

## **List of accepted abstracts**

*M. Crumpton, J.P. Hambleton, A.J. Abbo<sup>(\*)</sup>, S.W. Sloan, A.V. Lyamin*  
*‘Upper bound analysis using node perturbation and discontinuity layout optimization’*

*Yu-Shu Kuo, K. Abdel-Rahman, M. Achmus*  
*‘Investigation of group pile foundations for offshore wind energy turbines’*

*Klaus Thieken, Martin Achmus*  
*‘Small strain effects on the stiffness of monopiles’*

*Martin Achmus, Klaus Thieken, Cihan Taylan Akdag, Christian Schröder*  
*‘Load bearing behavior of bucket foundations in sand’*

*H. Karatag, S. O. Akbas, A. C. Gel*  
*‘Analysis of an anchored pile wall under limited geotechnical characterization’*

*E. E. Alonso and A. Ramon*  
*‘Modelling swelling behavior of anhydritic clayey rocks’*

*Xiaoyu Song, Ronaldo I. Borja*  
*‘Triggering failure in variably saturated porous materials’*

*Ronald B.J. Brinkgreve*  
*‘Validating geotechnical finite element models’*

*Julien Marck, and Emmanuel Detournay*  
*‘Perturbation to borehole trajectory caused by drilling across a rock interface’*

*Anne-Catherine Dieudonné, Séverine Levasseur, Robert Charlier, Gabriele Della Vecchia, Cristina Jommi*  
*‘A water retention model for compacted clayey soils’*

*W. Dong, G. Anagnostou*  
*‘Evaluation of a modified hardening model for squeezing rocks in tunneling’*

*A.P. van den Eijnden, F. Collin, P. Bésuelle, R. Chambon*  
*‘A double-scale modelling approach for hydro-mechanical coupling’*

*H.K. Engin, A. Rohe, H.P. Jostad*  
*‘On the modelling of grain crushing in hypoplasticity’*

*J.M. van Esch, J.B. Sellmeijer*  
*‘Modeling transient groundwater flow and piping under dikes and dams’*

*J.M. van Esch, J.A.M. Teunissen*  
*‘Modeling transient groundwater flow for stability assessment of dikes’*

*E. Fathi Salmi, M. Nazem, and A. Giacomini*  
*‘Numerical studies on the mechanism of mining subsidence’*

*P. Fornes, H.P. Jostad*  
*‘A probability study of an inclined slope in sensitive clay using FEA’*

<sup>(\*)</sup> corresponding author

- B. Sonon, B. François, T.J. Massart  
*'XFEM-based geomechanical modelling of porous media at small scale'*
- A. Bacigalupo, L. Gambarotta  
*'Acoustic velocity in layered rock masses with periodic fractures'*
- M. Arroyo, J. Butlanska, A. Gens, C. O'Sullivan  
*'Specimen formation and boundary constraints in DEM-based CPT'*
- Ali Ghavam-Nasiri and Abbas El-Zein  
*'A comparison of the local discontinuous and continuous Galerkin methods in simulating unsaturated flow'*
- A. Cividini, G. Gioda  
*'On the dynamic analysis of two-phase soils'*
- M. Goodarzi, S. Mohammadi, A. Jafari, E.F. Salmi  
*'Numerical modeling of gas fracturing with the extended finite element method'*
- M. Gueguin, G. Hassen and P. de Buhan  
*'Assessing the liquefaction risk reduction of reinforced soils: column vs. cross trench configuration'*
- M. Gueguin, G. Hassen, J. Bleyer, P. de Buhan  
*'An optimization method for approximating the macroscopic strength criterion of stone column reinforced soils'*
- E. Haghghat and S. Pietruszczak  
*'On the description of fracture propagation in brittle materials'*
- J. Han, C. Dano, P-Y. Hicher  
*'Elastoplastic modeling of the stress-strain behavior of stiff clay'*
- Y. Li, M.A. Hicks, J.D. Nuttall  
*'Reliability analysis of a benchmark problem for slope stability in 3D'*
- B. Wang, M.A. Hicks and P.J. Vardon  
*'Formulation of a quasi-static MPM for geotechnical applications'*
- A.S. Hokmabadi, B. Fatahi, B. Samali  
*'Numerical modeling of seismic response of a superstructure on soft soil'*
- Sadrish Panthi, Liang Bo Hu  
*'A multi-scale approach for modelling enhanced dissolution and deformation of geomaterials'*
- Wenxiong Huang, Scott, W. Sloan, Daichao Sheng  
*'A hypoplastic model for sand with particle crushing effect'*
- T. Hueckel, B. Mielniczuk, L.B. Hu, L. Laloui, M. S.El Youssoufi  
*'Soil cracking and suction evolution at the onset and the end of desaturation'*
- H.P. Jostad, H.K. Engin  
*'Investigation of different solution strategies for non-linear 3d consolidation problems'*

