

YGES 2024: 17th Young Geotechnical Engineers Symposium
Monday, 1st July 2024

08.00-08.45	Registration and Coffee	
08.45-09.00	Conference Chairs	Welcome address
09.00-09.45	Dr. Barnali Ghosh Technical Director Mott MacDonald	Adaptive Design – A Seismic Perspective
09.45-11.00 Session 1: Energy Session Chair: Prof Gopal Madabhushi	Talk 1.1 Maxine Beh University of Cambridge	Thermal optimisation of ground improvement for energy pile performance
	Talk 1.2 Yukun Ma University of Surrey	A novel foundation design for the hybrid marine renewable energy harvest system
	Talk 1.3 Joseph Meehan Mott MacDonald	Development of an iterative static soil-structure interaction methodology for a nuclear facility
	Talk 1.4 Aakash Gupta University of Leeds	Analytical method for thermal analysis of energy walls
	Talk 1.5 Kerem Malik Sahin Middle East Technical University (Cyprus)	Settlement-comparative cost and CO2 Emission analysis of a stone column enhanced pile foundation using finite element modelling
11.00-11.15	Coffee break	
11.15-12.45 Session 2: Fundamentals of soil behaviour Session Chair: Prof Gopal Madabhushi	Talk 2.1 James Leak Edinburgh Napier Univ.	Particle size distribution effects in the thaw weakening in soils
	Talk 2.2 Luke Rieman University of Glasgow	Small strain stiffness and stiffness degradation of a low to medium density chalk fundamentals/chalk
	Talk 2.3 Yichuan Li UCL	An improved nonlinear dilatancy equation based on dilatancy properties of gravelly soil
	Talk 2.4 Yahui Wang UCL	The mechanics of a mineral sand tailings with a transitional behaviour

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	Talk 2.5 Ahmad F. Kalourazi University of Bristol	A thermal analogy method for coupled hydro-mechanical large-deformation analysis
	Talk 2.6 Federico Lattuada University of Cambridge	Experimental testing of frozen ground with a newly developed frost heave apparatus with PIV capabilities
12.45-13.45	Lunch	
Session 3: Offshore Session Chair: Prof Viggiani	Talk 3.1 Carlos E.- Espinel University of Cambridge	Modelling a monopile supported offshore wind turbine in liquefiable soil
	Talk 3.2 Tayyib Jawid University of Dundee	Centrifuge modelling of a deep screw pile for floating wind with varying rate of installation
	Talk 3.3 Maria Chalakatevaki University of Cambridge	Developing a geotechnical plasticity framework for cable-seabed interaction modelling
	Talk 3.4 Liqun Fang University of Dundee	Optimized vibratory installation of offshore monopiles in sand: physical and numerical modelling investigation
	Talk 3.5 Miriam Davies Ramboll	Design optimisation for driveability of offshore wind jacket piles
	Talk 3.6 Fabian Ortiz Wall Imperial College London	Impact of kinematic interaction on foundations for off-shore wind turbines using FE analysis
	Talk 3.7 Diarmid Xu University of Cambridge	Offshore wind monopile foundation interaction with scour protection rock berm: centrifuge testing
15.30-15.45	Coffee break	

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<p>15.45-17.45</p> <p>Session 4: Data and natural solutions</p> <p>Session Chair: Prof Viggiani</p>	<p>Talk 4.1 Timo Zheng University of Glasgow</p>	<p>Smart characterisation of geo-materials</p>
	<p>Talk 4.2 Jamie Alexander Geowynd</p>	<p>Will Skynet go submarine? Three key use cases for machine learning in offshore foundation design</p>
	<p>Talk 4.3 Ze Zhou Wang University of Cambridge</p>	<p>Development of a data-driven machine learning software for geotechnical subsurface characterisation</p>
	<p>Talk 4.4 Tao Li University of Oxford</p>	<p>Digital twin for complex underground infrastructure</p>
	<p>Talk 4.5 Rasoul Mirghafari Oxford Brookes University</p>	<p>Pore network modelling of unsaturated soils: a digital soil twin serving environmental and energy geotechnics</p>
	<p>Talk 4.6 Victor Rugamba University of Birmingham</p>	<p>Dynamic behaviour of tree roots during windstorms</p>
	<p>Talk 4.7 Jose Concha Riedel UCL</p>	<p>Effect of vegetable fibres on the geo-mechanical properties of soil in Chilean adobe blocks</p>
	<p>Talk 4.8 Sayan Bhattacharyya University of Surrey</p>	<p>Evaluating the Resilience of Monopile-Supported Wind Turbines: A Multifactorial Analysis Across Capacities, Soil Types, and Water Depths</p>

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Tuesday, 2nd July 2024

09.00-09.45	Andrew Thomson Chief Geotech. Engineer AtkinsRéalis	Data, Data, Everywhere – is the information revolution a blessing or a curse for geotechnics?
09.45-11.00 Session 5: Micromechanics Session Chair: Prof Viggiani	Talk 5.1 Xinran Zhang UCL	Quantification of 3D particle morphologies of crushed glass and sand and their application in discrete element method (DEM) simulation
	Talk 5.2 Aziz Hakimi UCL	The contact behaviour of railway ballast particles under different normal loading conditions
	Talk 5.3 Rishabh Tiwari UCL	Evolution of clay microstructure
	Talk 5.4 Huajie Guo UCL	A DEM model of hydrate bearing sediments in the South China Sea with carbonate sand and silt mixtures
	Talk 5.5 Saurabh Singh UCL	Contact behaviour of lentils under normal loading
11.00-11.15	Coffee break	
11.15-12.45 Session 6: Piles Session Chair: Prof Viggiani	Talk 6.1 Iwinosa Aghedo University of Newcastle	Effects of episodic cycling and reconsolidation on an offshore monopile in clay
	Talk 6.2 David Foo Arup	Rock-socketed tension pile design: with parametric modelling and automated workflow
	Talk 6.3 Greta Sabaliauskaite City University, London	Effects of pile stiffness on pile behaviour
	Talk 6.4 Jinhui Zheng University of Dundee	Coupled DEM-FDM analysis of OE piles in chalk

