

## KENICHI SOGA PhD FEng FICE

Chancellor's Professor  
University of California, Berkeley  
Department of Civil and Environmental Engineering  
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Berkeley, California  
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e-mail:soga@berkeley.edu

### Personal Background

Place of Birth Suffern, NY, USA (US Citizen)  
Education Rokko Primary School, Kobe University Secondary School, Kobe High School, all in Kobe, Japan

### Employment

2016 – present **Chancellor's Professor**  
University of California-Berkeley, Department of Civil and Environmental Engineering  
2007 – 2016 **Professor of Civil Engineering**  
University of Cambridge, Department of Engineering, Cambridge, UK  
1995 – 2016 **Fellow**  
Churchill College, Cambridge, UK  
2003 – 2007 **Reader in Geomechanics**  
University of Cambridge, Department of Engineering, Cambridge, UK  
2000 – 2003 **University Senior Lecturer**  
University of Cambridge, Department of Engineering, Cambridge, UK  
1994 - 2000 **University Lecturer**  
University of Cambridge, Department of Engineering, Cambridge, UK  
1994 **Post-Doctoral Research Fellow**  
University of California-Berkeley, Research Advisor : Professor Jonathan D. Bray  
1993 **Graduate Student Instructor**  
University of California-Berkeley  
1991 - 1994 **Graduate Research Assistant**  
University of California-Berkeley, Research Advisor : Professor James K. Mitchell

### Higher Education/Degree

1989-1994 **University of California-Berkeley, USA**  
*Ph.D.* in Civil Engineering,  
Major : Geotechnical Engineering  
Minors : Mechanics of Solids and Landscape Architecture  
Dissertation “Mechanical behavior and constitutive modelling of natural structured soils”  
Research Advisor : Professor James K. Mitchell  
1987-1989 **Kyoto University, Japan**  
*Master of Engineering*, Geotechnical Engineering emphasis  
Dissertation “Long-term consolidation behavior of Osaka diluvial clay”  
Research Advisors : Professors Koichi Akai and Masashi Kamon  
1983-1987 **Kyoto University, Japan**  
*Bachelor of Science* (Civil Engineering)

### Professional Affiliations

- *Fellow*, Royal Academy of Engineering, UK
- *Fellow*, Institution of Civil Engineers, UK
- *Member*, American Society of Civil Engineers, USA
- *Member*, Japan Society of Civil Engineers, Japan
- *Member*, British Geotechnical Association, UK.
- *Member*, Japanese Geotechnical Society, Japan

### **Start-up companies**

- Wisen Innovation, 2010, Wireless Sensor Network, Yan Wu
- 8Power, 2016, Energy Harvesting and MEMS strain device, Yu Jia, Ashwin Seshia and Jize Yan
- Utterberry, 2015, Wireless Sensor Network, Heba Bevan
- CSattAR, 2016, Digital Image Correlation, Mehdi Alhaddad

### **Awards/Honors**

- 1989 Murata Overseas Scholarship
- 2002 Jennings Award (The South African Institution of Civil Engineers)
- 2002 Schofield Award (International Journal of Physical Modelling in Geotechnics)
- 2006 George Stephenson Medal (Institution of Civil Engineers)
- 2006 Jennings Award (The South African Institution of Civil Engineers)
- 2007 Geotechnique Lecture, British Geotechnical Association
- 2007 Walter L. Huber Civil Engineering Research Prize (American Society of Civil Engineers)
- 2007 Russell Crampton Prize (Institution of Civil Engineers)
- 2007 Fellow, Institution of Civil Engineers, UK
- 2010 Telford Gold Medal (Institution of Civil Engineers)
- 2012 Fellow, School of Engineering, University of Tokyo
- 2012 Best Lecturer, Department of Engineering, University of Cambridge
- 2013 Best paper award, the Thirteenth IAPR International Conference on Machine Vision Applications
- 2013 Fellow, Royal Academy of Engineering, UK
- 2013 Croce Lecture, Italian Geotechnical Association
- 2014 Best paper award, The 5th International Forum on Opto-electronic Sensor-based Monitoring in Ge-engineering, Nanjing, China
- 2015 Osterberg Lecture, Northwestern University
- 2015 Russell Crampton Prize (Institution of Civil Engineers)
- 2015 Skempton Lecture, European Conference on Soil Mechanics and Geotechnical Engineering
- 2015 Best paper award, 14th International Conference of the International Building Performance Simulation Association
- 2016 9th Lumb Lecture, Hong Kong Engineering Institute-University of Hong Kong
- 2016 International Collaboration Award, Japan Society of Civil Engineers
- 2016 Research Grant for Outstanding Researchers, Journal of Structural Integrity and Maintenance
- 2017 15th Jennings Memorial Lecture, South African Geotechnical Society
- 2017 Schiffman Lecture, Cornell University
- 2017 2016 Best Paper Award, ASCE Journal of Computing in Civil Engineering

### **Invited Visiting Appointments**

- 1997 Research fellow, COPPE, Federal University of Rio de Janeiro (May, two weeks)
- 2001 Visiting associate professor, Colorado School of Mines (January-September)
- 2001 Research fellow, Chiba Institute of Technology (March, one week)
- 2005 Lecturer, Hokkaido University (February, one week)
- 2005 Research fellow, City University of Hong Kong (March, one week)
- 2006 Lecturer, Universitat Politècnica de Catalunya (July, two weeks)
- 2007 Lecturer, Hokkaido University, Japan (January, two weeks)
- 2007 Lecturer, Tokyo Institute of Technology (February, one week)
- 2008 Research fellow, National Institute of Advanced Industrial Science and Technology (July, two weeks)
- 2009 Thai Government Visiting Professorship (January, two weeks)
- 2009 JSPS fellowship (March-May)
- 2009 Research fellow, Deltares, the Netherlands (June-July)
- 2010 Research fellow, EPFL, Switzerland (July)
- 2010 Kwang-Hua Visiting Professor, Tongji University, China
- 2010 Visiting Professor, University Teknologi Malaysia, Malaysia (December)
- 2011 Visiting Professor, Sapienza - Università di Roma (August, December)
- 2012 Visiting researcher, Tongji University, China, Shanghai Magnolia Grant (June)
- 2012 Visiting Professor, University Teknologi Malaysia, Malaysia (June)
- 2013 Guest Professor, Zhejiang University, China
- 2014 Honorary Professor, University of Hong Kong, Hong Kong

2014	Guest Professor, Nanjing University, China
2015	Distinguished YNU Professor, Yokohama National University, Japan
2016	Guest Professor, Southeast University, China
2017	Tan Chin Tuan Exchange Fellowship, Nanyang Technological University, Singapore
2017	Advisory Professor, Tongji University, China
2017	Visiting Professor, Dalian University of Technology, China

**Keynote/Theme lectures**

2006	Keynote	International Conference on Physical Modelling in Geotechnics, Hong Kong
2007	Lecture	Geotechnique Lecture, British Geotechnical Association, London
2010	Plenary	6ICEG 2010 6th International Congress on Environmental Geotechnics, India
2010	Keynote	Paymacotas Workshop on Tunnel Engineering-Instrumentation in Tunnels and Excavations, Barcelona
2010	Keynote	International Symposium on Geomechanics and Geotechnics: From Micro to Macro (IS-Shanghai 2010), Shanghai
2010	Keynote	1st International Conference on Information Technology in Geo-Engineering (ICITG-Shanghai 2010), Shanghai
2011	Keynote	EPSRC Energy Harvesting Network Workshop (Structural Monitoring)
2012	Keynote	LimesNet Research Conference 2012, Bristol
2012	Keynote	International Workshop on ICT in Geo-Engineering, Kyoto
2012	Keynote	EC MEMSCON Workshop - Towards Intelligent Civil Infrastructure, Athens
2013	Keynote	GEOTEC HANOI 2013, Hanoi
2013	Keynote	Telford workshop on wireless sensor network, Aberdeen
2013	Keynote	International Workshop on “Thermoactive Geotechnical Systems for Near-Surface Geothermal Energy: from research to practice”, Lausanne
2013	Keynote	Géotechnique Symposium in Print on “Bio- and Chemo-Mechanical Processes in Geotechnical Engineering”, London
2013	Lecture	Croce Lecture, Italian Geotechnical Association, Rome
2014	Keynote	GeoShanghai International Conference 2014, Shanghai
2014	Keynote	The Second International Smart Infrastructure Symposium, Osaka
2014	Keynote	The 5th International Forum on Opto-electronic Sensor-based Monitoring in Geo-engineering (5th OSMG-2014), Nanjing
2014	Theme	The 7th International Congress on Environmental Geotechnics, Melbourne
2015	Lecture	Osterberg Lecture, Northwestern University
2015	Keynote	Ground Engineering Instrumentation and Monitoring, London
2015	Keynote	2015 Korean Geotechnical Society National Convention, Seoul
2015	Keynote	Workshop on Sensing and Information for Civil Infrastructure, Japanese Society of Civil Engineers
2015	Keynote	NERC KE Workshop (remote monitoring of geotechnical assets), British Geological Survey
2015	Keynote	6th International Conference on Advances in Experimental Structural Engineering (6AESE) and the 11th International Workshop on Advanced Smart Materials and Smart Structures Technology (11ANCRiSST), University of Illinois- Urbana Champaign
2015	Keynote	XVI European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh
2015	Keynote	The 1 <sup>st</sup> International Conference on Geo-Energy and Geo-Environment (GeGe2015), Hong Kong
2016	Keynote	1st IMEKO TC-4 International Workshop on Metrology for Geotechnics, Benevento, Italy
2016	Keynote	The 1st International Conference on Energy Geotechnics ICEGT 2016, Kiel, Germany
2016	Lecture	9th Lumb Lecture, Hong Kong Engineering Institute-University of Hong Kong
2017	Keynote	MPM 2017 – The First International Conference on the Material Point Method for Modelling Large Deformation and Soil-Water-Structure Interaction, Delft
2017	Keynote	EURO:TUN 2017, Innsbruck, Austria
2017	Lecture	15th Jennings Memorial Lecture, South African Geotechnical Society
2017	Lecture	Schiffman Lecture, Cornell University
2017	Keynote	The 2 <sup>nd</sup> International conference on Geo-energy and Geo-Environment, Hangzhou
2017	Keynote	2nd International Workshop on Resiliency of Urban Tunnels and Pipelines, Shanghai
2017	Keynote	The 13th International Workshop on Advanced Smart Materials and Smart Structural Technologies
2017	Keynote	2017 Taiwan bi-annual geotechnical engineering conference, Taipei
2017	Keynote	2017 ASCE Congress on Technical Advancement, Duluth, MN
2017	Keynote	Ground Related Risk to Transportation Infrastructure, The Geological Society, London

2017 Keynote The Geotechnical Society of Singapore (GeoSS) conference, Singapore

### **Editor**

- *Editor-in-Chief*, ICE-Proceedings - Smart Infrastructure and Construction, ICE Publishing (2016-)
- *Editorial Board Member*, Geomechanics and Geoengineering, An International Journal, Taylor and Francis (2005-), GeoRisk, Taylor and Francis (2006-), Geomechanics and Engineering, Techno-Press (2009-), Transportation Infrastructure Geotechnology (2014-), Geomechanics for Energy and the Environment, Elsevier (2015-), Underground Space, Elsevier (2015-), Rivista Italiana di Geotecnica (2015-), Journal of Hydrodynamics (2016-), Sustainable and Resilient Infrastructure (2016-), Tunnelling and Underground Space Technology (2018-), Journal of Rock Mechanics and Geotechnical Engineering (2018-)
- *Past Editorial Board Member*, Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers (2001-2009), Soils and Foundations, Japanese Geotechnical Society (2001-2005), Geotechnique, Institution of Civil Engineers (2003-2005), Vadose Zone Journal, Soil Science Society of America (2006-2007), Computers and Geotechnics, Elsevier (2010-2016)

