



9TH INTERNATIONAL CONFERENCE

Physical Modelling in Geotechnics 2018

CITY, UNIVERSITY OF LONDON 17th - 20th JULY

ICPMG 2018

Conference programme

Events

Guide to London

Organised by the Research Centre for Multi-scale Geotechnical Engineering at City, University of London



This conference is held under the auspices of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE TC104)



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Welcome to London for the 9th International Conference for Physical Modelling in Geotechnics, ICPMG 2018

The Organising Committee for ISSMGE TC104 (Physical Modelling in Geotechnics) welcomes you to London for the 9th International Conference on Physical Modelling in Geotechnics.

London follows the successful series of conferences which began in Paris in 1988 and was most recently held at The University of Western Australia in 2014.

This conference aims to communicate and disseminate recent developments in all aspects of geotechnical physical modelling. A special themed day focussing on the application of physical modelling in geotechnics to industry will be held on Thursday 19th July.

City, University of London, the venue for the conference is situated in Clerkenwell, a vibrant hub for independent design consultancies, architects and civil engineers. Major cultural centres such as the Barbican Arts Centre, Saddlers' Wells Theatre, the Museum of London and the British Library are only a short walk away. The University borders the City of London with its many historic buildings and London landmarks such as St Paul's Cathedral, the Millennium Bridge and the Gherkin.

During this four day conference you will discover some of the City of London's historic hidden gems and highlights will include:

- A welcome reception at Skinners' Hall, home to one of the Great Twelve City of London livery companies
- The fourth Schofield Lecture given by Professor Neil Taylor with a drinks reception hosted at City, University of London, sponsored by Broadbent
- The Gala dinner hosted at Middle Temple Hall, a magnificent ancient Inn of Court
- A relaxing evening on the banks of the River Thames in Greenwich at the Trafalgar Tavern.

We hope you enjoy your time in London and have the opportunity to immerse yourselves in all that this great city has to offer.

Dr Andrew McNamara

Chair of TC104 and ICPMG 2018

09:00 - 15:00 Optional visit to the Schofield Centre, Cambridge - for ticket holders only

12:00 - 17:30 Registration, laboratory & centrifuge tours at City, University of London

15:30 - 17:30 TC104 Committee Meeting - Northampton Suite, College Building

18:00 - 20:00 Welcome Reception and registration at Skinners' Hall

Welcome reception at Skinners' Hall

A welcome drinks reception will be held at Skinners' Hall from 18:00. There will also be an opportunity for delegates to meet old friends and other members of the physical modelling community and register for the conference, collect delegate packs and enjoy a relaxed evening with food and drink.

Skinners' Hall; The Skinners' Company is one of the 'Great Twelve' livery companies of London. It developed from the medieval trade guild of furriers and was incorporated by Royal Charter in 1327. Members of the Skinners' Company have met at the site of Skinners' Hall since the late 13th Century, but the original Hall was destroyed in the Great Fire of 1666. The Hall was rebuilt in 1667 with many changes and improvements being added between 1683 and 1783. The Hall contains many historically important artefacts and paintings linked to the history of the Skinners' Company.

Date/Time: Monday 16th July between 18:00 - 20:00

Venue address: 8½ Dowgate Hill, London, EC4R 2SP

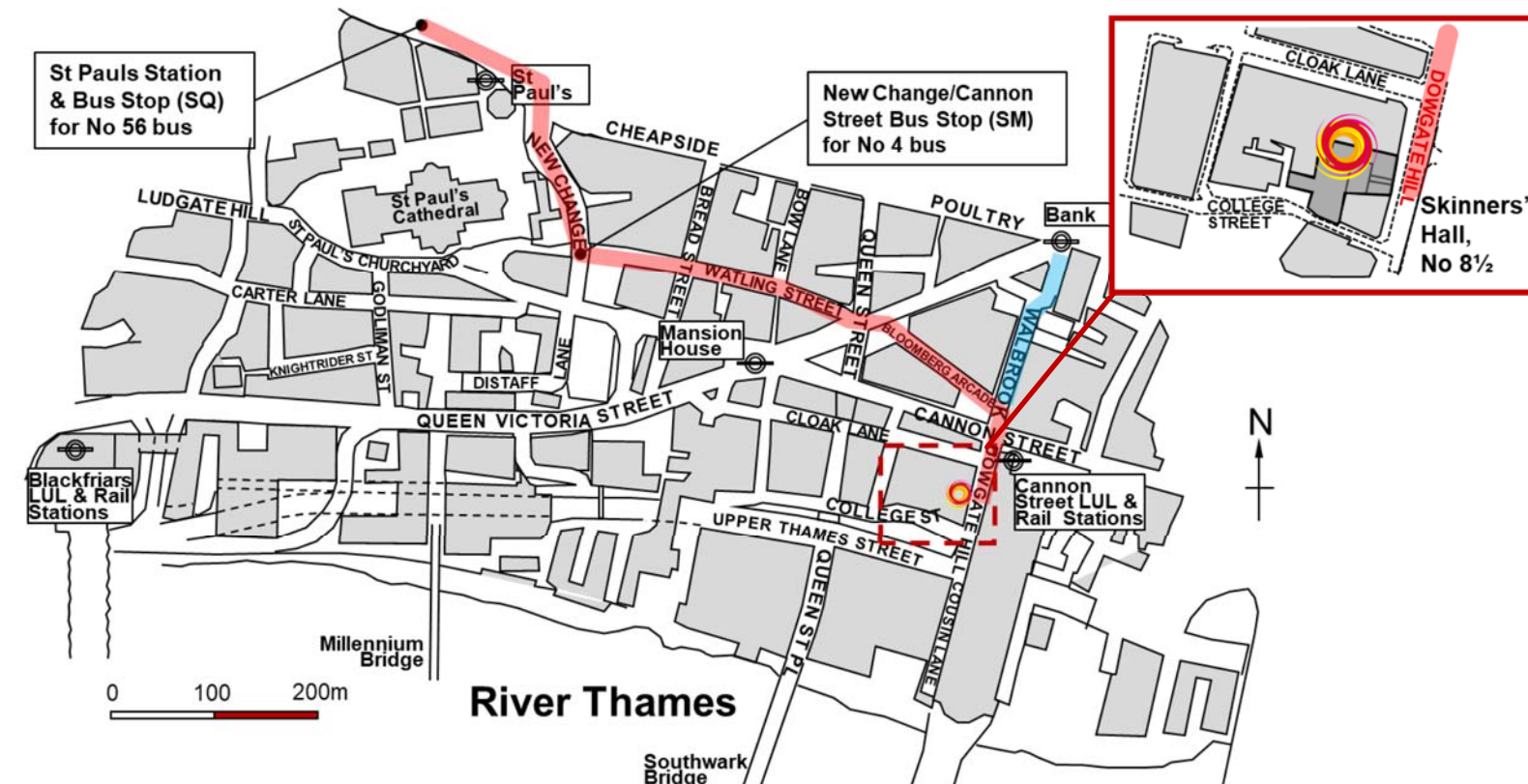
Getting there: The nearest tube stations are **Cannon Street** or **Mansion House** on the **Circle & District Lines**, and **Bank** on the **Central Line**.

