KENICHI SOGA PhD NAE FREng FASCE FICE

The Donald H. McLaughlin Chair in Mineral Engineering
Chancellor's Professor
Director, Center for Smart Infrastructure
Bakar Fellow
University of California Berkeley
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Personal Background

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

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)

Employment

2019 – present	**The Donald H. McLaughlin Chair in Mineral Engineering** University of California-Berkeley
2019 – present	**Faculty Scientist** Lawrence Berkeley National Laboratory
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

Professional Affiliations

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

Awards/Honors

2023	Member, National Academy of Engineering
2021	Bakar Prize, University of California, Berkeley
2021	International Fellow, The Engineering Academy of Japan
2020	Fellow, American Society of Civil Engineers
2019	Bakar Fellow, University of California, Berkeley
2019	Sowers Lecture, Georgia Institute of Technology
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
2016	9th Lumb Lecture, Hong Kong Engineering Institute-University of Hong Kong
2016	International Collaboration Award, Japanese Society of Civil Engineers
2016	Research Grant for Outstanding Researchers, Journal of Structural Integrity and Maintenance
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
2015	Osterberg Lecture, Northwestern University
2014	Best paper award, The 5th International Forum on Opto-electronic Sensor-based Monitoring in Geo-engineering, Nanjing, China
2013	Croce Lecture, Italian Geotechnical Association
2013	Fellow, Royal Academy of Engineering, UK
2013	Best paper award, the Thirteenth IAPR International Conference on Machine Vision Applications
2012	Best Lecturer, Department of Engineering, University of Cambridge
2012	Fellow, School of Engineering, University of Tokyo
2010	Telford Gold Medal (Institution of Civil Engineers)
2007	Fellow, Institution of Civil Engineers, UK
2007	Russell Crampton Prize (Institution of Civil Engineers)
2007	Walter L. Huber Civil Engineering Research Prize (American Society of Civil Engineers)
2007	Geotechnique Lecture, British Geotechnical Association
2006	Jennings Award (The South African Institution of Civil Engineers)
2006	George Stephenson Medal (Institution of Civil Engineers)
2002	Schofield Award (International Journal of Physical Modelling in Geotechnics)
2002	Jennings Award (The South African Institution of Civil Engineers)
1989	Murata Overseas Scholarship

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 Politecnica 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
2015/2016	Distinguished YNU Professor, Yokohama National University, Japan
2015	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
2018	Visiting Scholar, Tsinghua University, Tsinghua Foreign Visiting Scholar Program
2019	Visiting Professor, Shanghai University, China

Teaching Activities

2022 – 2023

Undergraduate	CE170A Infrastructure Sensing and Modeling (with Profs. Zekkos and Kayen) (Course rating 6.59/7.00, Instructor rating 6.72/7.00)
	CE112 Water & Wastewater Systems Design and Operation (Course rating 6.46/7.00, Instructor rating 6.46/7.00)
Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.50/7.00, Instructor rating 6.58/7.00)

2021 – 2022

Undergraduate	CE170A Infrastructure Sensing and Modeling (with Profs. Zekkos and Kayen) (Course rating 6.23/7.00, Instructor rating 6.73/7.00)
Graduate	GMS200/CE254G Global Metropolitan Studies: Introduction to Theories, Histories, & Methods (with Prof. A. Post) (Course rating 5.60/7.00, Instructor rating 6.00/7.00)

2020 – 2021

Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.60/7.00, Instructor rating 6.60/7.00)
Undergraduate	CE170A Infrastructure Sensing and Modeling (with Profs. Zekkos and Kayen) (Course rating 6.10/7.00, Instructor rating 6.48/7.00)
Undergraduate	CE176 Environmental Geotechnics (with Prof. Zekkos) (Course rating 6.11/7.00, Instructor rating 6.33/7.00)

2019-2020

Graduate	CE270 Advanced Geotechnics (Course rating 6.52/7.00, Instructor rating 6.74/7.00)
Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.57/7.00, Instructor rating 6.64/7.00)

2018-2019

Graduate	CE270 Advanced Geotechnics (Course rating 6.68/7.00, Instructor rating 6.79/7.00)
Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.18/7.00, Instructor rating 6.64/7.00)
Undergraduate	CE175 Geotechnical and Geoenvironmental Eng. (Course rating 6.00/7.00, Instructor rating 6.42/7.00)

2017-2018

Graduate	CE270 Advanced Geotechnics (Course rating 6.70/7.00, Instructor rating 6.67/7.00)
Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.00/7.00, Instructor rating 6.19/7.00)
Undergraduate	CE175 Geotechnical and Geoenvironmental Eng. (Course rating 6.07/7.00, Instructor rating 6.13/7.00)