M.M. Kania

*'FEM-MARS based modelling of a strip footing embedded in two-layered soil'*

Omid Kardani, Andrei Lyamin, Kristian Krabbenhøft

*'Application of efficient preconditioned iterative linear solvers to some challenging large scale problems in computational geomechanics'*

K. Khaledi, Y. Lins, T. Barciaga, A. A. Lavasan

*'Geomechanical behavior of salt rock: Assessment of existing models'*

H.D.V. Khoa

*'Large deformation finite element analysis of spudcan penetration in multi-layered soil'*

K. Krabbenhøft & X. Zhang

*'Particle finite element method for very large deformation problems'*

Poul V. Lade, Eugene Van Dyck, Nina M. Rodriguez

*'Shear banding in cross-anisotropic sand deposits exposed to loading through flexible and stiff boundaries'*

L. Laloui, J. Eichenberger, A. Ferrari

*'Hydromechanical analysis of a volcanic ash slope subjected to wetting and drying cycles'*

C.Li, L. Laloui

*'Coupled semi-analytical solution of CO<sub>2</sub> injection induced surface uplift'*

A. Di Donna, F. Dupray and L. Laloui

*'Effects of a seasonally cyclic thermal load on the design of energy piles: numerical results'*

Youn-Kyou Lee, S. Jeon

*'Equivalent Mohr-Coulomb strength parameters accounting for the influence of intermediate principal stress'*

S. Levasseur, H. Welemene, D. Kondo

*'Microcracks-induced damage modelling for transversely isotropic rock'*

Z.B. Liu, J.F Shao

*'An adaptive RVM approach for the assessment of elastic compressibility of sandstone'*

Y. J. Liu, P.Y. Hicher, J.H. Wang, X.H. Xia

*'Influence of grading on undrained behaviour of granular materials'*

M. Lloret-Cabot, D. Sheng

*'Coupling between mechanical and water retention behaviour in unsaturated soils'*

D. Macijauskas, S. Van Baars

*'Interpretation of vibration tests in elastic media'*

K. S. Wong and D. Masin

*'Evaluation of constitutive models for small strain stiffness of unsaturated soils'*

R.L. Michalowski and S.S. Nadukuru

*'Principal causes of aging and rate effects in sands: static fatigue and pressure dissolution'*

M. Moavenian, M. Nazem, and J.P. Carter

*'Numerical analysis of free-falling penetrometers into a non-uniform soil layer'*

R.R. de Jager, F. Molenkamp

*'Hydrostatics and relative motion of pore fluid'*

B. Moussai

*'Behaviour of El-Agrem concrete face rockfill dam'*

Z. Mróz, J. Maciejewski

*'Constitutive model of progressive damage, frictional slip and wear at geomaterial interfaces'*

T. Nakai, H.M. Shahin, M. Hinokio and H. Kyokawa

*'Meaning and usefulness of the  $t_{ij}$  concept'*

M. Nazem, M. Kardani, J.P. Carter and S.W. Sloan

*'On application of high-order elements in large deformation problems of geomechanics'*

S.A. Tan, K.S. Ng

*'Stone columns foundation analysis with concentric ring approach'*

Hieu Toan Nguyen, Jean-Alain Fleurisson, Roger Cojean

*'On evaluation of slope topography site effect'*

J. Oetomo, E. Vincens, F. Dedecker, J.-C. Morel

*'Modeling the 2d failure of dry stone retaining walls'*

A.G. Papadimitriou, G.I. Agapoulaki

*'On improving a simple anisotropic clay model'*

A. Pedro, P.A.L.F. Coelho, J. Almeida e Sousa, D. Taborda

*'Influence of soil variability on the behaviour of a footing next to a slope'*

S. Pietruszczak and E. Haghghat

*'Modeling of localized damage in cohesive slopes subjected to a rainfall'*

P.C. Prat, A. Ledesma, A. Cuadrado and H. Levatti

*'Ground penetrating radar system for detection of desiccation cracks in soils'*

N. Prime, F. Darve & F. Dufour

*'Modelling solid-fluid transition in soils during mudflows'*

Marcin Chwała and Wojciech Puła

*'Shallow foundations reliability by means of random Prandtl's mechanism'*

Jerzy Bauer, Wojciech Puła and Marek Wyjadłowski

*'Load pile test results as a base for reliability calculation with segmented line as a response surface'*

- A.A. Rahim, F. G. Hernandez-Martinez  
*'Consolidation settlement of skirted foundations in soft clay'*
- Ivo I. Raissakis, Helmut F. Schweiger  
*'Comparison of finite element limit analysis and strength reduction techniques'*
- Zarghaam Rizvi, Frank Wuttke  
*'Slope failure risk assessment & mitigation measures using finite element analysis'*
- H. Sabetamal, M. Nazem, and J.P. Carter  
*'Numerical analysis of torpedo anchors'*
- B. Schädlich, H.F. Schweiger  
*'Micro-macro relations for anisotropic elasticity'*
- Roberto Schuerch and Georg Anagnostou  
*'The effect of dilation on the stand-up time of the tunnel face in water bearing ground'*
- L. Hosking, M. Sedighi & H. R. Thomas  
*'High pressure gas transport under coupled thermal, hydraulic, chemical and mechanical behaviour'*
- A.P.S. Selvadurai, A.P. Suvorov & P.A. Selvadurai  
*'Poromechanics of a fractured formation during glacial loadings'*
- D. Seyedi, G. Armand  
*'Numerical modeling of the excavation induced fracture pattern around deep underground drifts'*
- C. F. Jin, Q.Z. Zhu, S. Pietruszczak, J.F. Shao  
*'Numerical modeling of strain localization and interface damage in cement based materials'*
- Daichao Sheng, Sheng Zhang, Fujun Niu, Guodong Cheng  
*'Pumping-enhanced frost heave mechanism in high-speed railway embankments'*
- P. Sitarenios, G. Belokas, M. Kavvadas  
*'The incorporation of new isotropic and kinematic hardening rules in an anisotropic constitutive model'*
- Henning Stutz, Thomas Benz, Frank Wuttke  
*'On the application of zero-thickness interface elements with gapping/cave-in mechanism to pile-soil interaction analyses'*
- R.N. Azeiteiro, P.A.L.F. Coelho, J. Grazina, D.M.G. Taborda  
*'Computational study on the application of Genetic Algorithms to the calibration of a bounding surface plasticity model for sands'*
- C. Tamagnini, D. Salciarini & R. Ragni  
*'FE implementation of a 6-dof hypoplastic macroelement model'*
- M. Nitka, J. Tejchman, J. Kozicki  
*'Discrete analysis of micro-structural events in granular shear zones'*

A.A. Truty, Th. Zimmermann

*'Domain reduction method in single and two-phase dynamic soil-structure interaction problems'*

Alper Turan, Zahid Khan, and Mousa Attom

*'Uplift behaviour of suction caissons subjected to static and dynamic loads'*

A. Urbański

*'A simplified computational model for a periodic system of horizontally loaded piles'*

K.N.Vakili, T. Barciaga, A. A. Lavasan, T. Schanz

*'Adaptive constitutive modeling in mechanized tunnel excavation analysis'*

P.J. Vardon & J.D. Nuttall

*'Modelling fracture growth in heterogeneous geomaterials using random field theory'*

A. Vrakas, G. Anagnostou

*'Modelling of the advancing tunnel heading considering large deformations'*

Mehdi Pouragha & Richard Wan

*'Interrelationship between coordination number and fabric anisotropy at the particle scale as a constitutive requirement for modelling granular materials'*

Z. Wieckowski

*'Two-phase numerical model for soil–fluid interaction problems'*

Feng Zhang, Bin Ye, Guanlin Ye

*'Unified description of toyoura sand under different loading and drainage conditions'*