From Cannon Street station, Cannon Street underground has an exit on Dowgate Hill.

From Mansion House take exit 1; Queen Victoria Street/Garlick Hill. At the exit take the Cannon Street option and turn right on to Cannon Street. Dowgate Hill is on the right hand side before the main train station.

From Bank take exit 8. This leads onto Wallbrook, walk south until this road reaches Cannon Street. Dowgate Hill is the road opposite.

From City, University of London take either a number 4 or 56 bus from bus stop UN on Goswell Road towards Barbican. Alight at "New Change/Cannon Street" bus stop (number 4) or St Pauls Station (number 56) and walk along Watling Street. Cross over Queen Victoria Street and through the Bloomberg Arcade. Turn right at Walbrook, pass Cannon Street station and follow the road onto Dowgate Hill and Skinners' Hall will be on your right.



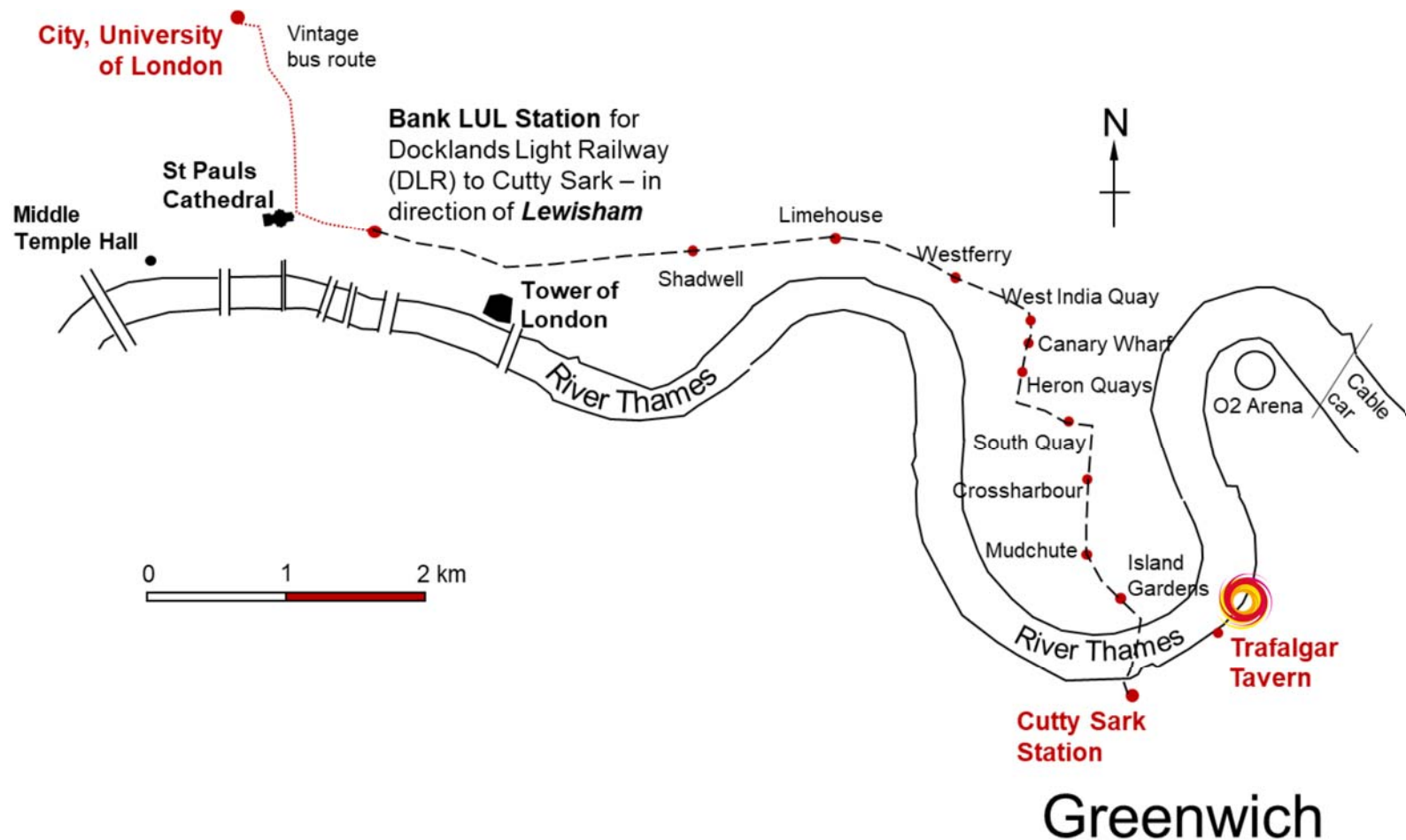
*Please note that for the duration of the conference, all introductory sessions, keynotes, themed lectures and plenary sessions will be held in the Oliver Thompson Lecture Theatre.