2016-2017

Graduate	CE270 Advanced Geotechnics (Course rating 6.76/7.00, Instructor rating 6.72/7.00)
Graduate	CE272 Numerical Modelling in Geomechanics (Course rating 6.50/7.00, Instructor rating 6.75/7.00)

Past (University of Cambridge)

Best Lecturer, Department of Engineering, University of Cambridge, 2012
1st year – Exposition
2nd year - Seepage Experiment,
3rd year - 3D1 Geotechnical Engineering I, 3D2 Geotechnical Engineering II, 3D6 Environmental Geotechnics, 3D7 Finite Element Methods, Soil Mechanics – Consolidation and Shear Experiment, Quay Wall Design Project, Civil Engineering Project - Engineering Geology
4th year - Foundation Engineering, Ground Engineering, Soil improvement, Ground Engineering, Grouting, Contaminated Land and Waste Containment, 5R7 Advanced Numerical Methods in Geomechanics

Administrative Activities

University of California, Berkeley
Director, Center for Smart Infrastructure (2021-present)
Special Advisor to the Dean for Resilient and Sustainable Systems, College of Engineering (2021-present)
Member, Executive committee, Global Metropolitan Studies (2022-present)
Chair, Strategic Planning Committee, Department of Civil and Environmental Engineering (2020-2021)
Member, Research Council, College of Engineering (2020-present)
Member, Jane Lewis Award Committee, College of Engineering (2017-present)
Member, Faculty Search Committee (2016, 2018)
Graduate Admission Committee, Department of Civil and Environmental Engineering (2017-2018, 2019-2020)
Strategic Planning Committee, Department of Civil and Environmental Engineering (2018-2020)
Group leader, Systems Group, Department of Civil and Environmental Engineering (2017-2018)
Executive Committee, Department of Civil and Environmental Engineering (2017-2018)

University of Cambridge
Head of the Geotechnical and Environmental Engineering Group (2013-2015)
Deputy Director for Research and Industrial Liaison, Cambridgsense CDT (2014-2015)
Executive committee member, Center for Smart Infrastructure and Construction (2011-2016)
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)
Chair of the Language Unit Committee, Engineering Department (2004-2008, 2010-2011)
4th year MEng Group Coordinator (2005-2008)
Member of the College Council of Churchill College (1998/1999)
4th year M.Eng. Projects Coordinator (2001-2003)

Professional Activities (since 2010)

- *Chair* - International Technical Committee 105 on Geomechanics from Micro to Macro, The International Society of Soil Mechanics and Geotechnical Engineering (2019-present)
- *Chair* – Emerging Technologies Committee, ASCE Infrastructure Resilience Division (2018-present)
- *Member,* CITRIS Faculty Advisory Council
- *Member,* Scientific Advisory Board, NSF ERC - Center for Bio-mediated & Bio-inspired Geotechnics
- *Member,* Scientific Advisory Board, Smart Pavements Australia Research Collaboration (SPARC) Hub
- *Secretary,* Technical Oversight Committee of ISSMGE (2010-2019)
- *Vice-Chair*, International Technical Committee 308 on Energy Geotechnics, The International Society of Soil Mechanics and Geotechnical Engineering (2013-2019)
- *Secretary*, International Technical Committee 105 on Macro and Micro Geomechanics, The International Society of Soil Mechanics and Geotechnical Engineering (2005-2019)
- *Associate*, Geotechnical Consulting Group, London (2015-present)
- *Member,* UK Engineering and Physical Sciences Research Council (EPSRC) Peer Review College (2002-present)
- *Director,* International Press-In Association (2007-present)
- *Member,* Hong Kong Government, 7th Slope Safety Technical Review Board (2018-2021)
- *Expert Reviewer*, European Science Foundation College
- *Executive Member,* Cambridge Centre for Smart Infrastructure and Construction (2011-2016)
- *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 (2009-2018)
- *Science Advisory Committee Member,* JAMSTEC (2017)

