

Wednesday, December 11, 2024

08:30 – 09:30	Registration and Welcome to the ACPMG 2024 NYUAD - A6 - Auditorium Opening ceremony Samer Madanat (NYUAD), Tarek Abdoun (NYUAD) and Marawan Alzaylaie (ISSMGE)
09:30 – 10:15	Keynote Lecture 1: Seismic Performance of Underground Structures : 1-g Shaking-table Tests NYUAD - A6 - Auditorium Yong Yuan (Tongji University) Chairperson: Marawan Alzaylaie
10:15 – 11:00	Keynote Lecture 2: Tsunami-Induced Failure of Breakwaters and Scour-Induced Failure of Bridge Foundations NYUAD - A6 - Auditorium Ioannis Anastasopoulos (ETH Zürich) Chairperson: Rita Sousa
11:00 – 11:30	Coffee and Refreshments
11:30 – 12:15	Keynote Lecture 3: Physical Modelling Beyond The Laboratory and at Different Scales NYUAD - A6 - Auditorium Conleth O'Loughlin (University of Western Australia) Chairperson: Tadahiro Kishida
12:15 – 13:00	Keynote Lecture 4: New Facilities, New Equipment, and Measuring Techniques NYUAD - A6 - Auditorium Yu Zhao (Zhejiang University) Chairperson: Chian Siau Chen Darren
13:00 – 14:30	Lunch
13:45 – 14:30	TC104 Meeting NYUAD – C2 – E047
14:30 – 15:15	Keynote Lecture 5: Centrifuge Modelling of River Embankment Instabilities Induced by Transient Seepage NYUAD - A6 - Auditorium Giulia Viggiani (University of Cambridge) Chairperson: Yong Yuan
15:15 – 16:00	Keynote Lecture 6: Seismic Induced Uplift of Buoyant Structures in Liquefiable Soils NYUAD - A6 - Auditorium Chian Siau Chen, Darren (National University of Singapore) Chairperson: Giulia Viggiani
16:00 – 16:30	Drinks and Refreshments
16:30 – 17:15	Keynote Lecture 7: Centrifuge Model Testing on Three-Dimensional Excavation Effects in Soft Ground NYUAD - A6 - Auditorium Xianfeng Ma (Tongji University) Chairperson: George Mylonakis
17:15 – 18:00	Lab visit to NYUAD

Thursday, December 12, 2024

- 09:00 – 09:45 **Keynote Lecture 8: Evaluation of the Behavior of Geogrid-Reinforced Soil Walls Subjected to Rainfall Through Centrifuge Model Tests | NYUAD - A6 - Auditorium**
B.VS Viswanadham (Indian Institute of Technology)
Chairperson: Tetsuo Tobita
- 09:45 – 10:30 **Keynote Lecture 9: Physical Modeling on Pullout Behaviors of Root-inspired Anchors: Emphasis on interplays among architectural complexity, embedment depth and material stiffness | NYUAD - A6 - Auditorium**
Tae-Hyuk Kwon (KAIST)
Chairperson: Magued Iskander
- 10:30 – 11:00 Coffee and Refreshments
- 11:00 – 12:30 **Themed Session 1: New facilities, new equipment, and measuring techniques | NYUAD - A6 - Auditorium**
Chairperson: Conleth O’Loughlin | Miguel Cabrera
- Themed Lecture: Centrifuge Modeling of Pile Installation: from rapid to prolonged impact methods**
Miguel Cabrera
- 14 Recent innovations in the geotechnical centrifuge modelling at IWHR**
Z.-T. Zhang, X.-D. Zhang, J. Hu, Y.-K. Wang and W.-K. Yang
- 52 Acoustic Emission technique using time-driven method as a tool for assessing the micro-behavior of dense sand**
S.A. Solh and S. Abdelaziz
- 12 A Novel EPB Model Test Equipment For Tunnel Face Stability Analysis: Incorporating Dynamic Excavation Process**
Xuejian Chen, Hongqing Liu and Rita Sousa
- 93 Modelling tailings dam in a geotechnical centrifuge using a hybrid loading simulator**
Pankaj Kumar and B.V.S. Viswanadham
- 29 Pullout capacity and displacement behavior of opening plate anchor using plane strain box**
Mehrzaad Shojaee, Mohsen Sabermahani, Emad Mirzaee and Seyed Vahid Mojtahed Sistani
- 26 Challenges and experiences of executing DSM columns in stiff clayey soils: A field validation results**
S.M. Alavi, R. Saleh Abadi, S. Shakeri Talarposhti, M. Aghamolaei and A.A. Khodaei Ardebili

38 Centrifuge Modelling of Extreme Rainfall Events on Reinforced Lateritic Soil Slopes

Ruchita Salvi, Ashish Juneja and Satyanarayana Murty Dasaka

11:00 – 12:30

Themed Session 2: Advances in Numerical Modeling and AI Innovations in Geotechnical Engineering | NYUAD - A6 - Theater

Chairperson: Tae-Hyuk Kwon | Waleed El-Sekelly

Themed Lecture: Advancements in Liquefaction Risk Assessment Under High Overburden Pressure

Waleed El-Sekelly

92 ANN model for estimating ultimate bearing capacity of piles socketed in Dubai limestone

Hoda Hany Mostafa

34 Efficacy of instance-based learning algorithms for the prediction of ultimate bearing capacity of piles

A.A. Ganiyu and F.R. Alalawi

39 Two-phase CFD investigation of the flow-barrier interaction for slit barriers

A, Aghagoli and H. Sadeghi

20 Numerical Modeling as a Tool to Assess Empirical Methods for Interpreting O-cell Pile Load Test Results

M. Abualkhair, A. Hefny and S. Elkholy

36 Centrifuge Model Test and Numerical Analysis on the Behavior of Embankment on Cohesive Ground from Construction to Post Earthquake

S. Sato, S. S. Suzuki and M. Sakemoto

31 Validation of a countermeasure against pipe uplift during liquefaction

H.K. Hong, T. Tobita, K. Miyamoto and Y. Konishi

27 Using Artificial Neural Networks to Predict Seismic Shear-Induced Pore Water Pressure

Abdoullah Namdar and Omer Mughieda

12:30 – 13:30

Lunch

13:30 – 14:30

Poster Session | NYUAD - A6 – Atrium**17 Exploring the Potential of Energy Geostuctures for Road and Bridge Pavement Heating and Cooling**

D. Salciarini, A. Lupattelli and G. Capati

39 Two-phase CFD investigation of the flow-barrier interaction for slit barriers

A. Aghagoli and H. Sadeghi

40 Development of a rainfall simulator for the investigation of slope stability

P. AliPanahi, F. Yazdani and H. Sadeghi

49 Estimating Thermal Conductivities of Layered Soils Using Conventional Thermal Response Tests

M.S. Al-Tawaha and S.L. Abdelaziz

50 Comparison of the impact of biopolymer on grassroots growth and strength of surficial soils

A. Lamsal, M. Sasar, and S. L. Abdelaziz

51 Effect of Varying Freezing Temperatures on the Dynamic Elastic Modulus of Clays

Sepehr Akhtarshenas, Seyed Morteza Zeinali, and Sherif L. Abdelaziz

56 Experimental and FELA evaluation of Uplift Capacity of Strip Anchors in Sand and Failure Mechanism evaluation using Image Processing

Hitesh Rupani and Jitesh T. Chavda

60 Effect of centrifugal spinning process and re-shaking on soil density changes in liquefiable small scale physical models

S. Ghalandarzadeh, M. Shirazi, M. Sabermahani, A. Ghalandarzadeh, M. Hasanvandian and Sh. Zare bidaki

65 Direct measurement of shear stress and shear strain in soil: Application to physical models

Mark Talesnick

70 Enhancing Centrifuge-Based Physical Modeling of Reinforced Concrete with 3D Printed Reinforcement Cages

M. Elmorsy, C. Leinenbach and M.F. Vassiliou

81 Innovative Approaches to Soil Improvement: Separating Macro, Micro, Nano, and Pico Additives for the Future of Physical Modelling in Geotechnical Engineering

Hamed Niroumand and Lech Balachowski

83 Mutual Effect between Constructing Close-in New Buildings and Tunnels

Ahmed A. Elhadidi, Mostafa M. ElSayed and Adel. Y. Akl

85 Effect of Salt Content on Sabkha Soil Using Deep Soil Mixing Technique: Physical and Numerical Modelling

Mohammed A. Hammad, Yahia E.-A. Mohamedzein, and Mohamed Al-Aghbari

91 Innovative Approaches to Protecting Heritage and Historical Buildings: Utilizing Spray Techniques for Macro, Micro, Nano, and Pico Additives in Geotechnical Engineering

Hamed Niroumand and Lech Balachowski

95 Development of Model Preparation Procedure for MICP-treated Sand in Centrifuge Tests

Soo-Min Ham, Alexandra Camille M. San Pablo, Daniel W. Wilson and Jason T. DeJong

- 14:30 – 15:15 **Keynote Lecture 10: Analysis of LEAP Experimental Data and Validation of a Numerical Model: Physical Model Results | NYUAD - A6 - Auditorium**
Tarek Abdoun (*New York University Abu Dhabi*)
Chairperson: Ioannis Anastasopoulos
- 15:15 – 16:00 **Keynote Lecture 11: Analysis of LEAP Experimental Data and Validation of a Numerical Model: A Machine Learning Approach | NYUAD - A6 - Auditorium**
Mourad Zeghal (*Rensselaer Polytechnic Institute*)
Chairperson: BVS Viswanadham
- 16:00 – 16:30 Drinks and Refreshments
- 16:00 – 17:15 **Keynote Lecture 12: Drained or Partially Drained – that is the question | NYUAD - A6 - Auditorium**
Tetsuo Tobita (*Kansai University*)
Chairperson: Mohamed Arab
- 18:00 Gala Dinner

Friday, December 13, 2024

- 09:00 – 09:45 **Keynote Lecture 13: Modelling Soil-Root Hydromechanical Interaction for Nature-Based Solutions | NYUAD - A6 - Auditorium**
Anthony Leung (HKUST)
 Chairperson: Tarek Abdoun
- 09:45 – 10:15 Coffee and Refreshments
- 10:15 – 11:45 **Themed Session 3: Innovative Techniques and Advances in Soil Improvement and Ground Stabilization | NYUAD - A6 - Auditorium**
 Chairperson: Xianfeng MA | Mohamed Arab
- Themed Lecture: Harnessing Biogeotechnical Methods for Sustainable Ground Improvement**
 Mohamed Arab
- 59 Experimental assessment of shear behavior of crumb rubber intermixed steel slag used as railway subballast**
 N. Sagar, A. Hussain and S. K. K. Hussaini
- 48 Influence of temperature on the preconsolidation pressure of normally consolidated clays over the full temperature domain**
 Suzanna Gevorgyan, Seyed Morteza Zeinali and Sherif Abdelaziz
- 25 Estimating the impact of pharmaceutical (diclofenac) in pore water on the vane shear strength of compacted soil**
 Thanusan Ranjan, Yi En Chng, Sean Shao Zuen Lau and Mavinakere Eshwaraiah Raghunandan
- 37 Investigating the effects of an NPK fertilizer on the strength characteristics of soil**
 J. Kaur, A. K. Jha, and L. Oka
- 90 Exploring the Impact of Physical Modelling on Land Subsidence in Geotechnical Engineering**
 Hamed Niroumand and Lech Balachowski
- 67 The Effect of Embedment on the Seismic Response of a Pile Group in Clay: Insights from 1-g Shaking Table Tests**
 Ramon Vargheshm, A. Boominathan, Subhadeep Banerjee and Vikram Pakrashi
- 10:15 – 11:45 **Themed Session 4: Resilient Geotechnical Infrastructure | NYUAD - A6 - Theater**
 Chairperson: Rita Sousa | Magued Iskander
- Themed Lecture: Thirty Years of Transparent Soils: Evolution, Innovations, and Future Directions in Physical Modeling**
 Magued Iskander
- 69 Preliminary Centrifuge Tests on Unreinforced Masonry Buildings Built Using a Sand-Based 3D Printer**
 M. Elmorsy, A. Katsamakas, L. Jones, E. Brunschweiler, I. Anastasopoulos and M.F. Vassiliou

58 Shear behaviour of polyurethane-stabilized recycled ballast

K.V.S. Prasad and S.K.K. Hussaini

88 Static Behaviour Of Micropiles Foundation (With Different Inclination Angles) On Slopes

M. Mlhem and A. Adra

63 Ocean Acidification and Climate Change Geohazards on Artificial Islands: A Focus on Liquefaction Susceptibility

Walid Mekni, Kosmas Pavlopoulos and Hossam Eldin Abdella Ali

66 The role of geotechnical centrifuge modelling in economical and sustainable development of artificial islands and land reclamation using calcareous sands in the Middle East

M.M. Zaheer

22 Behavior of 2×2 Pile Groups with Varied Number of Energy Piles in Dry Silty Soil

Fardin Jafarzadeh, Sina Afzalsoltani

11:45 – 11:55 TC104 activities and upcoming conferences | NYUAD - A6 - Auditorium**TC104 Physical modelling in Geotechnics**

Ioannis Anastasopoulos (ETHZ)

11:45 – 12:10 Closure of the ACPMG 2024**Closure ceremony**

Tarek Abdoun (NYUAD) and Waleed El-Sekelly (NYUAD) | Hosts of the ACPMG 2024