Tuesday 17th July

09:00 - 09:30			Registration and morning refreshments (Pavilion)		
09:30 - 10:00			* Opening Ceremony Dr A.M. McNamara , TC104 Chair and Professor C. Atkin ; Head of Engineering at City, University of London <i>Chair: Professor SW Jacobz</i> , University of Pretoria, South Africa		
10:00 - 11:00			* Themed lecture and plenary session on Model making 1. Professor W.A. Take ; <i>Current and emerging physical modelling technologies</i> 2. Centrifuge model tests on excavation in Shanghai clay using inflight excavation tools; <i>X.F. Ma & J.W. Xu</i> 3. Novel experimental device to simulate tsunami loading in a geotechnical centrifuge; <i>M.C. Exton, S. Harry, H.B. Mason, H. Yeh & B.L. Kutter</i>		
11:00 - 11:30			Refreshment break (Pavilion, Oliver Thompson Foyer & ELG15 Foyer)		
11:30 - 13:00			Parallel sessions		
			<i>Chair: Professor C.F. Leung</i> , National University of Singapore Ground improvement I (Oliver Thomson Lecture Theatre)	<i>Chair: Dr P. Shepley</i> , University of Sheffield, UK Imaging & visualisation (B200)	<i>Chair: Dr E.T. Bowman</i> , University of Sheffield, UK Slopes & geohazards (ELG03)
4. Dynamic centrifuge tests on nailed slope with facing plates; <i>S. Nakamoto, N. Iwasa & J. Takemura</i>			10. Image capture and motion tracking applications in geotechnical centrifuge modelling; <i>P. Kokkali, T. Abdoun & A. Tessari</i>	16. Model tests to simulate formation and expansion of subsurface cavities; <i>R. Kuwano, R. Sera & Y. Ohara</i>	
5. Plate bearing tests for working platforms; <i>G. Tanghetti, R.J. Goodey, A.M. McNamara & H. Halai</i>			11. A study on performance of three-dimensional imaging system for physical models; <i>B.T. Le, S. Nadimi, R.J. Goodey & R.N. Taylor</i>	17. An experimental and numerical study of pipe behaviour in triggered sandy slope failures; <i>W. Zhang, Z. Gng & A. Askarinejad</i>	
6. Effect of lateral confining condition of behaviour of confined-reinforced earth; <i>H.M. Hung & J. Kuwano</i>			12. Imaging of sand-pile interface submitted to a high number of loading cycles; <i>J. Doreau-Malioche, G. Combe, J.B. Toni, G. Viggiani & M. Silva</i>	18. Effects of viscosity in granular flows simulated in a centrifugal acceleration field; <i>M. Cabrera, P. Kailey, E.T. Bowman & W. Wu</i>	
7. Observed deformations in geosynthetic-reinforced granular soils subjected to void; <i>T.S. da Silva & M.Z.E.B. Elshafie</i>			13. Flow visualisation in a geotechnical centrifuge under controlled seepage conditions; <i>C.T.S. Beckett & A.B. Fourie</i>	19. Preliminary study of debris flow impact force on a circular pillar; <i>A.L. Yifru, R.N. Pradhan, S. Nordal & V. Thakur</i>	
8. Large-scale physical model GRS walls: evaluation of the combined effects of facing stiffness and toe resistance on performance; <i>S.H. Mirmoradi & M. Ehrlich</i>			14. Identification of soil stress-strain response from full field displacement measurements in plane strain model tests; <i>J.A. Charles, C.C. Smith & J.A. Black</i>	20. Centrifuge modelling of earth slopes subjected to change in water content; <i>P. Aggarwal, R. Singla & A. Juneja</i>	
9. Physical modelling and monitoring of the subgrade on weak foundation and its reinforcing with geosynthetics; <i>A.A. Zaytsev, Y.K. Frolovsky, A.V. Gorlov, A.V. Petryaev & V.V. Ganchits</i>			15. Development of a window laminar strong box; <i>S.C. Chian, C. Qin & Z. Zhang</i>	21. Centrifuge model test on deformation and failure of slopes under wetting-drying cycles; <i>F. Luo & G. Zhang</i>	
13:00 - 14:00			Lunch (Pavilion & Courtyard Café)		
14:00 - 14:30			<i>Chair: Dr D. König</i> , Ruhr-University Bochum, Germany 22. Dr R.J. Goodey ; <i>Physical modelling applied to infrastructure development</i>		
14:30 - 16:00			* Themed lecture and plenary session on Infrastructure 23. Effect of pipe defect size and maximum particle size of bedding material on associated internal erosion; <i>S. Indiketiya, P. Jegatheesan, R. Pathmanathan & R. Kuwano</i> 24. Centrifuge modelling utility pipe behaviour subject to vehicular loading; <i>S.M. Bayton, T. Elmrom & J.A. Black</i> 25. The effect of relative stiffness on soil-structure interaction under vehicle loads; <i>M.S. Smit, E.P. Kearsley & S.W. Jacobsz</i> 26. An experimental study on the effects of enhanced drainage for liquefaction mitigation in dense urban environments; <i>P.B. Kirkwood & S. Dashti</i> 27. Effects of plant removal on slope hydrology and stability; <i>V. Kamchoom & A.K. Leung</i> 28. A new approach to modelling excavations in soft soils; <i>J.P. Panchal, A.M. McNamara & S.E. Stallebrass</i>		
16:00 - 16:30			Tea & coffee (Pavilion, Oliver Thompson Foyer & ELG15 Foyer)		
16:30 - 18:00			Parallel sessions		
			<i>Chair: Professor J. Laue</i> , Lulea University, Sweden Pipes & tunnels (Oliver Thomson Lecture Theatre)	<i>Chair: Dr K.J.L. Stone</i> , University of Brighton, UK Dams & embankments (B200)	<i>Chair: Dr A.J. Brennan</i> , University of Dundee, UK Sensing & numerical application (ELG03)
32. Modelling cave mining in the geotechnical centrifuge; <i>S.W. Jacobsz, E.P. Kearsley, D. Cumming-Potvin & J. Wesseloo</i>			35. Experiments for a coarse sand barrier as a measure against backwards erosion piping; <i>A. Bezuijen, E. Rosenbrand, V.M. van Beek & K. Vandenboer</i>	41. Millisecond interfacing of physical models with ABAQUS; <i>S. Idinyang, A. Franza, C.M. Heron & A.M. Marshall</i>	
29. Uplift resistance of a buried pipeline in silty soil on slopes; <i>G.N. Eichhorn & S.K. Haigh</i>			36. Centrifuge model tests on levees subjected to flooding; <i>R.K. Saran & B.V.S. Viswanadham</i>	42. Centrifuge and numerical investigations of rotated box structures; <i>T.A. Newson, O.S. Abuhajar & K.J.L. Stone</i>	
30. Centrifuge modelling of a pipeline subjected to soil mass movements; <i>J.R.M.S. Oliveira, K.I. Rammah, P.C. Trejo, M.S.S. Almeida & M.C.F. Almeida</i>			37. Centrifuge model test of vacuum consolidation on soft clay combined with embankment loading; <i>S. Shiraga, G. Hasegawa, Y. Sawamura & M. Kimura</i>	43. Investigation of an OFDR Fibre Bragg's System for use in geotechnical scale modelling; <i>R.D. Beemer, M.J. Cassidy & C. Gaudin</i>	
31. A mechanical displacement control model tunnel for simulating eccentric ground loss in the centrifuge; <i>G. Song, A.M. Marshall & C.M. Heron</i>			38. Load transfer mechanism of reinforced piled embankments; <i>M.S.S. Almeida, D.F. Fagundes, M.C.F. Almeida, D.A. Hartmann, R. Girout, L. Thorel & M. Blanc</i>	44. New method for full field measurement of pore water pressures; <i>M. Ottolini, W. Broere & J. Dijkstra</i>	
33. A new test setup for studying sand behaviour inside an immersed tunnel joint gap; <i>R. Rahadian, S. van der Woude, D. Wilschut, C.B.M. Blom & W. Broere</i>			39. Load transfer mechanism of piled embankments: centrifuge tests versus analytical models; <i>M. Blanc, L. Thorel, R. Girout, M.S.S Almeida & D.F. Fagundes</i>	46. A new shared miniature cone penetrometer for centrifuge testing; <i>T. Carey, A. Gavras, B. Kutter, S.K. Haigh, S.P.G. Madabhushi, M. Okamura, D.S. Kim, K. Ueda, W.Y. Hung, Y.G. Zhou, K. Liu, Y.M. Chen, M. Zeghal, T. Abdoun, S. Escoffier & M. Manzari</i>	
34. Using pipe deflection to detect sinkhole development; <i>E.P. Kearsley, S.W. Jacobsz & H. Louw</i>			40. Physical modelling of large dams for seismic performance evaluation; <i>N.R. Kim & S.B. Jo</i>	45. Low cost tensiometers for geotechnical applications; <i>S.W. Jacobsz</i>	
18:00 - 18:30			British afternoon tea (Pavilion)		
18:30 - 19:30			* Schofield Lecture Professor R.N. Taylor		
19:30 - 20:30			Schofield Lecture drinks reception (Pavilion)		