Editor

- *Editor in Chief:* Data Centric Engineering (2022-present)
- *Editorial Board Member*: Geomechanics and Geoengineering, An International Journal, Taylor and Francis (2005-), GeoRisk, Taylor and Francis (2006-), Geomechanics and Engineering, Techno-Press (2009-), Geomechanics for Energy and the Environment, Elsevier (2015-), Underground Space, Elsevier (2015-), Rivista Italiana di Geotecnica (2015-), Journal of Hydrodynamics (2016-), Tunnelling and Underground Space Technology (2018-), International Journal for Numerical and Analytical Methods in Geomechanics (2016-), Data Centric Engineering (2019-2022), Advanced Devices and Instrumentation (2020-), Environmental Research: Infrastructure and Sustainability (2020-), Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers (2001-2009, 2021-),
- *Past Editor-in-Chief:* ICE-Proceedings - Smart Infrastructure and Construction, ICE Publishing (2016-2020)
- *Past Editorial Board Member*: 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 (2010-2016), Sustainable and Resilient Infrastructure (2016-2019),

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 1st 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 2nd 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
2018	Lecture	Symposium on Geomechanics Modeling and Computation, 18th U.S. National Congress for Theoretical and Applied Mechanics
2018	Keynote	IS Atlanta – 4th International Symposium on Geomechanics from Micro to Macro, Atlanta
2019	Keynote	MPM 2019 –The Second International Conference on the Material Point Method for Modelling Large Deformation and Soil-Water-Structure Interaction, Cambridge
2019	Plenary	Engineering Mechanics Institute Conference 2019, CalTech
2019	Lecture	Sowers Lecture, Georgia Institute of Technology
2020	Keynote	IAS Workshop on Emerging Scales in Granular Media, Hong Kong
2020	Semi-Plenary	COMPSAFE2020, the 3rd International Conference on Computational Engineering and Science for Safety and Environmental Problems
2021	Keynote	ASCE Infrastructure Resilience Division (IRD) Virtual Forum
2021	Keynote	ICADD15- The 15th the International Conference on Analysis of Discontinuous Deformation
2021	Keynote	17th National Congress of Geotechnics, Portugal
2021	Keynote	The International Symposium on Opto-Electronic Sensor-Based Monitoring in Geo-engineering (OSMG), Suzhou
2021	Keynote	Indian Geotechnical Conference 2021
2022	Lecture	State-of-the-art Lecture – ASCE Geo-Congress 2022, Charlotte, NC
2022	Keynote	The 27th International Conference on Optica Fiber Sensors, Alexandria, VA
2022	Keynote	The 16th International Conference on IACMAG, Turin, Italy
2022	Keynote	The 26th Indonesian Society For Geotechnical Engineering Annual National Conference 2022
2022	Keynote	2nd EAGE/SEG Workshop on Geophysical Aspects of Smart Cities
2022	Keynote	The International Conference on Advances in Civil Engineering-2022 (ICACE 202), Bangladesh
2023	Keynote	4th International Symposium of Machine Learning and Big Data in Geoscience (ISMLG), Ireland

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. C.S. Gue (2012) Submarine landslide flows simulation through centrifuge modelling
28. L. Hughes (2012) Effects of alignment on CO_2 emissions from the construction and use phases of a highway (co-supervisor)
29. K. Ellison (2012) Constitutive modelling of a heavily overconsolidated clay
30. S. Uchida (2012) Numerical investigation of geomechanical behaviour of hydrate-bearing sediments
31 S. Bandara (2013) Material point method to simulate large deformation problems in fluid-saturated granular medium
32. D. Garber (2013) Ground source heat pump system models in an integrated building and ground energy simulation environment
33. Y. Ouyang (2013) Geotechnical behaviour of energy piles
34. T. Schwamb (2014) Performance monitoring and numerical modelling of a deep circular excavation
35. Z. Li (2014) Long-term behaviour of cast-iron tunnel cross passage in London clay
36. K. Kumar (2014) Multi-scale multiphase modelling of granular flows
37. E. Xu (2014) Numerical analysis of wellbore behaviour during methane gas recovery from hydrate bearing sediments
38. Y. Rui (2014) Finite element modelling of thermal piles and walls
39. O. Dawoud (2015) The applicability of microbially induced calcite precipitation (MICP) for soil treatment
40. Y. Zheng (2015) Application potential of shallow geothermal energy at city scale
41. M. Zhou (2015) Geomechanical study of hydrate-bearing sediments with turbidite formation and hydrate heterogeneity
42. Q. He (2015) Thermal performance of energy geotechnical structures
43. N. Jiang (2016) Microbially induced calcite precipitation for the mitigation of soil internal erosion and sand production
44. J. Fern (2016) Constitutive modelling of unsaturated sand and its application to large deformation modelling
45. M. Alhaddad (2016) Photogrammetric monitoring of cast iron tunnels and applicability of empirical methods for damage
46. M. Wilcock (2016) The behaviour of existing segmental cast iron tunnel linings subject to ground movement from new tunnelling
47. Y. Yu (2016) Signal processing of Brillouin distributed optical fibre sensors
48. J. Wong (2017) Three-dimensional multi-scale hydraulic fracturing simulation in heterogeneous material using Dual Lattice Model
49. L. Luo (2017) Time-frequency localisation of distributed Brillouin optical time domain reflectometry
50. S. Kularathna (2017) Splitting solution scheme for material point method
51. A. Murphy (2018) Sediment heterogeneity and sand production in gas hydrate extraction
52. Y. Mei (2018) Error analysis for distributed fibre optic sensing technology based on Brillouin scattering
53. G. Casey (2019) Investigating the performance of transport infrastructure using real-time data and a scalable multi-modal agent based model (co-supervisor)
54. H. Mallikarachchi (2019) Constitutive modelling of shear localisation in saturated dilative sand
55. B. Zhao (2019) Simulating transportation system sustainability at city-scale with open data informed mesoscopic traffic and pavement degradation models for San Francisco
56. V. Di Murro (2019) Long-term performance of a concrete-lined tunnel at CERN
57. Y. Wang (2019) Microbial-Induced Calcium Carbonate Precipitation: from Micro to Macro Scale
58. H. Luo (2019) Numerical investigation of hydrate-bearing sediment formation heterogeneity during methane gas recovery
59. T. Sasaki (2019) Fibre optic monitoring and finite element analysis of well integrity in methane hydrate reservoirs (Co-supervisor)
60. X. Lu (2019) An engineering analysis method for deep geothermal energy
61. B. Li (2021) Dynamic strain measurement using Brillouin optical time-domain reflectometry

University of California, Berkeley

61. E. Y. Setiasabda (2020) Material point method for large deformation modeling in geomechanics using isoparametric elements
62. M. McElwee (2021) Towards resilience with simulations for accessing recovery of critical infrastructure systems from natural hazard damage
63. R. Ou (2022) Fracture monitoring and dynamic traffic tracking using distributed fiber optic sensing (DFOS) technology
64. R. Wu (2022) Resilience Analysis for Water Distribution Networks
65. P. Hubbard (2022) Monitoring Distributed, Dynamic Strain in Civil Infrastructure using Phase-Sensitive Optical Time-Domain Reflectometry
66. A. Yeskoo (2022) Distributed Fiber Optic Sensing for Deep Foundation and Soil Vertical Strain Monitoring
67. Z. Su (2022) Three-dimensional hydraulic fracturing simulation in heterogeneous materials using Lattice Element Method
68. D. Apoji (2023) Developing AI Systems for EPB TBM Utilizing Sensing Data and Machine Learning
69. J. Murphy (on-going) Material Point Method
70. B. Chandra (on-going) Material Point Method
71. T. Xu (on-going) Distributed fiber optics sensing
72. J. Given (on-going) Material Point Method
73. Y. Yang (on-going) Distributed fiber optics sensing
74. M. Virtucio (on-going) City-scale modeling
75. K. Cheng (on-going) Geothermal-building physics coupling
76. L. Talbot (on-going) Material Point Method
77. J. Saw (on-going) Distributed fiber optic sensing
78. P. Li (on-going) Recovery Bridge
79. Y. Wang (on-going) Wildfire traffic evacuation
80. S. Chiu (on-going) Water pipeline network
81. C. Dong (on-going) Distributed fiber optic sensing
82. T. Han (on-going) City scale modeling of infrastructure systems
83. C. Geudeker (on-going) Material Point Method
84. P. Lorusso (on-going) Wildfire-transportation system interaction modeling
85. M. Jasiak (on-going) Distributed fiber optic sensing

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-superviser, 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 Breedeveld, 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, 02/14-08/18
29. Dr Varindra Kumar, WSN hardware development, 10/14-04/16
30. Dr Sinan Acikgoz, London Bridge station project, 10/14 – 05/18
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, 10/16-9/17, Wireless Sensor Network
36. Dr James Fern, 3/17-8/18, Landslide simulation using Material Point Method
37. Dr Amr Ewais, 3/17-2/19, Distributed fiber optics sensing, Graphene
38. Dr Jinho Park, 9/17 – 12/19, Geophysics for tunnel monitoring
39. Dr Xiang Sun, 9/17 – 9/20, Gas hydrate modeling, thermo-hydro modeling
40. Dr Linqing Luo, 5/18 – 4/20, Distributed fiber optic sensing
41. Dr Shyamini Kularathna, 6/18 – 9/21 Material Point Method
42. Dr Bingyu Zhao, 6/19 – 2/22, City-scale modeling and simulations
43. Dr Yong Liang, 1/20 – 1/23, Material Point Method
44. Dr. James Wang, 7/20 – present, Wireless Sensor Network and Embedded System
45. Dr. Sumeet Sinha, 4/22 – 4/23, Distributed fiber optic sensing
46. Dr. Saemi Chang 5/22 – 5/23, Wildfire evacuation
47. Dr. Wonjun Cha, 8/22 – present, Infrastructure sensing
48. Dr. Dayu Apoji, 2/23 – present, Machine learning
49. Dr. Seunghyun Lee, 2/23 – present, Wildfire evacuation

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 Twentee, 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 Unviersity), 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. Prof. Chao-Sheng Tang (Nanjing University), 12/15-11/16
70. Prof. Jason DeJong (University of California, Davis), 1/16-6/16
71. Prof. 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. Prof. Xinnan Gao (Nanjing Agricultural University), 2/17-1/18
76. Xingyue Li (Hong Kong University of Science and Technology), 9/17-2/18
77. Nicola Cardella (Università Politecnica delle Marche), 9/17-3/18
78. Miki Komatsu (Kobe University), 9/17 – 2/19
79. Yang Xu (Harbin Institute of Technology), 11/17 – 11/18
80. Prof. Jin Luo (China University of Geosciences (Wuhan)), 11/17 – 11/18
81. Chengcheng Zhang (Nanjing University), 1/18 – 12/18
82. Kazuhiro Mukai (Takenaka Corporation), 2/18 – 12/19
83. Prof. Md. Azizul Moqsud (Yamaguchi University), 4/18 – 3/19
84. Prof. Zijun Cao (Wuhan University), 6/18 – 6/19
85. Zhuofu Tao (Tsinghua University), 9/18 – 9/19
86. Tianran Han (Southeast University), 11/18 – 10/19
87. Tianchi Zhao (Tongji University), 12/18 – 12/20
88. Prof. Honghui Wang (Chengdu Univ of Technology), 12/18 – 11/19
89. Yuji Fujita (Enzan Kobou Co.), 1/19 – 12/19
90. Chiara Ecosse (Politecnico di Torino), 1/19 – 6/19
91. Prof. Tissa Illangasekare (Colorado School of Mines), 2/19 – 5/19
92. Prof. Hao Zheng (Hokkaido University) 2/19-5/19
93. Hayato Nonaka (Kajima Corporation), 2/19 – 1/21
94. Hiroshi Kogi (Shimizu Corporation), 8/19 – 5/20, 2/21-8/21
95. Prof. ZhiQiang Chen (University of Missouri Kansas City), 8/19 – 12/19
96. Federica Mevoli (University of Bath), 8/19 – 12/19
97. Prof. Hideo Sekiya (Tokyo City University) 9/19-11/19
98. Zhichao Zhang (Chongqing University), 10/19 – 9/20
99. Mengyan Jiang (Tsinghua Berkeley Shenzhen Institute), 10/19 – 10/20
100. Yanglan Wang (Tsinghua Berkeley Shenzhen Institute), 11/19 – 7/20
101. Paola Lorusso (Politecnico di Torino), 1/20 – 7/20
102. Bingbing Chen (Dalian University of Technology), 1/20 – 12/20
103. Prof. Ken Kamrin (MIT), 1/20 – 5/20
104. Miguel Molinos (Polytechnic University of Madrid), 3/21-8/21
104. Prof. Ryota Hashimoto (Hiroshima University), 6/21-3/22
105. Qinglai Emily Zhang (University of Cork), 1/22 – present
106. Yoko Ohta (Kobe University), 7/22 – 12/22
107. Jun Kurima (Kyoto University), 1/23 – 3/23

Patents

- "Program, the equipment for a position of relay nodes and the method of calculating a position of relay nodes," JP5038215
- "Evaluation method of deployment of wireless sensor networks and its operation cost for the condition monitoring for structures," JP5762931
- "Energy-harvesting apparatus with plural mechanical amplifiers", EP2856628B1, US9871472B2, JP6159797B2, CN104904110B
- "Method of monitoring subsurface concrete structures", GB2524636B, US10472793B2, EP3102937B1
- "Distributed dynamic strain fiber optics measurement by Brillouin optic time-domain reflectometry," US10677616B2

Start-up companies from research

- 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

- EpsiMon, 2017, Fibre optics sensing, Cedric Kechavarzi, Nicky de Battista and Phil Keenan
- Propagate Sensing Inc, 2020. Fibre optics sensing, Peter Hubbard, Linqing Luo
- Wui-Go, 2023, Wildfire evacuation tools, Sarah Lindbergh, Bingyu Zhao, Shashank Anantharam, Tony Alex

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, Kiel University, University of California, Davis, Virginia Polytechnic Institute and State University
- *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, Geosystems, LEAP-HI

Organizing/Scientific Committee

2023 NSF workshop: Crosscutting Research Needs for Digital Twins, Santa Fe Institute
2023 NSF US-UK Workshop on Transformation in Urban Underground Infrastructure, Washington DC
2023 UC Berkeley Course on Tunneling: Principles, Practices, and Recent Development Using Data-Driven Methods, Berkeley
2022 EPSRC-NSF Workshop Funding, Financing & Emerging Technologies in Infrastructure to Improve Resilience, Sustainability and Universal Access
2022 Mini-symposium "Mechanics of Granular and Geo-Mechanical Systems" for the 19th U.S. National Congress on Theoretical and Applied Mechanics
2022 Mini-symposium “Particle-based numerical modeling in Geotechnical engineering” for the 15th World Congress on Computational Mechanics & 8th Asian Pacific Congress on Computational Mechanics (WCCM-APCOM 2022)
2022 ISSMGE TC105 Webinar series “Discrete Element Method (DEM) in geotechnical engineering education”
2022 UC Berkeley ITS webinar series “Smart Infrastructure”
2022 The ASCE San Fernando Earthquake Conference on Lifeline Earthquake Engineering, UCLA, Technical Committee
2020 International Conference of International Association for Computer Methods and Advances in Geomechanics, Torino, International Scientific Committee
2019 The Resilience Shift round-table: City-scale modelling and simulation for infrastructure resilience, Organizer, UCBerkeley
2019 Lorentz Centre Workshop, Granular Matter Across Scales, Scientific Advisor
2019 SHMII-9 Conference, St. Louis, Organizing Committee and Scientific Committee
2019 ASCE EMI-GI conference, Track chair on “Flow and Phase transition”
2019 The Resilience Shift roundtable: City-scale modelling and simulation for infrastructure resilience, UC Berkeley, Convener
2018 The Second JTC1 Workshop on Triggering and Propagation of Rapid Flow-like Landslides, Benchmarking Exercise Review Sub-committee
2018 IS Atlanta 2018, ISSMGE TC105 Symposium, International Advisory 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
2017 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 Organizing 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, Organizing
2016 2016 Asia-Pacific-Euro Summer School on Smart Structures Technology, Cambridge, APESS 2016, Organizing
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, Organsier
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, Organizing
2015 International Symposium on Geohazards and Geomechanics, Scientific Committee
2015 The Cambridge conference on wireless sensor network for civil infrastructure, Organizing
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, Organizing
2014 NSF International Workshop on Geotechnical Engineering Education Soil-environment interactions across scales: key challenges for future geo-engineers, Organizing
2014 14th International Conference of the International Association for Computer Methods and Advances in Geomechanics (14IACMAG), Kyoto, Session Chair
2014 The 2nd CSIC-JSPS International Smart Infrastructure Symposium, Osaka, Organizing
2013 ECCOMAS Thematic Conference on "Computational Methods in Tunnelling" (EURO:TUN 2013), Organizing
2012 CSIC-JSPS International Smart Infrastructure Symposium, Cambridge, Organizing
2012 CISM (International Centre for Mechanical Sciences) course - Multiscale Mechanics of Granular Materials, Organizing
2012 2nd International Conference on Transportation Geotechnics, International Advisory Committee
2012 Geotechnique Symposium in print, Organizing committee
2011 NSF Bio-Soil Interactions and Engineering Workshop, Principal Organizing
2011 ASCE Geofrontiers, Session Organizing, Energy Foundations
2011 ASCE Geofronties, Session Organizing, 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 Organizing
2010 ASCE GeoFlorida 2010: Advances in Analysis, Modeling and Design, International Advisory Committee
2010 IS-Shanghai International Symposium on Geomechanicsand 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 Organizing
2008 ASCE GeoCongress, Session Organizing, Soil-Bio Interaction and Engineering
2008 ESF/NSF workshop on Sensor Networks for Civil Infrastructure Systems, Principal Organizing
2008 ICE-JSCE workshop on new trends of seismic geotechnical design based on performance and life cycle analysis, Principal Organizing
2007 EPSRC/NSF Bio-Soil Interactions and Engineering Workshop, Principal Organizing
2007 Geotechnique Symposium in print, Organizing committee
2006 International Congress on Environmental Geomechanics, Organizing committee
2006 ASCE GeoCongress2006, Session Moderator

2006 Cambridge-MIT Institute Workshop on wireless sensor network, Co-organizing
2005 EPSRC/NSF workshop of microgeomechanics, Co-organizing
2004 Innovation in Monitoring and Management of Ageing Infrastructure, Principal organizing
2002 1st International Workshop on New Frontiers in Computational Geotechnics, Scientific Committee

Invited Speaker/Seminar (since 2016)

2023

January	Seminar	University of California, San Diego
February	Speaker	UC Berkeley Course on Tunneling: Principles, Practices, and Recent Development Using Data-Driven Methods, Berkeley
February	Seminar	Berkeley Seismology Laboratory
March	Keynote	Hiroshima University Graduate School of Advanced Science and Engineering Symposium, Hiroshima
April	Lecture	Yuba Water, California
	Lecture	WATER Leadership Group Seminar

2022

January	Seminar	Research Institute for Environmental Geotechnics, Japan, online
	Lecture	International Symposium of Soft Ground and Smart Geotechnology, Hong Kong, online
	Lecture	Lorentz workshop – Clay Micromechanics 2022, online
February	Speaker	Workshop "The Residual Risks of Extreme Floods: A Challenge for Achieving the Sustainable Development Goals" UC Berkeley
	Lecture	CEE Cross-Cutting Research Seminar, Georgia Tech
March	Lecture	Symposium on the International student education program, University of Tokyo
	Special Lecture	Geo-Congress 2022, Charlotte, North Carolina
April	Lecture	Los Angeles Department of Water and Power
	Lecture	EBMUD Distinguished Lecture Series
May	Keynote Lecture	Class A Prediction Symposium Debris Flow Impact Forces on Single and Dual Barriers, Hong Kong Science and Technology
	Lecture	Short Course on New Technologies for Geotechnical Infrastructure Sensing and Monitoring, online
	Lecture	University of California Los Angeles
	Lecture	USACE Engineering Research and Development Center, Vicksburg
June	Keynote Lecture	International Symposium of Intelligent Geotechnics, City University of Hong Kong
	Invited speaker	Gordon Research Conference – Granular Matter - Particulate Systems Across Scales: From Colloidal Science to Geophysics
	Invited speaker	NSF-EPSRC Workshop Funding, Financing & Emerging Technologies in Infrastructure to Improve Resilience, Sustainability and Universal Access
August	Keynote Lecture	The 27th International Conference on Optica Fiber Sensors, Alexandria, VA
	Keynote Lecture	The 16th International Conference on IACMAG, Turin, Italy
September	Speaker	2022 PEER Researchers' workshop
October	Lecture	University of California Santa Cruz, Research Seminar
November	Keynote Lecture	The 26th Indonesian Society for Geotechnical Engineering Annual National Conference
November	Speaker	ASCE Tech Talks
December	Keynote Lecture	2nd EAGE/SEG Workshop on Geophysical Aspects of Smart Cities
December	Lecture	Northern California Pipe Users Group meeting
December	Keynote Lecture	The International Conference on Advances in Civil Engineering-2022 (ICACE 202), Bangladesh

2021

January	Lecture	Short Course on New Technologies for Geotechnical Infrastructure Sensing and Monitoring, online
February	Lecture	Geotechnical Instrumentation and Monitoring Workshop, ASCE San Francisco Geo-Institute (SFGI), online
April	Lecture	Australian Geomechanics Society Sydney seminar, online

April	Lecture	US Army Corps of Engineers, online
May	Keynote	ASCE Infrastructure Resilience Division (IRD) Virtual Forum, online
May	Lecture	Short Course on New Technologies for Geotechnical Infrastructure Sensing and Monitoring, online
June	Lecture	Tokyo Metropolitan Expressway, online
June	Lecture	Fiber optic sensing association, online
June	Lecture	International course on geotechnical and structural monitoring, Italy
August	Invited speaker	Near Surface Geoscience 2021, Bordeaux France
August	Invited speaker	5th Global Summit of GADRI, online
September	Lecture	Caltrans Education Committee Seminar
September	Keynote	ICADD15- The 15th the International Conference on Analysis of Discontinuous Deformation
September	Invited speaker	2nd International Workshop on Numerical Simulation Methods for Large Deformation Problems in Geotechnical Engineering
September	Invited speaker	Computing in Engineering Forum 2021, Machine-Ground interaction (MaGIC), University of Wisconsin-Madison
September	Lecture	Geosystems noon seminar, University of California, Berkeley
October	Lecture	Advanced Infrastructure Systems seminar, Carnegie Mellon University,
October	Invited speaker	GMS & Social Science Matrix "Critical Infrastructure Under Stress
October	Invited speaker	ASCE Tech Talk
October	Invited speaker	Unity for Humanity Summit 2021
October	Invited speaker	5th Annual Resilience Colloquium, University of New Mexico
October	Invited speaker	National Academies' Committee on Geological and Geotechnical Engineering workshop, Multi-Scale Monitoring for Improved Infrastructure Safety, Resilience, Service Life
October	Lecture	Energy Geotechnics Webinar Series
October	Invited speaker	NHERI@UTexas workshop on Fiber Optic Distributed Acoustic Sensing (DAS) for Infrastructure Engineering and Subsurface Imaging
November	Keynote	17th National Congress of Geotechnics, Portugal
December	Keynote	The International Symposium on Opto-Electronic Sensor-Based Monitoring in Geo-engineering (OSMG), Suzhou
December	Lecture	Hong Kong Geotechnical Engineering Office
December	Invited speaker	WaterStart Channels Connect webinar
December	Keynote	Indian Geotechnical Conference 2021

2020

January	Speaker	Seminar ENGEO
January	Keynote	IAS Workshop on Emerging Scales in Granular Media, Hong Kong
January	Invited speaker	KAUST Research Conference 2020 - Maturing Geothermal Energy for Saudi Arabia
January	Lecture	American University of Beirut, Beirut
April	Lecture	CalGeo meeting, online
April	Panelist	Urban Tech workshop day, Cornell Tech, online
September	Speaker	International Forum on Innovation and Emerging Industries Development, Shanghai, Online
October	Lecture	Purdue University, online
October	Lecture	Advancements in Geotechnical Engineering From Research to Practice, Australia, online
November	Lecture	Missouri Center for Transportation Innovation Seminar, online
November	Speaker	CITRIS day, online
November	Invited speaker	The 4th International Symposium on Precision Opto-Mechatronics Technology, online
November	Lecture	Yamaguchi University, online
December	Speaker	Critical Transportation Issues in Wildfires, Institute of Transportation Studies, online
December	Panelist	Workshop: Frontiers for Hypergravity Experiments and Model Tests, UC Davis, online
December	Semi-Plenary	COMPSAFE2020, the 3rd International Conference on Computational Engineering and Science for Safety and Environmental Problems, online

2019

January	Keynote	MPM 2019 –The Second International Conference on the Material Point Method for Modelling Large Deformation and Soil-Water-Structure Interaction, Cambridge, UK
January	Speaker	PEER 2019 Annual Meeting, UCLA, Plenary session
January	Speaker	The Resilience Shift roundtable: City-scale modelling and simulation for infrastructure Resilience, UC Berkeley
February	Invited speaker	ASCE Seattle Section Geotechnical Group & Geo-Institute–Seattle Chapter
February	Speaker	ExxonMobil, Houston
March	Speaker	Lorentz workshop on Granular matter across scales, Leiden, the Netherlands
April	Speaker	UC Berkeley Distinguished Lecture Series - JK Mitchell Symposium, Berkeley
May	Speaker	MIT Workshop "Clays: New Perspectives, Challenges & Opportunities", Cambridge
May	Lecture	Sowers Lecture, Georgia Institute of Technology
May	Speaker	ASCE Infrastructure Resilience Division (IRD), 2019 Research Forum: Enabling Resilient and Sustainable Communities, Washington DC
May	Speaker	Workshop on Numerical Simulation Methods for Large Deformation Problems in Geotech, Shanghai
May	Lecture	Shanghai Jiaotong University
May	Lecture	Shenzhen University
June	Plenary	Engineering Mechanics Institute Conference 2019 (EMI 2019), Caltech
July	Speaker	International Conference on Smart Infrastructure and Construction, Cambridge, UK
September	Invited panelist	New Day for the MTA, New York
September	Invited speaker	GeoVirgina, Virginia
October	Speaker	A National Academies of Sciences–US National Committee for Theoretical and Applied Mechanics Workshop – Modeling and Simulation of Wildfires
November	Lecturer	Instrumentation and Monitoring short course – ASCE Geo-Institute Portland Chapter
December	Speaker	UC Berkeley Workshop on Tunnel Engineering & Construction

2018

January	Speaker	LADWP Workshop - Modeling Water Supply Performance for Community Resilience, Los Angeles Department of Water and Power
January	Speaker	Workshop: Recent Developments in Sensing Technology for Seismology, Lawrence Berkeley National Laboratory
January	Speaker	2018 PEER Annual Meeting, