyclic shear characteristics of sand-clay mixtures
S. Watanabe & M. Hyodo
- 14.00 – 14.10 Undrained monotonic simple shear response of clayey sands and silts
Y. Suzuki & B.M. Lehane
- 14.10 – 14.20 An investigation of the particle breakage behaviour of rubber reinforced sand
R. Fu, M. R. Coop, K. Senetakis & X.Q.Li
- 14.20 – 14.30 In-situ shearing response and shear strength of various solid waste ground focused on fibrous materials composition
S. Miyamoto, N. Yasufuku, K. Omine, R. Ishikura, S. Kawai & A. Yamawaki
- 14.30 – 14.40 Mechanical properties of glass foam, sand and cement mixtures
B. Teymur & E.Y. Tuncel
- 14.40 – 14.50 Monotonic and cyclic shear behaviour of tire chips
M. Fuchiyama, M. Hyodo, Y. Nakata, N. Yoshimoto, K. Imada & A. Konja
- 14.50 – 15.00 Shear strength and dilatancy of partially saturated sand in direct shear tests
J. Fern, D. J. Robert & K. Soga

15.00 – 15.30 Tea

15.30 – 16.30 Young Researcher Oral Presentations (10 minute presentation)

Parallel Session 4a Chair: TBC

Lecture Theatre 1

15.30 – 15.40 Influences of grain shape and size distribution on permeability

N. Akbulut, M. Wiszniewski & A. F. Cabalar

15.40 – 15.50 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

15.50 – 16.00 Soil erosion characteristics of a residual soil under wetting-drying cycles

K. Vilayvong, N. Yasufuku & K. Iwami

Parallel Session 4b Chair: TBC

Lecture Theatre 2

15.30 – 15.40 Coral sand solidification test using ureolytic bacteria

T. Danjo, S. Kawasaki, S. Shimazaki & K. Koizuka

15.40 – 15.50 Microwave absorption and its thermo-mechanical consequences in heterogeneous rocks

M. Tojfl, R. Meisels, P. Hartlieb, F. Kuchar & T. Antretter

15.50 – 16.00 Simulation of granular soil behaviour using the Bullet physics library

E. Izadi & A. Bezuijen

16.10 – 16.30 Closure