08:30 - 09:00		Morning refreshments (Pavilion)		
09:00 - 09:30		<i>Chair: Associate Professor T. Newson, Western University, Canada</i>		
09:30 - 10:30		* Themed lecture and plenary session on Offshore renewables		
		<p>47. Professor C. Gaudin; Geotechnical modelling for offshore renewables; C. Gaudin, C.D. O'Loughlin & B. Bienen</p> <p>48. Comparison of centrifuge model tests of tetrapod piled jacket foundation in saturated sand and clay; <i>B. Zhu, K. Wen, L.J. Wang & Y.M. Chen</i></p> <p>49. Reduction in soil penetration resistance for suction-assisted installation of bucket foundation in sand; <i>A.K. Koterass & L.B. Ibsen</i></p> <p>50. Experimental modelling of the effects of scour on offshore wind turbine monopile foundations; <i>R.O. Mayall, R.A. McAdam, B.W. Byrne, H.J. Burd, B.B. Sheil, P. Cassie & R.J.S. Whitehouse</i></p> <p>51. Centrifuge modelling of screw piles for offshore wind energy foundations; <i>C. Davidson, T. Al-Baghdadi, M.J. Brown, A. Brennan, J.A. Knappett, C. Augarde, W. Coombs, L. Wang, D.J. Richards, A. Blake & J. Ball</i></p>		
10:30 - 11:00		Refreshment break (Pavilion, Oliver Thompson Foyer & ELG15 Foyer)		
11:00 - 13:00		Parallel sessions		
		<i>Chair: Dr J.A. Black, University of Sheffield</i>	<i>Chair: Associate Professor J. Dijkstra, Chalmers University, Sweden</i>	<i>Chair: Professor V. Fioravante, University of Ferrara, Italy</i>
		Offshore I (Oliver Thomson Lecture Theatre)	Walls & deep foundations (B200)	Ground improvement II (ELG03)
		<p>52. Development of a series of 2D backfill ploughing physical models for pipelines and cables; <i>T. Bizzotto, M.J. Brown, A.J. Brennan, T. Powell & H. Chandler</i></p> <p>53. Wave-induced liquefaction and floatation of pipeline buried in sand beds; <i>J. Miyamoto, S. Sassa & K. Tsurugasaki</i></p> <p>54. Capacity of vertical and horizontal plate anchors in sand under normal and shear loading; <i>S.H. Chow, J. Le, M. Forsyth & C.D. O'Loughlin</i></p> <p>55. Physical modelling of active suction for offshore renewables; <i>N. Fiumana, C. Gaudin, Y. Tian & C.D. O'Loughlin</i></p> <p>56. Measuring the behaviour of dual row retaining walls in dry sands using centrifuge tests; <i>S.S.C. Madabhushi & S.K. Haigh</i></p> <p>57. Centrifuge model tests on stabilisation countermeasures of a composite breakwater under tsunami actions; <i>K. Tsurugasaki, J. Miyamoto, R. Hem, T. Iwamoto & H. Nakase</i></p> <p>58. Centrifuge modelling of long term cyclic lateral loading on monopoles; <i>S.M. Bayton, J.A. Black & R.T. Klinkvort</i></p> <p>59. General study on the axial capacity of piles of offshore wind turbines jacked in sand; <i>I. El Haffar, M. Blanc & L. Thorel</i></p>	<p>60. Soil movement mobilised with retaining wall rotation in loose sand; <i>C. Deng & S.K. Haigh</i></p> <p>61. Deflection and failure of self-standing high stiffness steel pipe sheet pile walls embedded in soft rocks; <i>V. Kunasegarm, S. Seki & J. Takemura</i></p> <p>62. Evaluation of seismic coefficient for gravity quay wall via centrifuge modelling; <i>M.G. Lee, J.G. Ha, H.J. Park, D.S. Kim & S.B. Jo</i></p> <p>63. Centrifuge modelling of 200,000 tonnage sheet-pile bulkheads with relief platform; <i>G.M. Xu, G.F. Ren, X.W. Gu & Z.Y. Cai</i></p> <p>64. Dynamic behaviour on pile foundation combined with soil-cement mixing walls using permanent pile; <i>K. Watanabe, M. Arakawa & M. Mizumoto</i></p> <p>65. Centrifuge modelling of non-displacement piles on a thin bearing layer overlying a clay layer; <i>Y. Horii & T. Nagao</i></p> <p>66. Displacement measurements of ground and piles in sand subjected to reverse faulting; <i>C.F. Yao, S. Seki & J. Takemura</i></p> <p>67. Pile jetting in plane strain: small-scale modelling of monopoles; <i>S. Norris & P. Shepley</i></p>	<p>68. Centrifuge modelling of Continuous Compaction Control (CCC); <i>B. Caicedo & J. Escobar</i></p> <p>69. Physical modelling of compaction grouting injection using a transparent soil; <i>D. Takano, Y. Morikawa, Y. Miyata, H. Nonoyama & R.J. Bathurst</i></p> <p>70. Comparative study of consolidation behaviour of differently-treated mature fine tailings specimens through centrifuge modelling; <i>G. Zambrano-Narvaez, Y. Wang & R.J. Chalaturnyk</i></p> <p>71. Analytical design approach for the self-regulating interactive membrane foundation based on centrifuge-model tests and numerical simulations; <i>O. Detert, D. König & T. Schanz</i></p> <p>72. Relative contribution of drainage capacity of stone columns as a countermeasure against liquefaction; <i>E. Apostolou, A.J. Brennan & J. Wehr</i></p> <p>73. Earthquake-induced liquefaction mitigation under existing buildings using drains; <i>S. García-Torres & G.S.P. Madabhushi</i></p> <p>74. Effect of root spacing on interpretation of blade penetration tests – full-scale physical modelling; <i>G.J. Meijer, J.A. Knappett, A.G. Bengough, K.W. Loades & B.C. Nicoll</i></p> <p>75. Physical modelling of soil-structure interaction of tree root systems under lateral loads; <i>X. Zhang, J.A. Knappett, A.K. Leung & T. Liang</i></p>
13:00 - 14:00		Lunch (Pavilion & Courtyard Café)		
14:00 - 14:30		<i>Chair: Dr N.R. Kim, K-Water Institution, Korea</i>		
14:30 - 16:00		* Keynote lecture and plenary session on Facilities		
		<p>76. Professor Y.J. Hou; Development of geotechnical centrifuges and facilities in China</p> <p>77. A new environmental chamber for the HKUST centrifuge facility; <i>A. Archer & C.W.W. Ng</i></p> <p>78. The development of a small centrifuge for testing unsaturated soils; <i>K.A. Kwa & D.W. Airey</i></p> <p>79. Upgrades to the NHRI - 400gt geotechnical centrifuge; <i>S.S. Chen, X.W. Gu, G.F. Ren, W.M. Zhang, N.X. Wang, G.M. Xu, W. Liu, J.Z. Hong & Y.B. Cheng</i></p> <p>80. A new 240 g-tonne geotechnical centrifuge at the University of Western Australia; <i>C. Gaudin, C.D. O'Loughlin & J. Breen</i></p>		
16:00 - 16:30		Refreshment break (Pavilion & Oliver Thompson Foyer)		
16:30 - 17:30		<i>Chair: Associate Professor V. Zania, Technical University of Denmark</i>		
		* Plenary session on Offshore dynamics		
		<p>81. An investigation on the performance of a self-installing monopiled GBS structure under lateral loading; <i>K.J.L. Stone, A. Tillman & M. Vaziri</i></p> <p>82. Dynamic load tests on large diameter open-ended piles in sand performed in the centrifuge; <i>E. Heins, B. Bienen, M.F. Randolph & J. Grabe</i></p> <p>83. Physical modelling of monopile foundations under variable cyclic lateral loading; <i>I.A. Richards, B.W. Byrne & G.T. Houlsby</i></p> <p>84. Model tests on the lateral cyclic responses of a caisson-piles foundation under scour; <i>C.R. Zhang, H.W. Tang & M.S. Huang</i></p> <p>85. Centrifuge model tests and circular slip analyses to evaluate reinforced composite-type breakwater stability against tsunami; <i>H. Takahashi, S. Sassa, Y. Morikawa & K. Maruyama</i></p> <p>86. Surface pipeline buckling on clay: Demonstration; <i>R. Phillips, J. Barrett & G. Piercey</i></p>		
18:30 - 21:30		Reception & gala dinner at Middle Temple Hall		