### **Professional Activities (since 2010)**

- *Associate*, Geotechnical Consulting Group, London (2015-present)
- *Secretary*, Technical Oversight Committee of ISSMGE (2010-present)
- *Vice-Chair*, International Technical Committee 308 on Energy Geotechnics, The International Society of Soil Mechanics and Geotechnical Engineering (2013-present)
- *Secretary*, International Technical Committee 105 on Macro and Micro Geomechanics, The International Society of Soil Mechanics and Geotechnical Engineering (2005-present)
- European Science Foundation College of Expert Reviewers
- *Executive Member*, Cambridge Centre for Smart Infrastructure and Construction (2011-2016)
- *Member*, UK Engineering and Physical Sciences Research Council (EPSRC) Peer Review College (2002-present)
- *Advisory Board Member*, International Press-In Association (2007-present)
- *Member*, Research & Secondments Committee, Royal Academy of Engineering (2015-2016)
- *Board Member*, British Geotechnical Association (2013-2016)
- *President*, UK section of the Japan Society of Civil Engineers (2005-2016)
- *Steering board member*, EPSRC Energy harvesting network (2009-2014)
- *Advisory Board Member*, Tokyo Institute of Technology (2009-present)
- *Science Advisory Committee Member*, JAMSTEC (2017)

### **Reviewing**

- Reviewed papers for Geotechnique, ICE Geotechnical Engineering Journal, ASCE Geotechnical and Geoenvironmental Journal, ASTM Geotechnical Testing Journal, Canadian Geotechnical Journal, Journal of Contaminant Hydrology, AGU Water Resources Research, Granular Matters, European Journal of Mechanics - A/Solids, Journal of Geophysical Research, Journal of Hazardous Materials, International Journal of Physical Modeling in Geotechnics, Advances in Water Resources, Geomechanics and Engineering, Geomechanics and Geoengineering, Mechanics of Materials and others
- Reviewed proposals for research councils (EPSRC, US NSF and international).
- External Ph.D. examiner - Imperial College, University of Bristol, University of Sheffield, University College London, University of Montpellier, Loughborough University, University of Brighton, Ecole Polytechnique Fédérale de Lausanne, University of Southampton, University of Birmingham, Delft University of Technology, National University of Singapore, University Teknologi Malaysia, University of Padova, Hong Kong Polytechnic University, Universidad Politecnica de Catalunya, University of Hong Kong, Ruhr-University Bochum
- *External Examiner*, University of Southampton, Civil Engineering BEng/MEng/MSc programme (2009-2013)
- *External Examiner*, University of Hong Kong, Civil Engineering, MSc programme (2011-2015)
- *Panel member*, Review of Department of Engineering, University of Oxford (2015)
- *External Review Board Member*, Graduate School of Frontier Sciences, University of Tokyo (2016)
- *Review Panel* - ERC for Bio-mediated and Bio-inspired Geotechnics (CBBG), National Science Foundation (2016)
- *NSF Review panel* – Civil Infrastructure Systems

### **Teaching Activities**

#### ***Current (University of California-Berkeley)***

- Graduate CE270 Advanced Geotechnics
- Graduate CE272 Numerical Modelling in Geomechanics

Undergraduate CE175 Geotechnical and Geoenvironmental Engineering

***Past (University of Cambridge)***

1<sup>st</sup> year Exposition  
2<sup>nd</sup> year Seepage Experiment  
2<sup>nd</sup> year Civil Engineering – Design and Construction of Underground Space  
3<sup>rd</sup> year 3D1 Geotechnical Engineering I  
3<sup>rd</sup> year 3D2 Geotechnical Engineering II  
3<sup>rd</sup> year 3D6 Environmental Geotechnics  
3<sup>rd</sup> year 3D7 Finite Element Methods  
3<sup>rd</sup> year Soil Mechanics – Consolidation and Shear Experiment  
3<sup>rd</sup> year Quay Wall Design Project  
3<sup>rd</sup> year Civil Engineering Project - Engineering Geology  
4<sup>th</sup> year Foundation Engineering  
4<sup>th</sup> year Ground Engineering, Soil improvement  
4<sup>th</sup> year Ground Engineering, Grouting  
4<sup>th</sup> year Contaminated Land and Waste Containment  
Postgraduate 5R7 Advanced Numerical Methods in Geomechanics

**Administrative Activities**

*University of Cambridge*

Head of the Geotechnical and Environmental Engineering Group (2013-2015)  
Deputy Director for Research and Industrial Liaison, Cambridgesense CDT (2014-2015)  
Executive committee member, Future Infrastructure and Built Environment CDT (2014-2015)  
Executive committee member, Integrated Photonic and Electronic Systems (IPES) (2010-2015)  
Director of Studies in Engineering, Churchill College (1997 – 2013)  
Director of Studies in Engineering, St Edmunds College (2003 – 2010)  
Chairman of the Language Unit Committee, Engineering Department (2004-2008, 2010-2011)  
4<sup>th</sup> year MEng Group Coordinator (2005-2008)  
Member of the College Council of Churchill College (1998/1999)  
4<sup>th</sup> year M.Eng. Projects Coordinator (2001-2003)

*University of California, Berkeley*

Member, Faculty Search Committee (2016)  
Group leader, Systems Group, Department of Civil and Environmental Engineering (2017-2018)  
Executive Committee, Department of Civil and Environmental Engineering (2017-2018)  
Graduate Admission Committee, Department of Civil and Environmental Engineering (2017-2018)

**Research Supervisions**

***Ph.D.***

*University of Cambridge*

1. L.J. Potter (1996) Contaminant migration through consolidating soils (Co-supervisor)
2. M.B. Carrier (2000) Dielectric measurements over a wide frequency range in E-grade kaolin
3. C. Kechavarzi (2001) Physical modelling of immiscible multiphase flow porous media
4. S.K.A. Au (2001) Fundamental study of compensation grouting in clay
5. H. Coumoulos (2002) Centrifuge and numerical modelling of dense non-aqueous phase contaminants migration
6. S. Yimsiri (2002) Pre-failure deformation characteristics of soils: anisotropy and soil fabric.
7. S. Ratnam (2002) Development of a novel self-boring permeability measurement technique
8. E.T. Bowman (2002) Creep and ageing of dense granular materials
9. W.A. Waduge (2004) Evaluation of efficiency of air sparging in NAPL contaminated heterogeneous system
10. I. Kulasooriya (2005) Remediation of Dense Non-aqueous phase liquids using surfactant flushing; Mass flux approach
11. J.W.E. Page (2005) A mass flux and partitioning tracer concept for DNAPL source zone characterisation
12. T.E.B. Vorster (2005) The Effects of tunnelling on buried pipes (Co-supervisor)
13. J. Wongsaroj (2006) Three-dimensional finite element analysis of short and long-term ground response to open face tunnelling in stiff clay
14. T.P. Cheong (2006) Numerical modeling of soil-pipeline interaction
15. H. Ji (2008) Physical modeling of jet grouting processes

16. K. Gafar (2008) Compensation Grouting in Sand
17. M.Y.A. Ng (2008) Modelling hydraulic fracturing in cement bentonite geomaterials
18. H. Mohamad (2008) Distributed optical fibre strain sensing of geotechnical structures
19. P. Nikolopoulos (2008) Non-aqueous phase liquid pollutant in natural soils and its long-term risk after remediation
20. K. Joshi (2009) Long-term Engineering Performance and In-Situ Assessment of Cement-Bentonite Cut-off Walls
21. A. Y. Leung (2010) Foundation optimization and its application to pile reuse
22. D. Robert (2010) Soil-pipeline interaction in unsaturated soils
23. R. Laver (2010) Long-term behaviour of twin-tunnels in London Clay
24. L. Liu (2011) Disturbance Analysis of the Self Boring Pressuremeter Tests
25. A. Al Qabany (2011) Microbial Carbonate Precipitation in Soils
26. K. Chaiyasarn (2011) Detection and monitoring of damage for tunnel inspection based on computer vision
27. K. Janmonta (2011) Monitoring of ground movements using optical fibres
28. C.S. Gue (2012) Submarine landslide flows simulation through centrifuge modelling
29. L. Hughes (2012) Effects of alignment on CO<sub>2</sub> emissions from the construction and use phases of a highway
30. K. Ellison (2012) Constitutive modelling of a heavily overconsolidated clay
31. S. Uchida (2012) Numerical investigation of geomechanical behaviour of hydrate-bearing sediments
32. S. Bandara (2013) Material point method to simulate large deformation problems in fluid-saturated granular medium
33. D. Garber (2013) Ground source heat pump system models in an integrated building and ground energy simulation environment
34. Y. Ouyang (2013) Geotechnical behaviour of energy piles
35. T. Schwamb (2014) Performance monitoring and numerical modelling of a deep circular excavation
36. Z. Li (2014) Long-term behaviour of cast-iron tunnel cross passage in London clay
37. K. Kumar (2014) Multi-scale multiphase modelling of granular flows
38. E. Xu (2014) Numerical analysis of wellbore behaviour during methane gas recovery from hydrate bearing sediments
39. Y. Rui (2014) Finite element modelling of thermal piles and walls
40. O. Dawoud (2015) The applicability of microbially induced calcite precipitation (MICP) for soil treatment
41. Y. Zheng (2015) Application Potential of Shallow Geothermal Energy at City Scale
42. M. Zhou (2015) Geomechanical study of hydrate-bearing sediments with turbidite formation and hydrate heterogeneity
43. Q. He (2015) Thermal performance of energy geotechnical structures
44. N. Jiang (2016) Microbially Induced Calcite Precipitation for the Mitigation of Soil Internal Erosion and Sand Production
45. J. Fern (2016) Constitutive Modelling of Unsaturated Sand and its Application to Large Deformation Modelling
46. M. Alhaddad (2016) Photogrammetric monitoring of cast iron tunnels and applicability of empirical methods for damage
47. M. Wilcock (2016) The Behaviour of Existing Segmental Cast Iron Tunnel Linings Subject to Ground Movement from New Tunnelling
48. Y. Yu (2016) Signal Processing of Brillouin Distributed Optical Fibre Sensors
49. J. Wong (2017) Three-dimensional multi-scale hydraulic fracturing simulation in heterogeneous material using Dual Lattice Model
50. L. Luo (2017) Time-Frequency Localisation of Distributed Brillouin Optical Time Domain Reflectometry
51. S. Kularathna (2017) splitting solution scheme for material point method
52. T. Kobayashi (on-going) Submarine landslide modeling
53. M. Nakashima (on-going) Performance of sprayed concrete lined tunnel
54. H. Bevan (on-going) Ultra low power wireless sensor network system
55. X. Lu (on-going) City scale modelling of low grade geothermal energy
56. Y. Mei (on-going) Distributed fibre optic strain sensing for geotechnical application
57. B. Li (on-going) Dynamic fibre optics strain measurement
58. G. Casey (on-going) Whole life carbon assessment of infrastructure
59. T. Feng (on-going) Wireless Sensor Monitoring of civil engineering infrastructure
60. H. Mallikarachchi (on-going) Subsea soil-pipeline interaction
61. B. Zhao (on-going) City-scale modelling of transport infrastructure maintenance
62. V. Di Murro (on-going) Long-term performance of CERN tunnel
63. A. Murphy (on-going) Sand production in wellbores and its prevention
64. Y. Wang (on-going) Bacteria transport in porous material
65. H. Luo (on-going) Methane Hydrate Modelling