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	Talk 6.5 Sebastian Elliott Geowynd	Design of Vibro-Installed Offshore Monopiles in Sand
	Talk 6.6 Paromeeta Bandyopadhyay National Taiwan Univ.	Effect on pile group performance due to adjacent deep excavation in multi-layered soil
12.45-13.45	Lunch	
13.45-15.30 Session 7: Site investigation, instrumentation and experimental Session Chair: Dr Jim Hambleton	Talk 7.1 Kai Wen Univ. of Southampton	Modelling of a new CPT module for direct in-situ measurements of undrained shear strength in clay
	Talk 7.2 Siyuan Wu University of Hong Kong	Penetration rate analysis of London Clay using MWD data with time-series method for ground characterization
	Talk 7.3 Burcin Oral Fugro	Fugro AQUISENSE
	Talk 7.4 Jaime Wills Sanin Imperial College London	Assessment on instrument-soil-structure interaction fundamentals
	Talk 7.5 Zhixin Zhou University of Bristol	A new equipment to investigate the effect of cable installation procedure on thermal properties of soil
	Talk 7.6 Alessio Genco University of Dundee	Experimental investigation of rock anchor behaviour under diverse loading conditions
	Talk 7.7 Kathy Ziwei Wen University of Oxford	The influence of drainage conditions on cyclic behaviour of cohesionless soils in the VDDCSS
	15.30-15.45	Coffee break

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15.45-17.30 Session 8: Structures Session Chair: Dr Jim Hambleton	Talk 8.1 Mayda Ucur City University, London	Design and development of apparatus for modelling a “shaft-breakout” in clay
	Talk 8.2 Jiaming Liu Imperial College	Numerical analysis of tunnel-foundation interaction in London clay
	Talk 8.3 Inigo G. Odriozola CGL / ICE	Deep Basement Excavation - Park Street, Cambridge
	Talk 8.4 Yazan Asia University of Cambridge	The behaviour of integral abutment bridges under earthquake loading using centrifuge modelling
	Talk 8.5 Douglas Morley University of Cambridge	Comparing the strain ratcheting of soil behind integral bridge abutments in field and physical modelling data
	Talk 8.6 Ahmed Alagha University of Cambridge	Centrifuge modelling of TBM tunnelling in soft clay
	Talk 8.7 Qinglai Zhang University College Cork	Mechanical behaviour of earthquake-resistant jointed ductile iron pipeline under biaxial tension force

FORMAL DINNER
SIDNEY SUSSEX COLLEGE
SIDNEY STREET
CAMBRIDGE CB2 3HU
DRINKS RECEPTION 19:00
DINNER 19:30

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Wednesday, 3 July 2024

09.00-09.45	Dr Jim Hambleton Associate Professor University of Cambridge	Soil mechanics for soil-machine interaction and terrestrial robotics
Session 9: Material chemistry Session Chair: Dr Sam Stanier	Talk 9.1 India Harding University of Cambridge	Suitability of excavation and mining clay wastes for geopolymer precursors in earthen construction
	Talk 9.2 Yujie Li UCL	Effects of steam treatment on the microstructure of coal
	Talk 9.3 Chao Lyu Nanjing University	Feasibility study of modulating the microbially induced calcium carbonate precipitation (MICP) process through the application of electric fields
	Talk 9.4 Han Ming Lai Imperial College	Salinity constraints for bentonite barrier/backfill in GDF
	Talk 9.5 Man Li UCL	Comparative study on the small-strain stiffness of recycled concrete aggregates before and after coating removal with acid washing
11.00-11.15	Coffee break	
Session 10: Slopes and embankments Session Chair: Dr Sam Stanier	Talk 10.1 Maryam Sadat Maddah Sadatieh Imperial College	Numerical analysis of soil-plant-atmosphere interaction on a slope
	Talk 10.2 Dafydd Tudor Mott MacDonald	Compilation and interpretation of historic inventory for landsliding between 1836 to 1919 in Wales, UK
	Talk 10.3 Mian Xie UCL	Numerical Simulation of Landslides through a Stabilised Material Point Method with SANISAND Model

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	Talk 10.4 Chad Stafford Coventry University	A sustainability analysis of major slope remediation techniques: A case study of failed slopes in England
	Talk 10.5 Judy Eid Tony Gee and Partners	Incorporation of Tyre waste into Class 1 embankment materials in the UK
	Talk 10.6 Ethelbert Mezie Imperial College	Engineering soil barriers for the prevention and mitigation of gully erosion menace in Nigeria
12.45-13.45	Lunch	
13.45-15.00 Session 11: Models and methods Session Chair: Prof Gopal Madabhushi	Talk 11.1 Jayne Han University of Oxford	Reliability-Based Serviceability Limit State Design of Spread Foundations Under Uplift Loading
	Talk 11.2 Jonathan Smith University of Cambridge	Image-based constitutive model parameter calibration
	Talk 11.3 Magne E. Rasmussen University of Oxford	On applications of geometric singular perturbation theory within hyperplasticity accelerated ratcheting models
15:00-15:10	Atkins Prize Giving	
15:10-16:30 Lab visits	NRFIS Lab Schofield Centre	Civil Engineering Building High Cross, Madingley Road