08:30 - 09:00	Morning refreshments (Pavilion)	
09:00 - 09:10	* Introduction	Professor Lord Robert Mair; President of the Institution of Civil Engineers
09:10 - 09:40	* Keynote lecture and plenary session on	<i>Chairs: Professor C. Gaudin, University of Western Australia & Professor G. Viggiani, University of Cambridge, UK</i>
09:40 - 10:40	Tunnelling, retaining and masonry walls	<p>87. Professor S.M. Gourvenec; <i>The role of centrifuge modelling in capturing whole-life responses of geotechnical infrastructure to optimise design</i></p> <p>89. Experimental modelling of infiltration of bentonite slurry in front of shield tunnel in saturated sand; <i>T. Xu & A. Bezuijen</i></p> <p>90. Concave segmental retaining walls; <i>D. Stathas, L. Xu, J.P. Wang, H.I. Ling & L. Li</i></p> <p>91. 3D printing of masonry structures for centrifuge modelling; <i>S. Ritter, M.J. DeJong, G. Giardina & R.J. Mair</i></p> <p>132. Bearing capacity of surface and embedded foundations on a slope: centrifuge modelling; <i>D. Taeseri, L. Sakellariadis, R. Schindler & I. Anastasopoulos</i></p>
10:40 - 11:00	Refreshment break (Pavilion & Oliver Thompson Foyer)	
11:00 - 11:30	* Keynote lecture and plenary session on	<i>Chairs: Professor A. Bezuijen, Deltares and Ghent University, Belgium & Dr A.M. McNamara, City, University of London, UK</i>
11:30 - 13:00	Working platforms and foundations	<p>92. Dr. J.A. Knappett; <i>Physical modelling of structural and biological soil reinforcement</i></p> <p>93. A field model investigating pipeline leak detection using discrete fibre optic sensors; <i>S.I. Jahnke, S.W. Jacobsz & E.P. Kearsley</i></p> <p>94. Model testing of rotary jacked open ended tubular piles in saturated non-cohesive soil; <i>D. Frick, K.A. Schmoor, P. Gütz & M. Achmus</i></p> <p>95. Influence of geometry on the bearing capacity of sheet piled foundations; <i>J.P. Panchal, A.M. McNamara & R.J. Goodey</i></p> <p>96. Performance of piled raft with unequal pile lengths; <i>R.S. Bisht, A. Juneja, A. Tyagi & F.H. Lee</i></p> <p>97. Centrifuge model test on the instability of an excavator descending a slope; <i>T. Hori & S. Tamate</i></p> <p>98. Geotechnical model tests on bearing capacity of working platforms for mobile construction machines and cranes; <i>R. Worbes & C. Moormann</i></p>
13:00 - 14:00	Lunch (Pavilion)	
14:00 - 17:00	Excursion to Greenwich	
17:00 - 22:00	Food and drinks at the Trafalgar Tavern, Greenwich	
22:00	Delegates to make their own arrangements for return travel	



Trafalgar Tavern

Delegates will be taken by vintage bus to Bank. From Bank underground station take the DLR (Docklands Light Railway) towards Lewisham and alight at Cutty Sark station.

Trafalgar Tavern; a casual pub overlooking the River Thames, nestled in a UNESCO World Heritage site in Greenwich.

Date/Time: Thursday 19th July between 17:00 - 22:00

Venue address: Park Row, Greenwich, London, SE10 9NW

Getting there: The nearest tube stations are Cutty Sark on the DLR and Greenwich railway running a Thameslink or Southeastern service. Delegates travelling to Greenwich from City, University of London will be directed to Cutty Sark station on the DLR.

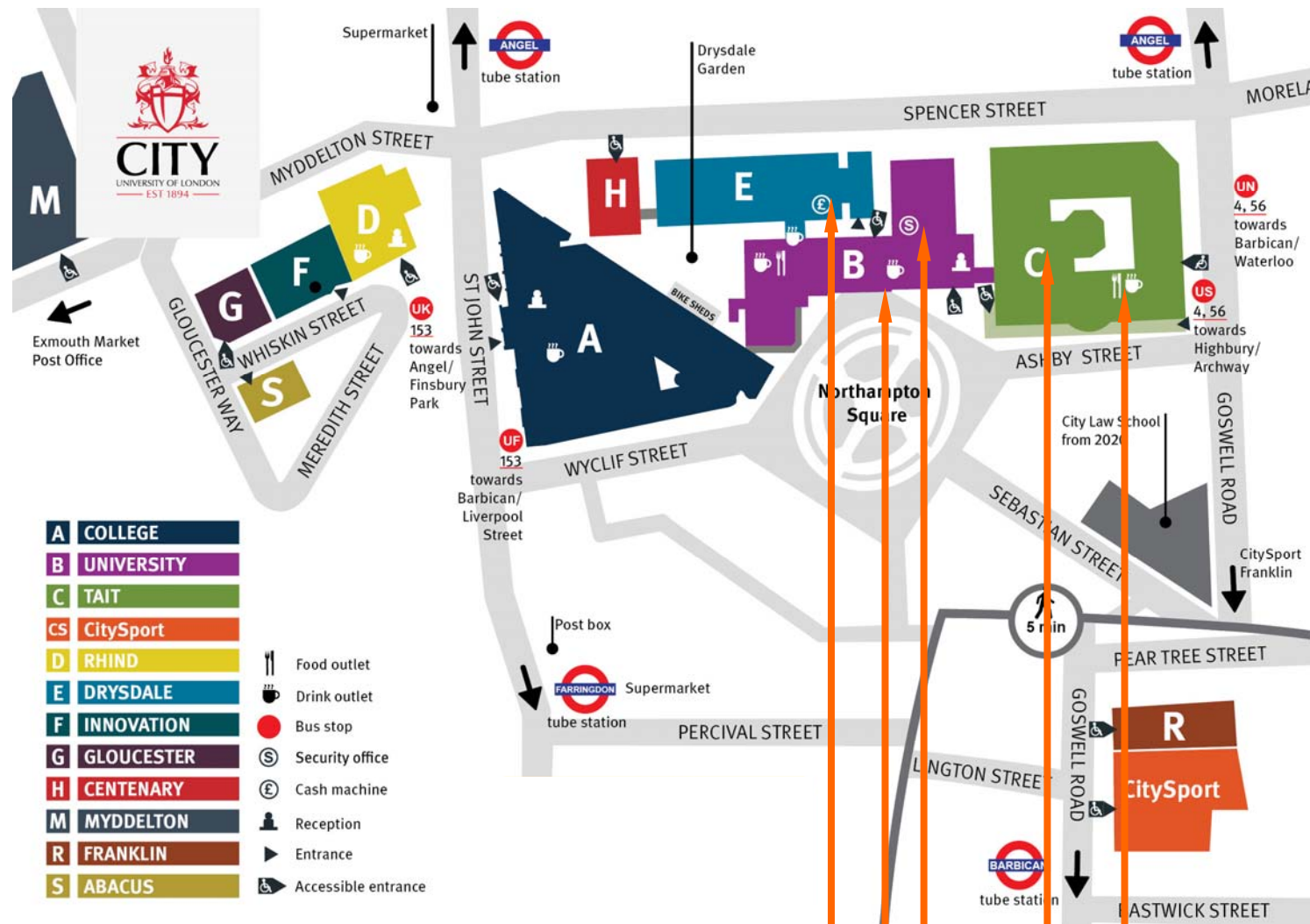
From Cutty Sark DLR station, head east toward Greenwich Church Street and then left onto Greenwich Church Street. Turn right at Greenwich Pier - Masthouse Pier/North Greenwich Pier and the destination will be on the left.

From Greenwich railway station turn left onto Greenwich High Road, follow the road into Nelson Road, turn left into Park Row. Trafalgar Tavern is on the right.

Inspiration on what to do and see around Greenwich are provided in your 'Guide to Greenwich' brochure.

08:30 - 09:00		Morning refreshments (Pavilion)		
09:00 - 09:30	* Themed lecture and Plenary session on Education	Chair: Professor D. Richards , University of Southampton, UK		
09:30 - 10:30		<p>99. Dr D.W. Wilson; <i>An example of effective mentoring for research centres</i></p> <p>100. Using small-scale seepage physical models to generate didactic material for soil mechanics classes; <i>L. B. Becker, R. M. Linhares, F. S. Oliveira & F. L. Marques</i></p> <p>101. Centrifuge modelling in the undergraduate curriculum – a 5 year reflection; <i>J.A. Black, S.M. Bayton, A. Cargill & A. Tatari</i></p> <p>102. Geotechnical centrifuge facility for teaching at City, University of London; <i>S. Divall, S.E. Stallebrass, R.J Goodey, R.N Taylor & A.M. McNamara</i></p>		
10:30 - 11:00		Refreshment break (Pavilion, Oliver Thompson Foyer & ELG15 Foyer)		
11:00 - 13:00		Parallel sessions		
		Chair: Dr. L. Thorel , IFFSTAR, France	Chair: Dr S. Escoffier , IFFSTAR, France	Chair: Professor D.S. Kim , KAIST, Korea
		Offshore II (Oliver Thomson Lecture Theatre)	Sample preparation & characterisation (B200)	Liquefaction (ELG03)
		<p>103. Modelling of rocking structures in a centrifuge; <i>I. Pelekis, G.S.P. Madabhushi & M.J. DeJong</i></p> <p>104. Centrifuge tests on the response of piles under cyclic lateral 1-way and 2-way loading; <i>C. Niemann, Y. Tian, C.D. O'Loughlin, M.J. Cassidy & O. Reul</i></p> <p>105. Centrifuge model testing of fin piles in sand; <i>S. Sayles, K.J.L Stone, M. Diakoumi & D.J. Richards</i></p> <p>106. Interaction between jack-up spudcan and adjacent piles with non-perfect pile cap; <i>Y. Xie, C.F. Leung & Y.K. Chow</i></p> <p>107. A review of modelling effects in centrifuge monopile testing in sand; <i>R.T. Klinkvort, J.A. Black, S.M Bayton, S.K. Haigh, G.S.P. Madabhushi, M. Blanc, L. Thorel, V. Zania, B. Bienen & C. Gaudin</i></p> <p>108. Visualisation of mechanisms governing suction bucket installation in dense sand; <i>R. Ragni, B. Bienen, S.A. Stanier, M.J. Cassidy & C.D. O' Loughlin</i></p> <p>109. Recent advances in tsunami-seabed-structure interaction from geotechnical and hydrodynamic perspectives: Role of overflow/seepage coupling; <i>S. Sassa</i></p> <p>110. Centrifuge tests on the influence of vacuum on wave impact on a caisson; <i>D.A. de Lange, A. Bezuijen & T. Tobita</i></p>	<p>111. A new apparatus to examine the role of seepage flow on internal instability of model soil; <i>F. Gaber & E.T. Bowman</i></p> <p>112. Visualisation of inter-granular pore fluid flow; <i>L. Li, M. Iskander & M. Omidvar</i></p> <p>113. Permeability of sand with a methylcellulose solution; <i>T. Tobita</i></p> <p>114. Shear wave velocity measurement in a large geotechnical laminar box using bender elements; <i>J. Colletti, A. Tessari, K. Sett, W. Hoffman & J. Coleman</i></p> <p>115. The influence of temperature on shear strength at a soil-structure interface; <i>J. Parchment & P. Shepley</i></p> <p>117. Design and performance of an electro-mechanical pile driving hammer for geo-centrifuge; <i>J.C.B. van Zeben, C. Azúa-González, M. Alvarez Grima, C. van't Hof & A. Askarinejad</i></p> <p>118. Development of layered models for geotechnical centrifuge tests; <i>S. Divall, S.E. Stallebrass, R.J Goodey & E.P. Ritchie</i></p>	<p>119. Dynamic centrifuge testing to assess liquefaction potential; <i>G. Fasano, E. Bilotta, A. Flora, V. Fioravante, D. Giretti, C.G. Lai & A.G. Özcebe</i></p> <p>120. Centrifuge modelling of the effects of soil liquefiability on the seismic response of low-rise structures; <i>S. Qi & J.A. Knappett</i></p> <p>121. Liquefaction behaviour focusing on pore water inflow into unsaturated surface layer; <i>Y. Takada, K. Ueda, S. Iai & T. Mikami</i></p> <p>122. The importance of vertical accelerations in liquefied soils; <i>F.E. Hughes & S.P.G. Madabhushi</i></p> <p>123. Experimental investigation of pore pressure and acceleration development in static liquefaction induced failures in submerged slopes; <i>A. Maghsoudloo, A. Askarinejad, R.R. de Jager, F. Molenkamp & M.A. Hicks</i></p> <p>124. Pile response during liquefaction-induced lateral spreading: 1g shake table tests with different ground inclination; <i>A. Ebeido, A. Elgamal & M. Zayed</i></p> <p>125. Effects of earthquake motion on sub-surface cavities; <i>R. Sera, M. Ota & R. Kuwano</i></p> <p>126. Rolling test in geotechnical centrifuge for ore liquefaction analysis; <i>L. Thorel, P. Audrain, A. Néel, A. Bretschneider, M. Blanc & F. Saboya</i></p>
13:00 - 14:00		Lunch (Pavilion & Courtyard Café)		
14:00 - 14:30	* Keynote lecture and plenary session on Seismic modelling	Chair: Professor B.L. Kutter , UC Davis, California, USA		
14:30 - 15:30		<p>127. Associate Professor E. Bilotta; <i>Modelling tunnel behaviour under seismic actions: an integrated approach</i></p> <p>128. Dynamic behaviour of three-hinge-type precast arch culverts with various patterns of overburden in culvert longitudinal direction; <i>Y. Miyazaki, Y. Sawamura, K. Kishida & M. Kimura</i></p> <p>129. Comparison of seismic behaviour of pile foundations in two different soft clay profiles; <i>T.K. Garala & G.S.P. Madabhushi</i></p> <p>130. Kinematic interaction of piles under seismic loading; <i>J. Pérez-Herreros, F. Cui, S. Escoffier & P. Kotronis</i></p> <p>131. Investigating the effect of layering on the formation of sand boils in 1g shaking table tests; <i>S. Miles, J. Still & M. Stringer</i></p>		
15:30 - 16:00		Refreshment break (Pavilion & Oliver Thompson Foyer)		
16:00 - 17:00	* Plenary session on Shallow foundations	Chair: Professor M.D. Bolton , University of Cambridge, UK		
		<p>133. Determining shallow foundation stiffness in sand from centrifuge modelling; <i>A. Pearson & P. Shepley</i></p> <p>134. 1g-modelling of limit load increase due to shear band enhancement; <i>K.F. Seitz & J. Grabe</i></p> <p>135. Ground-borne vibrations from piles: testing within a geotechnical centrifuge; <i>G. Cui, C.M. Heron & A.M. Marshall</i></p> <p>136. Effect of spatial variability on the behaviour of shallow foundations: centrifuge study; <i>L.X. Garzón, B. Caicedo, M. Sánchez-Silva & K.K. Phoon</i></p>		
17:00 - 18:00	* Conclusion	Closing ceremony and announcement of ICPMG 2022 Chair		

City, University of London



ELG03 lecture theatre and refreshments

City, University of London entrance

Pavilion: hosting exhibitions, posters, refreshment breaks, exhibitors, lunches and the Schofield Lecture Reception

Oliver Thompson Lecture Theatre (OTLT) and foyer hosting poster presentation and refreshment breaks

Courtyard Café (Lunch venue)

The conference will be hosted in the University building (B) and Tait Building (C).

Access to the university should always be obtained from the main entrance on Northampton Square, which leads directly to the Pavilion. Signage will be in place to direct you to the refreshment areas and the parallel sessions.

City, University of London is equidistance from Angel, Barbican and Farringdon tube stations. Bus services (4, 56 and 153) are frequent and stop outside the university as shown above.

The CityNav app is also available for free download and will assist you in getting you around the university lecture rooms and other facilities; see www.city.ac.uk/maps

Lunch menus for ICPMG 2018

Tuesday 17th	Wednesday 18th	Thursday 19th	Friday 20th
Mains: Chargrilled beef fillet with roasted mushrooms Salmon en-croute Grilled halloumi with roasted peppers and basil	Mains: Lamb and spinach Rogan josh King prawns with lime and coriander Sweet potato curry (vegan)	Mixed sandwich platters	Mains: Corn fed chicken supreme with sage butter Pan fried seabass with spring onions and chilli Spanish omelette with red onion salad
Sides: Five bean salad Roasted potatoes	Sides: Greek salad Wild rice	Fruit A selection of juices	Sides: Puy lentils, artichoke, sundried tomatoes Roasted potatoes
Dessert: Dark chocolate tart	Dessert: Mango cheesecake		Dessert: Poached strawberries and mascarpone

Middle Temple Hall

Middle Temple Hall; is one of the four ancient inns of Court and overlooks the River Thames. Opened in 1573 the Hall still has many of its original features. Middle Temple Hall is tucked away from the busy London atmosphere on a cobbled and gas-lit street.

Date/Time: Wednesday 17th July between 18:30 – 21:30

Dress code: Smart attire

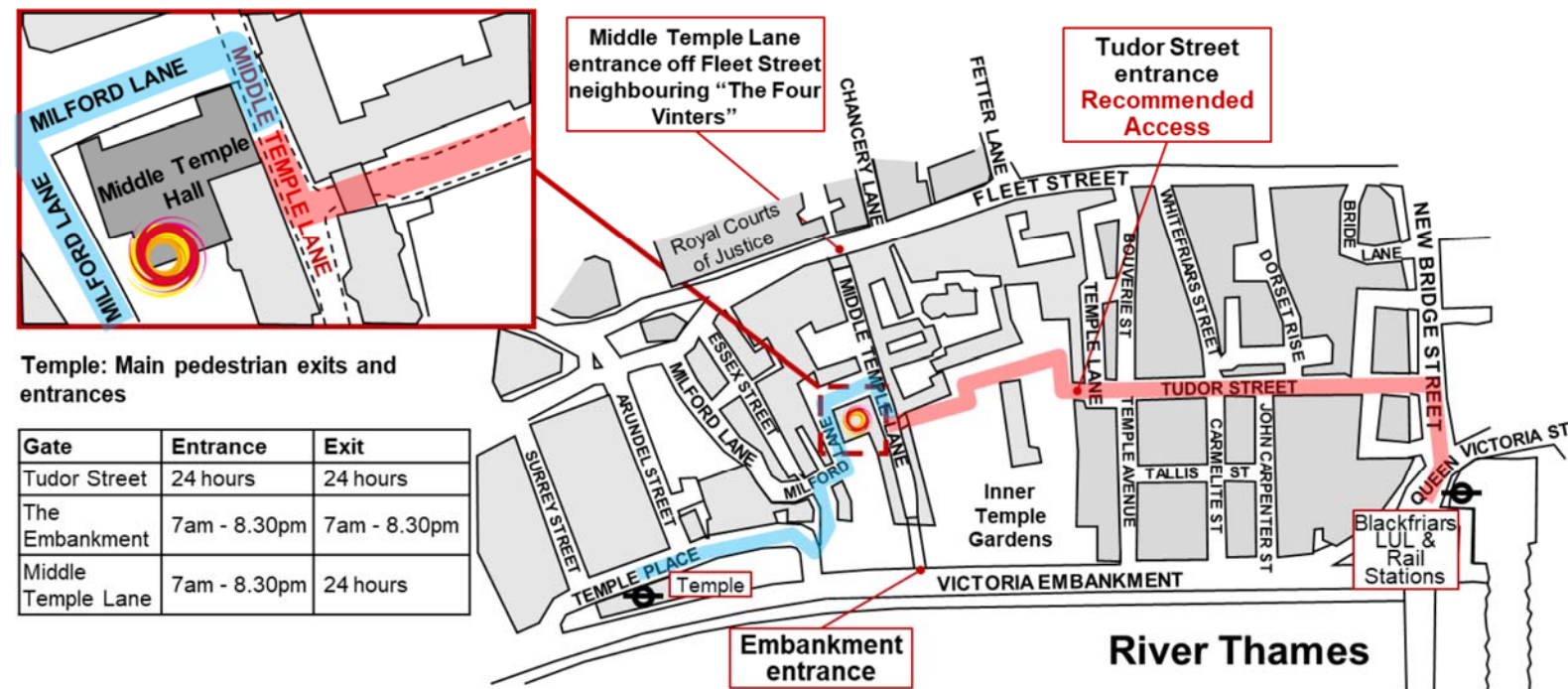
Venue address: Middle Temple Hall, Middle Temple Lane, London, EC4Y 9AT

Getting there:

The nearest tube stations are **Blackfriars** or **Temple** on the **Circle & District Line**.

The recommended route is from Blackfriars station. Exit the station onto Queen Victoria St and cross the road. Bear right towards New Bridge Street. Turn left onto Tudor Street and continue onto Kings Bench Walk. Turn left onto Crown Office Row, right onto Middle Temple Lane and the venue will be on the left.

From Temple station, walk north-east on Temple Place and turn left onto Milford Lane. Turn right onto Middle Temple Lane and the venue will be on the right



Visiting London

Please ask ICPMG team members for help in planning your visits.

Here are a few of the ICPMG teams' favourite attractions in London:

Attraction	Information	Nearest station
London Eye	The London Eye is on the bank of the River Thames and gives a unique view overlooking London's skyline.	Waterloo
Hampton Court Palace	The world-famous gardens of Hampton Court Palace include 60 acres of spectacular formal gardens and 750 acres of parkland, all set within a loop of the River Thames.	Hampton Court
Tower Bridge	Step inside the most famous bridge in the world and explore its iconic structure, spectacular views and glass floor, fascinating exhibitions and the atmospheric Victorian engine rooms.	Tower Hill
Tower of London	The Tower of London is officially Her Majesty's Royal Palace and Fortress of the Tower of London. This historic castle is located on the north bank of the River Thames in central London.	
The National Gallery	The National Gallery showcases over 2,300 paintings from altarpieces to the Impressionists.	Charing Cross / Leicester Square
National Portrait Gallery	The National Portrait Gallery has promoted the painting of portraits and showcases the work of men and women who have impacted British history and culture since 1856.	
Kew Gardens	Kew Gardens provides a world-leading environment where plants and fungi are understood, valued and conserved.	Kew Garden
Shakespeare's Globe Theatre	The iconic Globe Theatre stands a few hundred yards from its original site, where the impact of Shakespeare's work is shared and enjoyed.	Mansion House or Southwark
Tate Modern	The Tate Modern displays artwork from across the planet representing artists chosen for their contribution to its history and development.	
London Transport Museum + Covent Garden	The London Transport Museum, in Covent Garden, conserves and explains the transport heritage of Britain's capital city.	Covent Garden
London Zoo	London Zoo was founded in 1826 and is a leading international scientific and educational charity whose mission is to promote the worldwide conservation of animals and their habitats.	Mornington Crescent
British Museum	The British Museum is a public institution dedicated to human history, art and culture with approximately 8 million works held in its permanent collection.	Tottenham Court Road / Russell Square / Holborn
Museum of London	A centre for social and urban history, and archaeological interests for London. The Museum of London is housed in a Grade I listed warehouse at Canary Wharf, not far from the river Thames.	Barbican / St Pauls
Natural History Museum	The Natural History Museum is a world-class visitor attraction and home to some 80 million items within five main collections of botany, entomology, mineralogy, paleontology and zoology.	South Kensington
Science Museum	The Science Museum is a world-class collection aiming to inspire visitors with award-winning exhibitions, iconic objects and stories of incredible scientific achievement.	
V&A	The V&A is the world's leading museum of art and design which houses a permanent collection of over 2.3 million objects that span over 5,000 years of human creativity.	

Travelling around London

You have been provided with a Zones 1 – 2 travelcard that is valid from Monday 16th to Sunday 22nd July. This will enable you to:

- Use the tube and railway networks in in Central London up to Zone 2.
- Use any Transport for London (TfL) bus in any zone.

If you would like to travel further than this you are advised to purchase an additional ticket from a tube or train station.

Alternatively you may use you contactless payment card to cover the cost of your travel.

- Overseas transaction fees or charges may apply for non-UK cards. This will be one charge per day, not each time you travel. Please check with your card issuer.

You can also get around the City of London in one of London's iconic black taxis. You may hail a taxi on the street when the yellow 'Taxi' sign is illuminated. You can pay with cash or use your contactless credit or debit card to pay for your ride.

A tube map can be found in your delegate pack, however we recommend that you download the following apps to assist you in your travels around London:

- TfL tube map
- London Live Bus Times - TfL Buses
- The Trainline
- Uber

How to get to Heathrow Airport

Heathrow has three London Underground stations, Heathrow Terminals 2 & 3, Heathrow Terminal 4 and Heathrow Terminal 5 and are in Zone 6.

- Journey time from Central London: approximately 50 minutes
- Adult fares (Zones 1-6)
 - Pay as you go peak: £5.10 – Monday to Friday 06:30 - 09:30 and 16:00 - 19:00
 - Pay as you go off-peak: £3.10 – All other times including public holidays

How to get to London City Airport

London City Airport has a DLR is in Zone 3.

- Journey time from Central London: approximately 25 minutes
- Adult fares (Zone 1-3)
 - Pay as you go peak: £3.30 – Monday to Friday 06:30 - 09:30 and 16:00 - 19:00
 - Pay as you go off-peak: £2.80 – All other times including public holidays

How to get to Gatwick Airport

Gatwick Express trains from London Victoria, Southern trains from London Victoria and Thameslink trains from London Bridge go to Gatwick Airport.

- Journey time from Central London: approximately 35 minutes
- Adult fares (Zone 1-3)
 - Pay as you go peak: £3.30 – Monday to Friday 06:30 - 09:30 and 16:00 - 19:00
 - Pay as you go off-peak: £2.80 – All other times including public holidays

This information was obtained from London Transport at <http://content.tfl.gov.uk/visitor-leaflet-welcome-to-london-nov16.pdf> where more information and visitors attractions can be found.