66. E. Y. Setiasabda (on-going) Material Point Method
67. R. Ou (on-going) Dynamic distributed fiber optics sensing
68. J. Murphy (on-going) Material Point Method

***M.Phil&M.Sc.***

*University of Cambridge*

1. M.T. Cheong (2003) Influence of underground excavation on compaction grouting in soft clay
2. T.P. Cheong (2003) Numerical analysis of 3D soil-pipeline interaction
3. K. Gafar (2004) Modelling of soil-grout interaction
4. H. Mori (2008) Numerical modeling of river levee failures
5. S. Uchida (2008) Soil fractures around wellbores
6. L. Cheung (2008) Fiber optic strain measurement for monitoring tunnel lining movements
7. W. Au (2010) An experimental study of compensation grouting in silt
8. H. Luo (2014) Experimental and numerical investigation on fresh cement deformation behavior
9. K. Suda (2016) Geomechanical study of shallow water carbonate formation

***Post-doctoral researchers***

*University of Cambridge*

1. Dr. M.F. Bransby, Effect of pore fluid viscosity on stiffness and damping of sands, 1/96-6/96
2. Dr. E. Ellis, Effect of pore fluid viscosity on liquefaction of sands, 1/97-6/97
3. Dr. G.R. Dasari, Numerical implementation of advanced soil models into ABAQUS and modelling of soil-pipeline interaction problems, 4/97-3/00
4. Dr. M.W. Gui, Development of instrumented drilling system, 10/97-9/99
5. Dr. K. Komiya, Development of finite element program to simulate shield tunnelling process, 5/98-3/99
6. Dr. S. Gourvenec, co-supervisor, Investigation of soil condition around an old London Underground tunnel, 4/98-3/00
7. Dr. B.C. Hawlader, Development of hollow cylinder torsional shear system and constitutive modelling of natural soils, 11/98 – 9/00
8. Dr. M.R. Jafari, Experimental investigation of compensation grouting, 9/98- 1/01
9. Dr. C. Kechavarzi, Soil testing using a hollow cylinder torsional shear apparatus, 3/01 – 9/01, 3/03-9/04
10. Dr. S. Ratnam, Assessment and monitoring of ageing infrastructure, 6/02-11/02
11. Dr. E.T. Bowman, Royal Academy of Engineering Research Fellow, Debris flows, 7/02-8/05
12. Dr. S.W. Jacobsz, Development of wireless sensor network system to monitor tunnel deformation, 5/03-9/03
13. Dr. A. Spasojevic, Numerical modelling of soil liquefaction, 4/03-5/05
14. Dr. P. Bennett, Fibre optic strain measurements, 4/04-9/09
15. Dr. A. Klar, Gashydrate modelling, 4/05-3/06
16. Dr J. Ransley, Micro-Electro-Mechanical Sensors and Power Harvesting, 10/06 – 09/07
17. Dr Binod Amatya, Smart Foundations, 12/06 – 05/09
18. Dr Jize Yan, Micro-Electro-Mechanical Sensors and Power Harvesting, 03/08 – 12/15
19. Dr Dedy Loebis, Power harvesting, 07/07 - 12/08
20. Dr Guoliang Ye, Power harvesting, 03/09 – 03/11
21. Dr. Mohammed Elshafie, Fibre optics monitoring, 07/09-07/11
22. Dr Sarfraz Nawaz, Cambridge Centre for Smart Infrastructure and Construction, 01/12-10/15
22. Dr Loizos Pelecanos, Cambridge Centre for Smart Infrastructure and Construction, 01/13-07/16
23. Dr Seda Torisu, Crossrail KTP, 06/10-05/13
24. Mr Mohamad Alserdare, Crossrail KTP, 08/11-07/13
25. Dr Cedric Kechvarzi, Cambridge Centre for Smart Infrastructure and Construction, 01/13-present
26. Dr Alex Rohe, MPM Dredge Project, 04/13-03/14, 10/15-12/15
26. Dr Xiaomin Xu, Cambridge Centre for Smart Infrastructure and Construction, 03/13-present
27. Dr Joost Bredeveld, MPM Dredge Project, 02/14-05/14
27. Dr Yunfeng Gu, WSN for gas monitoring, 02/14 – 02/15
28. Dr David Rodenas, Cambridge Centre for Smart Infrastructure and Construction, 02/14-present
29. Dr Varindra Kumar, WSN hardware development, 10/14-04/16
30. Dr Sinan Acikgoz, London Bridge station project, 10/14 – present
31. Dr Krishna Kumar, CSIC&BG project, 4/14 – present
32. Dr Yi Rui, CSIC, 6/14 – present
33. Dr Bruno Zuada Coelho, MPM Dredge Project, 10/15-12/15
34. Dr Alba Yerro, MPM Dredge Project, 11/15 – 06/17

*University of California, Berkeley*

35. Dr. Tzu-Hsuan Lin (Sinotech Inc), 10/16-9/17, Wireless Sensor Network
36. Dr James Fern, 3/17-present, Landslide simulation using Material Point Method
37. Dr Amr Ewais, 3/17-present, Distributed fiber optics sensing, Graphene
38. Dr Jinho Park, 9/17 – present, Geophysics for tunnel monitoring
39. Dr Xiang Sun, 9/17 – present, Gas hydrate modeling

**Visiting researchers**

*University of Cambridge*

1. Dr. N. Komiya (Waseda University, Japan), 5/98-3/99
2. Dr. S. Shu (Jilin University, China), 10/98-9/99
3. Dr. I. Kobayashi (Tokyo Institute of Technology), 5/99-3/00
4. Dr. J. Kawabata (Kajima Corporation, Japan), 5/99 – 6/00
5. Dr. S. Karim (University of Twente, the Netherlands), 6/99-8/99
6. M. Kobayashi (Tokyo Gas, Japan), 11/99-12/99
7. Prof. K. Okada (Kokushikan University, Japan), 4/00-8/00
8. Dr. T. Hori (National Institute for Rural Engineering, Japan), 3/02&10/02
9. Dr. A.C. Mesquita (Federal University of Rio de Janeiro COPPE, Brazil), 4/02-3/03
10. Prof. A. Klar (Technion Israel Institute of Technology, Israel), 7/03 – 3/05
11. Prof. S. Burns (University of Virginia), 10/03-12/03
12. M. Buono Mascagni (Politecnico di Torino), 9/04-11/04
13. S. Giardino (Politecnico di Torino), 9/04-10/04
14. Prof. David Zheng (Tienjin University), 10/04-9/05
15. Dr Fuminao Okumura (Japan Railway Technical Research Institute), 10/05-05/06
16. Mohammad Norouz-Oliaei (Sharif University of Technology), 10/05-08/06
17. Prof. Toru Inui (Kyoto University), 05/06-03/07
18. Chikara Hirai (Japan Railway Technical Research Institute), 09/06-08/07
19. Prof. Taro Uchimura (University of Tokyo), 10/06-09/07
20. Prof. Andrew Whittle (MIT), 01/07-07/07
21. Prof. Carlos Santamarina (Georgia Tech), 07/07
22. Dr Yusuke Kobayashi (Japan Railway Technical Research Institute), 09/07-09/08
23. Dr. Wan Zuhairi Wan Yaacob (Universiti Kebangsaan Malaysia), 09/07-12/07
24. Keita Abe (Japan Railway Technical Research Institute), 09/08-09/09
25. Prof. Kerop Janoyan (Clarkson University), 02/09 – 07/09
26. Prof. Masafumi Okawara (Iwate University), 10/08 – 03/09
27. Prof. Motohei Kanayama (Kyushu University), 07/08-08/08, 02/09 – 03/09, 08/09-09/09
28. Prof. Shinya Nakamura (Ryukyu University), 02/09 – 03/09
29. Luca Masini (University of Rome), 07/08-08/08, 01/09-04/09
30. Prof. Xiaojun Li (Tongji University) 08/09
31. Akio Hada (Japan Railway Technical Research Institute), 09/09-09/10
32. Prof. Liyuan Tong (Southeast University) 09/09-09/10
33. Eric Diao (Tienjin University) 09/09-08/10
34. Prof. Katsuya Okada (Kokushikan University) 04/10-09/10
35. Dr. Kiwamu Tsuno (Japan Railway Technical Research Institute), 09/10-09/11
36. Fei Wang (Tongji University) 10/10-09/11
37. Prof. Fuxue Sun (Wenzhou University) 10/11-9/12
38. Prof. Jun Jiang (Zhejiang University) 10/11-9/12
39. Xia Bian (Southeast University) 2/12-1/13
40. Xuesong Cheng (Tianjin University) 10/12-9/13
41. Satoko Ryuo (Japan Railway Technical Research Institute), 9/11-9/12
42. Dr Yoshiharu Asaka (Shimizu Corporation), 10/11-9/12
43. Jiajie Ma (University of Western Australia), 2/12-5/12
44. Prof Jeff Evans (Bucknell University), 10/12-3/13
45. Dr Xiaomin Xu (UCL/Zhejiang University), 5/12-5/13
46. Kyosuke Yasuda (Japan Patent Agency), 7/12-6/13
47. Dr Tsukasa Mizutani (University of Tokyo), 7/12-8/12



48. Prof Bin He (Tongji University), 6/12-9/12
49. Prof Kohei Araki (Kyushu University), 10/12-12/12
50. Dr Tatsuya Nihei (Japan Railway Technical Research Institute), 9/12-9/13
51. Prof Fei Yi (Chang'an University) 10/12-9/13
52. Prof Dan Zhang (Nanjing University) 03/13-02/14
53. Koshiro Saito (Japan Patent Agency), 7/13-6/14
54. Dr Munenori Shibata (Japan Railway Technical Research Institute), 9/13-9/14
55. Prof. Cheol Ju Lee (Kangwon National University), 10/13-9/14
56. Dr Jaeyeon Cho (Yonsei University), 4/14-3/15
57. Prof. Young Seok Kim (Korea Institute of Construction Technology (KICT)), 6/14-5/15
58. Prof Hong-Hu Zhu (Nanjing University), 10/14-9/15
59. Prof Tom O'Rourke (Cornell University), 10/14-12/14
60. Chuanhu Zhang (Tsinghua University), 11/14-11/15
61. Dr Jimeng Feng (Southwest Jiaotong University), 2/15-1/16
62. Yuelang Jin (Tongji University), 3/15-2/16
63. Dr Seiji Yamada (Japan Railway Technical Research Institute), 2/15-8/15
64. Olga Mikhaylova (University of Melbourne), 10/15-2/16
65. Xiang Sun (Dalian Institute of Technology), 11/15-04/16
66. Yishu Wang (Hohai University), 11/15-10/16
67. Caijie Tang (BIACD) 11/15-12/15
68. Haizuo Zhou (Tianjin University) 11/15-10/16
69. Professor Chao-Sheng Tang (Nanjing University), 12/15-11/16
70. Professor Jason DeJong (University of California, Davis), 1/16-6/16
71. Professor Kazuyuki Hayashi (Wakayama College), 4/16-9/16

*University of California, Berkeley*

72. You Tian (Tsinghua University), 2/16-2/17
73. Guido Andreotti (University of Pavia), 9/16-12/16
74. Xiaorong Xu (Tsinghua University), 11/16-11/17
75. Dr. Xinnan Gao (Nanjing Agricultural University), 2/17-present
76. Xingyue Li (Hong Kong University of Science and Technology), 9/17-present
77. Nicola Cardella (Università Politecnica delle Marche), 9/17-present
78. Miki Komatsu (Kobe University), 9/17 - present
79. Yang Xu (Harbin Institute of Technology), 11/17 – present
80. Dr Jin Luo (China University of Geosciences (Wuhan)), 11/17 - present

**Research Collaboration**

As invited visiting professor/researcher: Federal University of Rio de Janeiro, Brazil (March 1996), National Institute of Rural Engineering, Japan (August 1999), Chiba Institute of Technology, Japan (March 2000), Colorado School of Mines, USA (January -September 2001), Japanese Public Works Research Institute (January 2004), City University of Hong Kong (March 2005), Kyoto University, Japan (April 2005), Universitat Politècnica de Catalunya (July 2006), Hokkaido University, Japan (January 2007), Tokyo Institute of Technology (February, 2007), Georgia Institute of Technology/DOE/USGS (March 2008), National Institute of Advanced Industrial Science and Technology (August 2008), Chulalongkorn University (January 2009), Kyoto University (March-May 2009), Deltares (June-July 2009), EPFL (July 2010), University Teknologi Malaysia (2010, 2012), Tongji University (August 2010, June 2013), University of Rome (August and December, 2011), Zhejiang University (July 2013), University of Hong Kong (January 2014), Nanjing University (October 2014), Yokohama National University (June&July 2015), Southeast University (December, 2015), Cambridge University (May&June, 2017), CERN (June 2017), Yokohama National University (July 2017)

I have/had collaborative research with the following academic institutions and companies.

*Academic/research institutions* : Imperial College, University College London, Colorado School of Mines, University of Colorado-Boulder, Massachusetts Institute of Technology, Cornell University, Georgia Institute of Technology, University of California-Davis, University of Western Australia, Technical University of Delft, University of Montpellier, University of Bochum, Kyoto University, University of Tokyo, Tokyo Institute of Technology, Chiba Institute of Technology, Iwate University, Waseda University, National University of Singapore, University of Hong Kong, National Institute of Advanced Industrial Science and Technology, National Institute of Rural Engineering, Public Works Research Institute, Port Harbour Airport Research Institute, Railway Technical Research Institute, Czech Technical University in Prague,

Consiglio Nazionale delle Ricerche, Universidad Politecnica de Catalunya, Tongji University, Zhejiang University, Tianjin University, Nanjing University and Tsinghua University.

*Companies* : UK Highways Agency, Building Research Establishment, Schlumberger, BP, BG, Cambridge Insitu, London Underground Ltd., Tubelines, Metronet, Transport for London, Thames Water, Yorkshire Water, United Utilities, Cementation Skanska, Arup, Mott MacDonald, Atkins, Brown and Root Civil, Geotechnical Consulting Group, Buro Happold, ITM, CrossRail, Geothermal International, National Grid, CERN, Aeroflex, Rolatube, Costain, GE Aviation, CH2MHill, Network Rail, Insitu Integrity, Soletanche-Bachy, Deltares, Tractebel Engineering, Chemex International Ltd., JOGMEC, Nishimatsu Construction, Kajima Corporation, Shimizu Corporation, Tokyo Gas, Mitsubishi Heavy Industry, Toshiba, Topcon and Sankyong Construction.

### **Organising/Scientific Committee**

- 2019 SHMII-9 Conference, St. Louis, Organizing Committee and Scientific Committee
- 2018 Fourth International Symposium on Computational Geomechanics (ComGeo IV), Scientific Committee, Assis, Italy
- 2018 4th GeoShanghai International Conference, Organizing Committee
- 2018 The 8th International Congress on Environmental Geotechnics (ICEG2018), International Advisory Committee
- 2018 The 7th World Conference on Structural Control and Monitoring, International Scientific Committee
- 2018 UC Berkeley - PEER Organizational Workshop-Exa-scale Computing for City-Scale Simulations, Organizer
- 2017 Southeast University Symposium, International Advisory committee
- 2017 EURO:TUN 2017 conference, Scientific Advisory Committee
- 2017 1st International Conference on the Material Point Method for Modelling Large Deformation on Soil-Water-Structure Interaction, Delft, Scientific Committee and Local Organising Committee
- 2016 1st Asian Conference on Railway Infrastructure and Transportation, Scientific committee
- 2016 Fifth International Conference on Forensic Geotechnical Engineering, Advisory Committee
- 2016 1st International Conference on Natural Hazards and Infrastructure: Protection, Design, Rehabilitation, Steering Committee
- 2016 International Conference on Smart Infrastructure and Construction, Cambridge, Organiser
- 2016 2016 Asia-Pacific-Euro Summer School on Smart Structures Technology, Cambridge, APSS 2016, Organiser
- 2016 International Mini Symposium CHUBU (IMS-CHUBU), the International Technical Committee
- 2016 The 15th World Conference of Associated research centers for the Urban Underground Space, ACUUS 2016, Scientific Committee
- 2015 UK-Japan Workshop on Ageing Transport Infrastructure Management, British Embassy, Tokyo, Organiser
- 2015 6th International Conference on Advances in Experimental Structural Engineering (6AESE) and the 11th International Workshop on Advanced Smart Materials and Smart Structures Technology (11ANCRiSST), University of Illinois- Urbana Champaign, Scientific Committee
- 2015 CSIC-University of Tokyo Joint workshop on Sensing and Data-utilisation for Infrastructure, Organiser
- 2015 International Symposium on Geohazards and Geomechanics, Scientific Committee
- 2015 The Cambridge conference on wireless sensor network for civil infrastructure, Organiser
- 2015 The Fifth International Symposium on Geotechnical Safety and Risk (ISGSR), International Advisory Committee
- 2014 The 5th International Forum on Opto-electronic Sensor-based Monitoring in Geo-engineering (5th OSMG-2014), Academic Committee
- 2014 TC105 IS-Cambridge International Symposium on Geomechanics from Micro to Macro, Cambridge, Chairman
- 2014 The Cambridge Conference on Fibre Optic Sensing in Civil Infrastructure, Organiser
- 2014 NSF International Workshop on Geotechnical Engineering Education Soil-environment interactions across scales: key challenges for future geo-engineers, Organiser
- 2014 14th International Conference of the International Association for Computer Methods and Advances in Geomechanics (14IACMAG), Kyoto, Session Chair
- 2014 The 2<sup>nd</sup> CSIC-JSPS International Smart Infrastructure Symposium, Osaka, Organiser
- 2013 ECCOMAS Thematic Conference on “Computational Methods in Tunnelling“ (EURO:TUN 2013), Organiser
- 2012 CSIC-JSPS International Smart Infrastructure Symposium, Cambridge, Organiser
- 2012 CISM (International Centre for Mechanical Sciences) course - Multiscale Mechanics of Granular Materials, Organiser
- 2012 2nd International Conference on Transportation Geotechnics, International Advisory Committee
- 2012 Geotechnique Symposium in print, Organising committee
- 2011 NSF Bio-Soil Interactions and Engineering Workshop, Principal Organiser
- 2011 ASCE Geofrontiers, Session Organiser, Energy Foundations

- 2011 ASCE Geofrontiers, Session Organiser, Bio-soil interaction
- 2010 ICITG - Shanghai 2010: 1st International Conference on Information Technology in Geo-Engineering, International Academic Committee
- 2010 EPSRC WINES Smart Infrastructure Showcase event, Cambridge, Principal Organiser
- 2010 ASCE GeoFlorida 2010: Advances in Analysis, Modeling and Design, International Advisory Committee
- 2010 IS-Shanghai International Symposium on Geomechanics and Geotechnics: From Micro to Macro, International Advisory Committee
- 2010 7th International Conference on Physical Modelling in Geotechnics, International Advisory Committee
- 2009 EURO:TUN, Computational Methods in Tunnelling, International Advisory Committee
- 2008 ESF/NSF workshop on Energy, Principal Organiser
- 2008 ASCE GeoCongress, Session Organiser, Soil-Bio Interaction and Engineering
- 2008 ESF/NSF workshop on Sensor Networks for Civil Infrastructure Systems, Principal Organiser
- 2008 ICE-JSCE workshop on new trends of seismic geotechnical design based on performance and life cycle analysis, Principal Organiser
- 2007 EPSRC/NSF Bio-Soil Interactions and Engineering Workshop, Principal Organiser
- 2007 Geotechnique Symposium in print, Organising committee
- 2006 International Congress on Environmental Geomechanics, Organising committee
- 2006 ASCE GeoCongress2006, Session Moderator
- 2006 Cambridge-MIT Institute Workshop on wireless sensor network, Co-organiser
- 2005 EPSRC/NSF workshop of microgeomechanics, Co-organiser
- 2004 Innovation in Monitoring and Management of Ageing Infrastructure, Principal organiser
- 2002 1st International Workshop on New Frontiers in Computational Geotechnics, Scientific Committee

**Speaker/Seminar (since 2010)**

**2017**

January	Keynote	MPM 2017 -The First International Conference on the Material Point Method for Modelling Large Deformation and Soil-Water-Structure Interaction, Delft
January	Invited speaker	UC Pacific Rim Forum, University of California, Berkeley
February	Seminar	University of California, Davis
March	Lecture	Jennings Memorial Lecture, Pretoria, Durban and Cape Town, South Africa
April	Panelist	Geotechnical Women Faculty - Networked and Thriving Workshop, Washington DC
April	Seminar	Rensselaer Polytechnic Institute
April	Lecture	17th Robert L. Schiffman Geotechnical Engineering Colloquium, Cornell University
April	Keynote	EURO:TUN 2017, Innsbruck, Austria
May	Lecture	Enel Program, UC Berkeley
July	Keynote	The 2 <sup>nd</sup> International conference on Geo-energy and Geo-Environment, Hangzhou
July	Keynote	2nd International Workshop on Resiliency of Urban Tunnels and Pipelines, Shanghai
July	Keynote	The 13th International Workshop on Advanced Smart Materials and Smart Structural Technologies, Tokyo
July	Lecture	Ministry of Land, Infrastructure, Transport and Tourism, Tokyo
July	Lecture	Kajima Corporation, Tokyo
July	Lecture	Yokohama National University, Yokohama
July	Lecture	Kobe University, Kobe
August	Lecture	Los Angeles Department of Water and Power
August	Lecture	ENGEO
August	Seminar	National Taiwan University, Taipei
August	Keynote	Taiwan bi-annual geotechnical engineering conference, Taipei
September	Speaker	10th Annual Material Point Method Workshop
September	Keynote	ASCE Congress on Technical Advancement, Duluth, MN
September	Speaker	19 <sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering, Seoul
October	Keynote	Ground Related Risk to Transportation Infrastructure, The Geological Society, London
November	Panelist	CITRIS Day   People and Technology: Scaling for Impact, Santa Clara
December	Keynote	The Geotechnical Society of Singapore (GeoSS) conference, Singapore
December	Lecture	Nanyang Technological University, Singapore
December	Lecture	KAUST, Saudi Arabia

December	Lecture	Tongji University, China
December	Lecture	Shanghai University, China
December	Lecture	Dalian University of Technology, China
December	Lecture	Tokyo Metropolitan Highway Company, Japan
<b>2016</b>		
February	Seminar	University of California-Berkeley
February	Seminar	Arup, San Francisco Office
March	Keynote	1st IMEKO TC-4 International Workshop on Metrology for Geotechnics, Benevento, Italy
March	Keynote	Mott MacDonald Geotechnical Forum, Cambridge
April	Seminar	University of Sheffield
May	Invited Speaker	34th Annual Geo-Engineering Distinguished Lecture Series, San Francisco
May	Invited Speaker	International Workshop on Modern Trends in Geomechanics, Assisi
May	Seminar	University of L'Aquila
June	Seminar	University of Cambridge
June	Invited Speaker	Kyoto Seminar 2016 : Developments in Earthquake Geotechnics
June	Seminar	University of Padova
June	Lecturer	2016 Asia-Pacific-Euro Summer School on Smart Structures Technology, Cambridge
July	Lecturer	5 <sup>th</sup> International Summer School on Smart Materials and Structures, Trento
July	Invited Speaker	NSF Workshop on Geotechnical Fundamentals in the face of new world challenges
August	Speaker	Army Research Office Workshop on Physical, Mathematical, and Computational Aspects Related to Soil Modeling and Simulation
August	Keynote	The 1st International Conference on Energy Geotechnics ICEGT 2016, Kiel, Germany
August	Seminar	BJAN (Berkeley Japanese Academic Network) Seminar, Berkeley
September	Seminar	Swarm Laboratory, Berkeley
September	Seminar	Geosyntec, Oakland
October	Seminar	CITRIS research exchange seminar series, Berkeley
October	Speaker	CEGA third annual Measurement Conference: Infrastructure Monitoring, Berkeley
November	Lecturer	9 <sup>th</sup> Lumb Lecture, University of Hong Kong
November	Seminar	Shenzhen Geotechnical Investigation & Surveying Institute Co., Ltd., China
December	Seminar	Pacific Consulting, Tokyo, Japan
<b>2015</b>		
February	Lecture	Micromechanics Seminar, University of Cambridge
March	Seminar	Department of Civil and Environmental Engineering, University of California at Berkeley
March	Keynote	Korean Geotechnical Society Annual Convention, Seoul
March	Keynote	The Sixth Instrumentation and Monitoring Conference, London
April	Seminar	Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
April	Lecture	Osterberg Lecture, Northwestern University
May	Invited Speaker	7th International Conference on Porous Media, Padova, Italy
June	Invited Speaker	International Symposium on Energy Geotechnics, Barcelona
June	Keynote	Workshop on Sensing and Information for Civil Infrastructure, Japanese Society of Civil Engineers
June	Lecture	Yokohama National University, Yokohama, Japan
June	Lecture	Hitachi Central Research Laboratory, Kokubunji, Japan
June	Seminar	School of Civil Engineering & Geosciences, Newcastle University
June	Speaker	The Cambridge conference on wireless sensor network for civil infrastructure, Cambridge
July	Keynote	NERC/CSIC Workshop on remote monitoring of geotechnical assets, British Geological Survey, London
July	Keynote	YHU-IAS/JGS Symposium on Risk and Geotechnical Engineering, Yokohama
July	Speaker	CSIC-University of Tokyo Symposium on Sensing and Data-utilisation for Infrastructure

July	Invited Speaker	Seminar on exporting infrastructure systems, the Ministry of Land, Infrastructure, Transport and Tourism, Japan
August	Keynote	6th International Conference on Advances in Experimental Structural Engineering (6AESE) and the 11th International Workshop on Advanced Smart Materials and Smart Structures Technology (11ANCRiSST), University of Illinois- Urbana Champaign
September	Keynote	XVI European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh
September	Invited Speaker	The First Cambridge Workshop on Energy Transport and Urban Infrastructure
September	Invited Speaker	Workshop on Numerical Methods of Water-Soil Boundary Layers under Currents and Waves, Hamburg
October	Speaker	ACTUE Workshop on "Recent Advances in Tunnelling", Salzburg
October	Invited Speaker	Soil-Plant-Atmosphere-Continuum 2015 Conference, Rothamsted Research
October	Invited Speaker	Sensors Day 2015, Cambridge
November	Speaker	FPS-Crossrail Lessons Learnt Conference, London
December	Lecture	Beijing Institute of Aerospace Control Devices (BIACD)
December	Lecture	Nanjing University
December	Lecture	Southeast University
December	Keynote	The 1st International Conference on Geo-Energy and Geo-Environment (GeGe2015), Hong Kong
December	Invited Speaker	UK-Japan Workshop on Ageing Transport Infrastructure Management, British Embassy
December	Lecture	Japan Railway Technical Research Institute

**2014**

January	Lecture	University of Hong Kong, Hong Kong
	Lecture	Hong Kong University of Science and Technology, Hong Kong
	Lecture	Hong Kong Institution of Engineers, Hong Kong
	Lecture	JOGMEC, Chiba
February	Lecture	Thames Tideway Tunnel, London
March	Panelist	GE Instrumentation and Monitoring conference, London
May	Keynote	GeoShanghai 2014, Shanghai
June	Speaker	The Cambridge Conference on Fibre Optic Sensing in Civil Infrastructure, Cambridge
June	Invited speaker	International Conference on Multi-hazard Approaches to Civil Infrastructure Engineering (ICMAE), Chicago
July	Invited speaker	Conference on "Modeling Granular Media Across Scales", Montpellier
July	Invited speaker	Smart Infrastructure conference, Nikkei Shinbun, Tokyo
July	Lecture	Sumitomo Electric, Tokyo
September	Keynote	The 2 <sup>nd</sup> International Smart Infrastructure Symposium, Osaka
October	Keynote	5th International Forum on Opto-electronic Sensor-based Monitoring in Geo-engineering, Nanjing
October	Lecture	Nanjing University, Nanjing
October	Lecture	Southeast University, Nanjing
October	Lecture	Geotechnical Consulting Group, London
October	Invited speaker	Geotechnical Asset Owners Meeting, Cambridge
November	Lecture	Graz University of Technology, Graz,
November	Theme speaker	7th International Congress on Environmental Geotechnics, Melbourne
December	Invited speaker	MPM Dredge workshop, Cambridge

**2013**

January	Keynote	Symposium on Observational Method, Kyoto, Japan
March	Keynote	International Workshop "Thermoactive Geotechnical Systems for Near-Surface Geothermal Energy: from research to practice", Lausanne

June	Keynote	Géotechnique Symposium in Print on “Bio- and Chemo-Mechanical Processes in Geotechnical Engineering”, London
June	Theme lecturer	EAGE Gas Hydrate Workshop, London
July	General Report	TC215 Symposium “Coupled Phenomena in Environmental Geotechnics,” Torino
July	Invited speaker	International workshop “Geoengineering Energy Geo-Storage,” Weimar
July	Lecture	Zhejiang University, China
August	Invited speaker	Yunnan Construction Group seminar, Churchill College, Cambridge
August	Theme lecturer	IEEE R10-HTC2013, Sendai, Japan
September	Speaker	ISSMGE Paris Conference
September	Session leader	ISSMGE Paris Conference
September	Lecture	Mott MacDonald
September	Invited speaker	Tsinghua University, China
October	Lecture	PUC, Rio de Janeiro
October	Lecture	BG-Brazil
October	Lecture	CSIC – FO training event
October	Invited speaker	DNV annual seminar event
October	Keynote	Telford workshop on wireless sensor network
November	Lecture	IHI
November	Keynote	GEOTEC HANOI 2013, Hanoi
December	Invited speaker	GSHPA annual conference
December	Lecture	Croce Lecture, Rome
December	Invited speaker	MPM workshop, Deltares
<b>2012</b>		
January	Invited speaker	RAEng-ICE event for innovation in Construction
February	Seminar	Cambridge Geotechnical Group seminars, Cambridge
February	Invited speaker	Yorkshire Geotechnical Group meeting, Sheffield
March	Invited speaker	Geotechnical Instrumentation and Monitoring 2012 conference, London
March	Keynote	EC MEMSCON Workshop - Towards Intelligent Civil Infrastructure, Athens
April	Theme speaker	NSF international workshop on Smart and Resilient Transportation Infrastructure, Virginia Tech
April	Seminar	Virginia Tech, USA
May	Keynote	International Workshop on ICT in Geo-Engineering, Kyoto
May	Special lecture	Japanese Geotechnical Society “Construction in difficult ground” Committee meeting
June	Seminar	Tongji University, Shanghai
June	Lecture	Laing O’Rourke Construction Technology Masters course
June	Seminar	University Teknologi Malaysia, Malaysia
June	Seminar	Engineering Institution of Malaysia
July	Seminar	Vlaamse Overheid, Belgium
July	Invited speaker	YELGIP workshop on Shallow Geothermal Energy Applications in Civil Engineering
July	Keynote	LimesNet Research Conference 2012
September	Lecture	CISM (International Centre for Mechanical Sciences) course - Multiscale Mechanics Of Granular Materials
September	Lecture	Hong Kong Institution of Engineers
September	Speaker	BP Institute Seminar
September	Speaker	Arup Research Event
September	Speaker	Ground Source Heat Pump Association meeting
October	Theme speaker	New measurement methods in soil physics: future frontiers, Rothamsted
November	Speaker	TSB Sensing and Measurement for Infrastructure, London
December	Lecture	Kunming University of Science and Technology, China
December	Lecture	Yunnan Provincial Science & Technology Department and Yunnan Academy of Applied Technology, China

**2011**

January	Invited speaker	Symposium on Graduate Education, Tokyo Institute of Technology
January	Invited lecturer	JSPS/JETRO, London
January	Invited lecturer	University of Montpellier, France
February	Invited lecturer	East Midlands Geotechnical Group Seminar, Nottingham
March	Invited lecturer	Telford Medal Lecture, ICE, London
March	Speaker	ASCE GeoFrontiers Conference, Dallas, USA
March	Invited Speaker	2011 International Conference on Low Carbon Energy and Climate Change, Tsinghua University, China
April	Lecturer	Arup
May	Keynote	EPSRC Energy Harvesting Network Workshop (Structural Monitoring)
May	Invited speaker	BGA Recent Advances in Monitoring & Instrumentation with Emphasis on Applications to Practical Engineering
May	Invited speaker	Geotechnical Asset Owners Meeting
May	Invited speaker	Piling and Foundations UK conference
May	Invited speaker	IS-Roma 7th International Symposium Geotechnical Aspects of Underground Construction, Rome
May	Invited speaker	Modern Built Environment Network meeting, London
July	Invited speaker	International Workshop on Computational Models in Geomechanics and Tunneling, Bochum
August	Lecturer	Tianjin University, China
September	Discuss. Leader	European Conference on Soil Mechanics and Geotechnical Engineering, Athens.
October	Invited speaker	ALERT workshop, Aussios
October	Lecturer	University of Rome, Italy
October	Panelist	5th International Symposium on Submarine Mass Movements and Their Consequences, Kyoto
November	Invited lecturer	Deltares, Delft
November	Invited speaker	Ground Source Heat Pump Association Seminar, Cambridge
November	Invited lecturer	Buro Happold
November	Lecturer	University of Rome, Italy
December	Invited lecturer	Zhejiang University, China
December	Invited lecturer	Tongji University, China

**2010**

January	Invited speaker	Kyoto Seminar 2010: Geotechnics/Earthquake Geotechnics towards Global Sustainability, Kyoto, Japan
January	Invited speaker	Ground Source Heat Pump Association meeting
March	Invited speaker	Cambridge-Kyoto Seminar, Cambridge
March	Invited lecturer	Columbia University, USA
April	Invited speaker	ESF S(3)T2010 Smart Structural System Technologies Workshop, Porto
April	Invited speaker	Wireless Sensors for Volcano Surveillance, Cambridge
April	Invited speaker	TNO workshop Geotechnical Advances in Urban Renewal: Analysis & Design, London
May	Organiser	Smart Infrastructure showcase
May	Invited lecturer	Public Works Research Institute, Japan
May	Invited speaker	Workshop on bio-soil interaction and engineering, Japan
June	Invited speaker	Gordon Conference - Natural Gas Hydrate Systems, Hydrate- Sediment- Fluid Interactions at Pore To Regional Scale, Maine, USA
July	Invited lecturer	ALERT Olek Zienkiewicz Course 2010, EPFL, Switzerland
July	Invited lecturer	Masonry Arch Bridges Masterclass - Recent Developments, Bristol
September	Invited lecturer	Tongji University, China
September	Keynote	1st International Conference on Information Technology in Geo-Engineering (ICITG-Shanghai 2010), Shanghai
October	Invited lecturer	GE / NCE Basements and Underground Structures conference, London
October	Keynote	International Symposium on Geomechanics and Geotechnics: From Micro to Macro

		(IS-Shanghai 2010), Shanghai
October	Invited lecturer	Southeast University, Nanjing, China
October	Keynote	Paymacotas Workshop on Tunnel Engineering-Instrumentation in Tunnels and Excavations, Barcelona
November	Plenary	6ICEG 2010 6th International Congress on Environmental Geotechnics, India
November	Invited speaker	International Symposium on Methane Hydrate Resources – from Mallik to the Nankai Trough, Tokyo
December	Invited speaker	Geotropika 2010: an international conference on geotechnical and transportation engineering, Malaysia
December	Invited lecturer	Universiti Teknologi Malaysia, Malaysia
December	Invited speaker	GAOF and MBE KTN workshop on remote sensing for transport infrastructure assets, London
December	Speaker	GM3 Traveling workshop

### **Grants and Contracts**

#### ***Funding Agencies***

- [1] **Engineering and Physical Sciences Research Council** : PI “Funds to join EEFIT mission to South Hyogo (Kobe) earthquake of 1995,” 1 March, 1995 - 30 June, 1995 (3 months), £1,000 (+£1,500 contribution from Industry)
- [2] **European Commission** : PI “Real-time modelling and compensation of soil movements on underground sites (COSMUS),” 1 December, 1996 - 31 May, 2000 (42 months), €332,000 (Co-I. Dr. M.D. Bolton)
- [3] **Engineering and Physical Sciences Research Council** : Co-I. “Investigation of ground loading applied to an old London Underground tunnel,” 1 September, 1997 - 31 August, 1999 (24 months), £117,101 (+£65,000 contribution from Industry), (PI. Dr. M.D. Bolton, Co-I. Prof. R.J. Mair)
- [4] **European Commission** : PI. “Investigation of NAPL migration processes in the unsaturated zone (vadose zone),” Training and Mobility of Reseachers (TMR) Programme, Marie Curie Research Training Grant for Mr. C. Kechavarzi, 1 January, 1998 - 31 December, 2000 (36 months), €80,000
- [5] **ESSO Teaching Grant** : PI. “Image analysis of contaminants migration in soils,” September, 1998, £7,343
- [6] **Engineering and Physical Sciences Research Council** : PI. “Investigation of time effects on soil behaviour and their influence on construction activities” 1 October, 1998 - 30 September, 2001 (36 months), £155,933 (+£70,000 contribution from Industry), (Co-I. Dr. M.D. Bolton)
- [7] **Engineering and Physical Sciences Research Council** : Co-I. “The mechanisms of tunnelling-induced ground movements and their progressive effects on buildings,” 30 March, 2000 – 29 March 2002 (36 months), £133,446 (+£225,000 contribution from Industry), (PI. Prof. R.J. Mair, Co-I. Dr. J. Standing)
- [8] **Joint Infrastructure Fund and Engineering and Physical Sciences Research Council** : Co-I. “Centre for geotechnical processes and construction modelling,” 1 August 2000 – 31 July 2004 (48 months), £1,861,156, (PI. Prof. R.J. Mair, Co-I. Prof. A.C. Palmer, Dr. M.D. Bolton, Dr. S.P.G. Madabhushi, Dr. A. Al-Tabbaa and Dr. R.J. Lynch)
- [9] **Engineering and Physical Sciences Research Council** : PI “Travel grant to develop US collaboration on contaminant source remediation testing facility,” 15 December 2000 to 14 October 2000 (10 months), £9,273
- [10] **European Commission** : PI “GEOTECHNET”, 1 December 2001- 30 November, 2005 (48 months), €25,200
- [11] **European Commission** : Co-I “New methods of mitigation of seismic risk on existing foundations,” 1 May 2002 – 31 April 2005 (36 months), €572,900 (PI. S.P.G. Madabhushi, Co-I. Prof. M.D. Bolton)
- [12] **Engineering and Physical Sciences Research Council** : PI. “Insitu assessment of contaminant containment system” 1 October, 2002 - 30 September, 2005 (36 months), £203,765 (+£63,000 contribution from Industry), (Co-I. Prof. R.J. Mair)
- [13] **Engineering and Physical Sciences Research Council** : Co-I. “The effects of tunneling on piled foundations” 1 June, 2002 - 30 May, 2004 (24 months), £186,968 (+£543,000 contribution from Industry), (PI. Dr. J.S. Standing and Co-I. Prof. R.J. Mair)
- [14] **Cambridge-MIT Institute** : Co.-I “New technologies for condition assessment and monitoring of ageing infrastructure,” 1 August, 2002 - 31 July, 2005 (36 months), £610,639 (PI. Prof. R.J. Mair)
- [15] **British Council-CRUI** : PI “Travel Grant: Trenchless technology for sustainable cities: reduction of jacking forces in clays,” 1 January 2004 – 31 December 2004, £4,000, (PI- Dr M. Barla, Politecnico di Torino)
- [16] **Engineering and Physical Sciences Research Council** : PI. “RAIS; Insitu assessment of contaminant containment system” 1 April, 2004 - 31 March, 2005 (12 months), £32,739.00
- [17] **Engineering and Physical Sciences Research Council** : Co-PI “PLATFORM: New technology & new horizons in geotechnical research & development,” 1 October, 2004 – 31 September, 2008 (48 months), £435,277 (PI Prof. M.D. Bolton, Co-PI. Dr S.P.G. Madabhushi, Prof. R.J. Mair, Dr. A. Al-Tabbaa, Dr. R.J. Lynch, Dr. D.J. White and Dr. E.T. Bowman).



- [18] **Biotechnology and Biological Sciences Research Council** : PI “Case Studentship”, January 2005 to December 2008, £15,000,
- [19] **Isaac Newton Trust** : PI “Methane hydrates, matching fund” £19,500
- [20] **Engineering and Physical Sciences Research Council** : PI “Industrial CASE studentship”, October 2005 – September 2008, £59,464
- [21] **New Energy and Industry Technology Development Organisation (NEDO)**, PI “International Familiarization of ISO Code for Geotechnical Earthquake Resistant Design”, October 2005-September 2008, ¥3,500,000 (appx. £17,500)
- [22] **Highways Agency**, PI “Slope monitoring using fibre optic technology”, October 2005 – March 2007, £85,000 (Co-I : Prof. Mair)
- [23] **Cambridge-MIT Institute** : Co-I “New technologies for condition assessment and monitoring of ageing infrastructure- Extension,” 1 August, 2002 – 31 August 2006, £15,000 (PI. Prof. R.J. Mair)
- [24] **Engineering and Physical Sciences Research Council** : PI “Smart Foundations with Distributed Fibre Optics Technology,” 1<sup>st</sup> April 2006 – 31<sup>st</sup> March 2009, £281,307 (+£59,000 contribution from Industry) (Co-I : Prof. Mair)
- [25] **Engineering and Physical Sciences Research Council** : PI “Smart Infrastructure: Wireless sensor network system for condition assessment and monitoring of infrastructure,” 1<sup>st</sup> October 2006 – 30<sup>th</sup> September 2009, £777,034 (Co-I : Prof. Mair, Dr. Middleton, Dr Wassell, Dr Stajano)
- [26] **European Science Foundation** : PI “Micro-Measurement and Monitoring System for Ageing Underground Infrastructures (Underground M3),” 1<sup>st</sup> October 2006 – 30<sup>th</sup> September 2009, £441,832 (Co-I : Prof. Mair, Prof. Cipolla, Dr Seshia)
- [27] **Engineering and Physical Sciences Research Council**: Co-PI “Delivering sustainable water systems by optimising existing infrastructure via improved knowledge, understanding and technology – project NEPTUNE”, (Co-PI. Dr R. Fenner), £247,016
- [28] **European Science Foundation** : PI “Workshop on Sensor Networks for Civil Infrastructure Systems,” April 2008, €26,800
- [29] **Engineering and Physical Sciences Research Council**: Co-PI “Bridging The Gaps: Cam-Bridge-Sens,” 31 March 2008 – 30 March 2010, £250,000
- [30] **Engineering and Physical Sciences Research Council**: Co-I “UCL – Cambridge Doctoral Training Centre in Photonic Systems Development”
- [31] **Engineering and Physical Sciences Research Council** : PI “Industrial CASE studentship with Arup”, October 2008 – September 2011, £60,000
- [32] **Engineering and Physical Sciences Research Council** : PI “Commercialisation of Smart Foundation System” March 2010 – February 2011, £88,498
- [33] **Knowledge Transfer Partnership** : Co-PI, Crossrail Ltd., April 2010 – March 2013, £387,055 (PI. Mair)
- [34] **Cambridgesens** : Co-PI “Wireless sensor networks for volcano surveillance,” May 2010-September 2010, £15,000
- [35] **Engineering and Physical Sciences Research Council**: PI “Knowledge transfer secondment; Intelligent Fibre Optics Monitoring of Infrastructure-Trend, Change and Abnormal Signal,” 1<sup>st</sup> April 2010 to 31<sup>st</sup> March 2011, £94,329
- [36] **Low Carbon Energy University Alliance** : PI “Geo-Energy Systems Simulator: From Building scale to City scale,” October 2010 – September 2013, \$200,000
- [37] **Engineering and Physical Sciences Research Council**: Co-I “Innovation and Knowledge Centre for Smart Infrastructure and Construction”, April 2011-March 2016, £9,956,319
- [38] **Engineering and Physical Sciences Research Council**: PI “ICASE-Arup, Deep Geomechanics”, October 2012-March 2016, £60,000
- [39] **Engineering and Physical Sciences Research Council**: PI “ICASE-Halcrow, Assessment and retrofit of non-compliant sections of London Underground Tunnels”, October 2012-March 2016, £60,000
- [40] **Engineering and Physical Sciences Research Council**: PI “ICASE-Arup, Improving the efficiency of interpreting monitoring data”, October 2012-March 2016, £60,000
- [41] **European Commission**: PI “MPM-DREDGE— MPM modelling and simulation of soil-fluid interaction for dredging applications,” March 2013-February 2016, €557,440.
- [42] **Engineering and Physical Sciences Research Council**: PI “ICASE-Arup, Life Cycle Analysis of Civil Infrastructure”, October 2012-March 2016, £ 68,648
- [43] **Engineering and Physical Sciences Research Council**: Co-I, “CDT Cambridgesens”, October 2014-September 2019, £4,068,526
- [44] **CERN** “PhD studentship”, PI October 2014-September 2017, £150,000 (appx.)
- [45] **Engineering and Physical Sciences Research Council**: PI “Impact Acceleration Account Follow-On Fund, Developing the Second CSIC FOSA Prototype System (FOSA-PS2): to accelerate affordability and scale-up manufacturing capability for civil engineering industry,” January 2015 – September 2015, £59,916

- [46] **CNPq Science without Borders (SwB)/BG Brazil fellowship programme:** PI “International Human Resources Training in Petroleum Geomechanics,” £1,876,312, October 2015 – September 2021
- [47] **Engineering and Physical Sciences Research Council:** Co-I “ICASE-Arup, Modelling concreting of piling and diaphragm walls”, October 2016-March 2020, £68,648
- [48] **Engineering and Physical Sciences Research Council:** Co-I “Innovation and Knowledge Centre for Smart Infrastructure and Construction – Phase 2,” April 2016-March 2021, £5,000,000
- [49] **Caltrans:** PI “Deployment of Post Grouting Technique to improve Drilled Shaft End-Bearing Resistance”, May 2017-April 2019, \$250,000
- [50] **National Science Foundation:** PI “Deformation induced soil fracturing - multi-scale multi-physics mechanism and early detection,” September 2017-August 2019, \$299,975
- [51] **Pacific Earthquake Engineering Research Center:** PI “High performance computing based distributed multi-layered city scale transportation network tool, December 2017-December 2018, \$49,984

***Industry (inc. research-based consultancy through Cambridge University Consultancy Services CUTS)***

- [1] **Geo-Research Institute, Japan :** PI “The properties of London clay and the Woolwich & Reading Bed in London,” 1 October, 1995 - 31 March, 1996 (6 months)
- [2] **Shimizu Corporation, Japan :** PI “Seismic performance of rockfill dams,” 1 November, 1995 - 31 March, 1996 (5 months)
- [3] **Nishimatsu Construction, Japan :** PI “Evaluation of contaminated soils using electrical properties measurement,” 1 April, 1996 - 31 March, 1998 (24 months)
- [4] **Tokyo Gas, Japan :** PI “Incorporation of soil models into ABAQUS,” 1 October, 1996 - 31 September, 1998 (24 months)
- [5] **Sunkyoung Engineering & Construction Ltd., Korea :** PI “Finite element modelling of electro-osmosis consolidation,” 1 December, 1996 - 31 May 1997 (6 months)
- [6] **Kajima Construction, Japan :** PI “Monitoring of contaminant migration in soils” 1 February, 1997- 31 January 1999 (24 months)
- [7] **Shimizu Corporation, Japan :** PI “The study of seismic liquefaction damages to pile foundation and neighboring quay-walls”, 20 January 1997 to 31 March 1997 (1.5 months)
- [8] **Nishimatsu Construction, Japan :** Co-I. “Investigation of grouting on tunnel lining,” 1 May 1997- 31 April 1999 (24 months)
- [9] **Nishimatsu Construction, Japan :** PI “Extension : Evaluation of contaminated soils using electrical properties measurement,” 1 June, 1998 - 31 May, 2000 (24 months)
- [10] **Shimizu Corporation, Japan :** PI “The Stability of Sands Slopes during Earthquake”, 1 November 1998 to 31 March 1999 (5 months)
- [11] **Schlumberger Cambridge Research Limited,** December, 1998
- [12] **Tokyo Gas, Japan :** PI “Extension : Incorporation of soil models into ABAQUS,” 1 October, 1998 - 31 September, 1999 (12 months)
- [13] **Kajima Construction, Japan :** PI “Extension : Monitoring of contaminant migration in soils” 1 February, 1999- 31 January 2001 (24 months)
- [14] **Nishimatsu Construction, Japan :** Co-I. “Effects of tunnelling and deep excavations on piled foundation,” 1 October 1999- 30 September 2001 (24 months)
- [15] **Schlumberger Cambridge Research Limited,** December, 1999
- [16] **Shimizu Corporation, Japan :** PI “The Stability of Sands Slopes during Earthquake”, 1 October 1999 to 31 March 2000 (6 months)
- [17] **Tokyo Gas, Japan :** PI “Soil-pipeline analysis,” 1 April, 2000 - 31 March, 2001 (12 months)
- [18] **Tokyo Gas, Japan :** PI “Soil-pipeline analysis,” 1 April, 2001 - 31 March, 2002 (12 months)
- [19] **Teikoku, Japan :** PI “Design of pipeline for agricultural use,” 1 July, 2001 – 30 June, 2002 (12 months)
- [20] **Nishimatsu Construction, Japan :** Co-I. “Extension : Effects of tunnelling and deep excavations on piled foundation,” 1 October 2001- 30 September 2003 (24 months)
- [21] **Teikoku, Japan :** PI “Investigation of rainfall induced embankment failure,” 1 March, 2002 - 30 September, 2002 (6 months)
- [22] **Nishimatsu Construction:** Co-I. “Soil conditioning, field monitoring and data interpretation of CTRL 220,” 1 April 2001- 30 September 2003 (24 months)
- [23] **Kajima Construction, Japan :** PI “Numerical simulation of airsparging field study” 1 October, 2002- 31 March 2003 (6 months)
- [24] **Kajima Construction, Japan :** PI “Insitu assessment of contaminated land” 1 November, 2002- 31 October 2004 (23 months)

- [25] **Tokyo Gas, Japan** : PI “Soil-pipeline analysis,” 1 October, 2002 - 31 March, 2003 (6 months)
- [26] **Tokyo Gas, Japan** : PI “Soil-pipeline analysis,” 1 April, 2004 - 31 December, 2004 (12 months)
- [27] **KFC, Japan** : PI “Research donation”, 1 April 2004
- [28] **National Institute of Advanced Industrial Science and Technology, Japan** : PI “Gashydrate production,” 1 April 2004 – 31 March 2005 (12 months)
- [29] **Skanska Cementation** : PI “Fibre optic strain measurements”, 1 April 2004
- [30] **Skanska Cementation** : PI “Paddington monitoring”, 1 April 2004
- [31] **Japan Anchor Society** : PI “Soil-grout-anchor interaction”, September 2004 – August 2005
- [32] **Thames Water** : PI “Chingford monitoring and assessment,” November 2004
- [33] **Cross London Rail Links** : PI “Farringdon monitoring” March 2005
- [34] **KFC, Japan** : PI “Research donation”, August 2005
- [35] **Tokyo Gas, Japan** : PI “Soil-pipeline analysis,” 1 October 2005 - 15 February, 2006 (12 months)
- [36] **Arup Geotechnics**, PI “Embodied energy and whole life cycle analysis of civil engineering infrastructures – matching fund with EPSRC Case studentship,” October 2005 – August 2008
- [37] **Cambridge Insitu**, PI “PhD studentship”, October 2005 – August 2008
- [38] **Japan Anchor Society** : PI “Soil-grout-anchor interaction - Extension”, September 2005 – August 2006
- [39] **Japan Oil, Gas And Metals National Corporation** : PI “Methane hydrate extraction modelling,” February 2006 – March 2007
- [40] **National Institute of Advanced Industrial Science and Technology, Japan** : PI “Gashydrate production,” 1 September 2005 – 31 August 2006 (12 months)
- [41] **National Institute of Advanced Industrial Science and Technology, Japan** : PI “Gashydrate production,” 1 September 2006 – 31 August 2007 (12 months)
- [42] **Schlumberger**: PI “Soil fractures in wellbores”, 1<sup>st</sup> October 2006 – 31<sup>st</sup> September 2007
- [43] **Tokyo Gas**: PI “Soil-pipeline interaction”, 1<sup>st</sup> October 2006 – March 2007
- [44] **Japan Anchor Society** : PI “Soil-grout-anchor interaction - Extension”, September 2006 – August 2007
- [45] **Singapore Land Transport Authority** : PI “Fibre optics monitoring for Singapore Metro construction,” 1 December 2006
- [46] **Skanska Cementation** : PI “Beckton Fibre optics monitoring”, 1 April 2007
- [47] **Skanska Cementation** : PI “Lambeth college thermal pile tests,” 1 October 2007
- [48] **Japan Oil, Gas And Metals National Corporation** : PI “Methane hydrate extraction modelling,” December 2007 – March 2008
- [49] **Tokyo Gas**: PI “Soil-pipeline interaction”, 1<sup>st</sup> October 2007 – March 2008
- [50] **Arup**, PI “NHBC Foundation Project” 1<sup>st</sup> December 2007
- [51] **Arup**, PI “Development of a tool for assessing Embodied Energy and Carbon Emissions for HA construction projects” 1<sup>st</sup> December 2007
- [52] **National Institute of Advanced Industrial Science and Technology, Japan** : PI “Gashydrate production,” 1 September 2007 – 31 August 2008 (12 months)
- [53] **Soldata** : PI “Fibre optics monitoring on London Underground Tunnel” May 2008
- [54] **Tokyo Gas**: PI “Soil-pipeline interaction”, 1<sup>st</sup> October 2008 – March 2009
- [55] **Tokyo Gas**: PI “Gas migration modeling in soils”, 1<sup>st</sup> October 2008 – March 2009
- [56] **National Institute of Advanced Industrial Science and Technology, Japan** : PI “Gashydrate production,” 1 September 2008 – 28 February 2009 (5 months)
- [57] **Japan Oil, Gas And Metals National Corporation** : PI “Methane hydrate extraction modelling,” October 2008 – March 2009
- [58] **Arup**, PI “PhD studentship for Kirk Ellison” 1 October 2008 – 31 September 2011
- [59] **Arup**, PI “Life Cycle Analysis of Civil Infrastructure - ICASE studentship supplement” 1 October 2008 – 31 September 2011
- [60] **Japan Oil, Gas And Metals National Corporation** : PI “Methane hydrate extraction modelling,” October 2009 – September 2010
- [61] **Southend on Sea Borough Council**: “Slope monitoring using Fibre optics”, 1 September 2009 – September 2010
- [62] **Tokyo Gas**: PI “Soil pipeline interaction in unsaturated soils”, 1<sup>st</sup> October 2009 – February 2010 (through CUTS)
- [63] **BP**: PI “Run-off modeling” 1<sup>st</sup> October 2009 – September 2012
- [64] **Southend on Sea Borough Council**: “Slope monitoring using Fibre optics-Phase 2”
- [65] **Tokyo Gas**: PI “Soil pipeline interaction in unsaturated soils”, 1<sup>st</sup> October 2010 – February 2011
- [66] **Japan Oil, Gas And Metals National Corporation**: “Geomechanical Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial,” 1<sup>st</sup> November 2010 – 31<sup>st</sup> March 2011

- [67] **Tokyo Gas**: PI “Soil pipeline interaction in paved ground”, 1<sup>st</sup> October 2011 – February 2012
- [68] **Japan Oil, Gas And Metals National Corporation**: “Geomechanical Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial,” 1<sup>st</sup> July 2011 – 31<sup>st</sup> March 2012
- [69] **BP**: PI “City scale modelling of geothermal energy,” 1<sup>st</sup> October 2012-31<sup>st</sup> September 2015
- [70] **Thames Water**: Co-I “Thames Water Lee Tunnel Project- Abbey Mills shaft,” October 2011
- [71] **Crossrail**: Co-I “Stepney Green shaft monitoring”, 2011
- [72] **Crossrail**: Co-I “Liverpool street sprayed concrete junction”, 2011
- [73] **Cementation Skanska**: PI “Bevis Marks pile reuse monitoring,” 2012
- [74] **Southend on Sea Borough Council**: “Slope monitoring using Fibre optics-Phase 2”, 2012
- [75] **Magpie Environmental Drilling Services-Arup** “Shell Centre Thermal pile response test,” 2012
- [76] **Cementation Skanska**: PI “Broadgate Minipile monitoring project,” 2012
- [77] **Vlaamse overhead**: PI “Fibre optics monitoring of railway retaining wall,” 2012
- [78] **Arup**, PI “Deep Geomechanics – matching fund with EPSRC Case studentship,” October 2012 – August 2015
- [79] **Halcrow**, PI “Assessment and retrofit of non-compliant sections of London Underground Tunnels – matching fund with EPSRC Case studentship,” October 2012 – August 2015
- [80] **Arup**, PI “Improving the efficiency of interpreting monitoring data – matching fund with EPSRC Case studentship,” October 2012 – August 2015
- [81] **ITM-Soil** “PIV software development,” 2012
- [82] **Crossrail** “Liverpool street station monitoring”, 2013
- [83] **Crossrail** “Paddington Station monitoring”, 2012
- [84] **Wentworth House Partnership** “City Road Pile testing monitoring,” 2012
- [85] **Crossrail** “Postoffice tunnel monitoring,” 2012
- [86] **National Grid** “Tunnel lining monitoring,” 2013
- [87] **National Grid** “Computer vision tunnel inspection system development,” 2013
- [88] **London Underground** “Smart Plank WSN project,” 2013
- [89] **Virginia Tech** “Thermal pile testing,” 2013
- [90] **Japan Oil, Gas And Metals National Corporation**: “Geomechanical Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial,” December 2012 – June 2013
- [91] **Tokyo Gas**: PI “Soil pipeline interaction – constitutive modelling”, 1<sup>st</sup> October 2012 – February 2013
- [92] **Japan Oil, Gas And Metals National Corporation**: “Geomechanical Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial,” March 2014 – June 2014
- [93] **Tokyo Gas**: PI “Soil pipeline”, 1<sup>st</sup> October 2013 – February 2014
- [94] **Canary Wharf Ltd.** “Newfoundland FO monitoring project
- [95] **Arup** “Shell Centre FO monitoring project”
- [96] **Cementation Skanska** “Farringdon FO monitoring project
- [97] **Arup** “London Embassy FO monitoring project”
- [98] **Arup**, PI “Life Cycle Analysis of Civil Infrastructure,” October 2013 – September 2016
- [99] **Samsung**, “Intelligent monitoring and safety management system for Li-ion Batteries,
- [100] **Tokyo Gas**: PI “Soil pipeline”, 1<sup>st</sup> October 2014 – February 2015
- [101] **Arup** “Newfoundland FO monitoring project”, February 2014 - May 2014
- [102] **Yunnan Fusheng Zn & Au Co Ltd** “WSN for gas sensing” March 2014-February 2015
- [103] **CERN** “Fibre optics monitoring of CERN tunnels,” March 2014-December 2014
- [104] **Integrity Insitu** “Pressuremeter test code development” November 2014-March 2015
- [105] **Integrity Insitu** “PhD studentship” January 2015-December 2017
- [106] **Japan Oil, Gas And Metals National Corporation**: “Study on wellbore stability and reinforcement of unconsolidated formation,” January 2015 – September 2015
- [107] **BG Group** “Petroleum Geomechanics”, October 2015 – September 2021
- [108] **BP** “Water injection in soft sands,” January 2016-December 2021
- [109] **BP** “Filter cake,” Co-I, January 2016-December 2021
- [110] **Japan Oil, Gas And Metals National Corporation**: “Study on wellbore stability and reinforcement of unconsolidated formation,” January 2016 – September 2016
- [111] **Tokyo Gas**: PI “Soil pipeline”, 1<sup>st</sup> October 2015 – February 2016
- [112] **Arup**, Co-I “Modelling concreting of piling and diaphragm walls” October 2016 – March 2020
- [113] **Aecom**, PI “Singapore DTSS Phase 2”, June 2015
- [114] **Attorney General of Washington** “Runout simulations of the SR-530 landslide case,” April-September 2016
- [115] **Kleinfelder** “USACE W91238-16-D-0019 - Dam & Levee Safety Programs” November 2016 – present

- [116] **Japan Oil, Gas And Metals National Corporation:** “Study on wellbore stability and reinforcement of unconsolidated formation,” January 2017 – September 2017
- [117] **Toyo Engineering Corporation** “Wellbore monitoring using distributed fiber optic sensors,” November 2017-March 2018

## **Publications**

### **Books**

- [B1] Mitchell, J.K. and Soga, K. (2005) *Fundamentals of Soil Behavior*, 3<sup>rd</sup> Edition, John Wiley and Sons, May 2005, 592pp.
- [B2] Soga, K., Kumar, K., Biscontin, G. and Kuo, M. (editors) (2014) *Geomechanics from Micro to Macro* - Proceedings of the TC105 ISSMGE International Symposium on Geomechanics from Micro to Macro, IS-Cambridge 2014, CRC Press, 1700pp.
- [B3] Mair, R.J., Soga, K., Jin, Y., Parlikad A.K. and Schooling, J.M. (editors) (2016) *Transforming the Future of Infrastructure through Smarter Information: Proceedings of the International Conference on Smart Infrastructure and Construction*, ICE Publishing, 800pp.
- [B4] Rodenas-Herráiz, D., Soga, K., Fidler, P. and de Battista, N. (2016) *Wireless Sensor Networks for Civil Infrastructure Monitoring - A Best Practice Guide*, ICE Publishing, 208pp.
- [B5] Kechavarzi, C., Soga, K., de Battista, N., Pelecanos, L., Elshafie, M. and Mair, R.J. (2016) *Distributed Optical Fibre Sensing for Monitoring Geotechnical Infrastructure - A Practical Guide*, ICE Publishing, 192pp.

### **Journal Papers, Technical Notes and Special Publication Papers**

- [J1] Kamon, M., Soga, K., Kiyama, M. and Inoue, K. (1989) : “The Appearance characteristics of fecal pellets in marine clay layers in Osaka Bay and the relationship to geotechnical properties,” *Soils and Foundations (Japanese version)*, Vol. 29, No. 2, pp. 181-189
- [J2] Akai, K., Kamon, M., Sano, I. and Soga, K. (1991) : “Long-term consolidation characteristic of diluvial clay in Osaka Bay,” *Soils and Foundations*, Vol. 31, No.4, pp. 61-74
- [J3] Nakagawa, K., Soga, K. and Mitchell, J.K. (1996) : “Pulse transmission system for measuring wave propagation in soils,” *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, Vol. 122, No. 4, pp. 302-308
- [J4] Soga, K. and Mitchell, J.K. (1996) : “Rate-dependent deformation of structured natural clays,” *Geotechnical Special Publication No. 61*, American Society of Civil Engineers, pp. 243-257
- [J5] Nakagawa, K., Soga, K. and Mitchell, J.K. (1997) : “ Observation of the Biot compression wave of the second kind in granular soils,” *Géotechnique*, Vol. 47, No. 1, pp. 133-147.
- [J6] Nakagawa, K., Soga, K. and Mitchell, J.K. (1997) : “Closure : Pulse transmission system for measuring wave propagation in soils,” *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, Vol. 123, No. 9, pp.884
- [J7] Soga, K. (1998) : “Soil Liquefaction effects observed in the Kobe Earthquake of 1995,” *Proceedings of ICE- Geotechnical Engineering*, January, pp. 34 – 51
- [J8] Komiya, K., Soga, K., Akagi, H. Hagiwara, T. and Bolton, M.D. (1999) : “Finite element modelling of excavation and advancement processes of a shield tunnelling machine”, *Soils and Foundations*, Vol. 39, No.3, pp. 37-52.
- [J9] Sugiyama, T., Hagiwara, T., Nomoto, T., Nomoto, M., Ano, Y., Mair, R.J., Bolton, M.D. and Soga, K. (1999) : “Observations of ground movements during tunnel construction by slurry shield method at the Docklands light railway Lewisham extension – East London,” *Soils and Foundations*, Vol. 39, No.3, pp. 99-112.
- [J10] Carrier, M.B. and Soga, K. (1999) : “A four terminal measurement system for measuring the dielectric properties of clay at low frequencies”, *Engineering Geology*, Vol.53, No.2, pp.115-123
- [J11] Ellis, E.A., Soga, K., Bransby, M.F. and Sato, M. (2000) : “Resonant column testing of sands with different viscosity pore fluids”, *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, Vol. 126, No. 1, pp. 10-17
- [J12] Yimsiri, S. and Soga, K. (2000) “Micromechanics-based stress-strain behaviour of soils at small strains”, *Géotechnique*, Vol. 50, No.5, pp. 559-571
- [J13] Kechavarzi, C., Soga, K. and Wiert, P. (2000) : “Multispectral image analysis method to determine dynamic fluid saturation distribution in two-dimensional three-phase flow laboratory experiments,” *Journal of Contaminant Hydrology*, Vol. 46, No.3-4, pp. 265-293
- [J14] Nakagawa, K., Soga, K. and Mitchell, J.K. (2001) : “Authors’ reply; Observation of Biot compressional wave of the second kind in granular soils,” *Géotechnique*, Vol. 51, No. 1
- [J15] Jafari, M.R., Au, S.K.A., Soga, K., Bolton, M.D. and Komiya, K. (2001) : “Fundamental laboratory investigation of compensation grouting in clays,” *Geotechnical Special Publications No. 113*, American Society of Civil Engineers, pp. 445-459
- [J16] Kobayashi, I., Soga, K., Iizuka, A., Ohta, H. and Dalton, C. (2001) : “Effect of pore water migration on self-boring pressuremeter strength,” *Journal of Applied Mechanics*, Japan Society of Civil Engineers, Vol. 4, pp. 285-294
- [J17] Ratnam, S., Soga, K. and Whittle, R. (2001) : “Revisiting Hvorslev’s intake factors using the finite element method,” *Géotechnique*, Vol. 51, No. 7, pp.641-645

- [J18] Bowman, E.T., Soga, K. and Drummond, T. (2001) : "Particle shape characterization using fourier analysis," *Géotechnique*, Vol. 51, No. 6, pp. 545-554
- [J19] Lee, S.W., Bolton, M.D., Mair, R.J., Hagiwara, T., Soga, K. and Dasari, G. (2001) : "Centrifuge modelling of injection near tunnel lining," *The International Journal of Physical Modelling in Geotechnics*, Vol. 1, No. 1, pp. 9-24
- [J20] Cerasi, P. and Soga, K. (2001) : "Failure modes of drilling fluid filter cake," *Géotechnique*, Vol. 51, No. 9, pp. 777-786
- [J21] Komiya, K., Soga, K., Akagi, H., Jafari, M.R. and Bolton, M.D. (2001) : "Soil consolidation associated with grouting during shield tunnelling in soft clayey ground," *Géotechnique*, Vol. 51, No. 10, pp. 835-847
- [J22] Lynch, R.J., Allersma, H., Bezuijen, A., Bolton, M.D., Cartwright, M., Davies, M.C.R., Depountis, N., Garnier, J., de Almeida Garrett, J.L.L., Kechavarzi, C., Oung, O., da Silva, M.G., Santos, C., Sentenac, P., Soga, K., Spiessl, S., Taylor, R.N., Treadaway A.C.J., and Weststrate F. (2001) : "Development of sensors, probes and imaging techniques for pollutant monitoring in geo-environmental model tests," *The International Journal of Physical Modelling in Geotechnics*, Vol. 1, No. 4, pp. 17-28
- [J23] Ratnam, S., Soga, K., Mair, R.J. and Whittle, R.W. (2002) : "Self-boring pressuremeter permeameter measurements in Bothkennar clay," *Géotechnique*, Vol. 52, No. 1, pp. 55-60
- [J24] Kechavarzi, C. and Soga, K. (2002) : "Determination of water saturation using miniature resistivity probes during intermediate scale and centrifuge multiphase flow laboratory experiments," *ASTM Geotechnical Testing Journal*, Vol. 25, No. 1, pp. 95-103
- [J25] Gui, M.W., Soga, K., Bolton, M.D. and Hamelin, J.P. (2002) : "Instrumented borehole drilling for subsurface investigation," *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers, Vol. 128, No. 4, pp. 283-291
- [J26] Yimsiri, S. and Soga, K. (2002) : "A review of local strain measurement systems for triaxial apparatus," *Geotechnical Engineering*, April, pp.41-52
- [J27] Saenton, S., Illangasekare, T.H., Soga, K. and Saba, T. (2002) : "Effects of source zone heterogeneity on surfactant enhanced NAPL dissolution and resulting remediation end-points," *Journal of Contaminant Hydrology*, Vol. 59, pp. 27-44
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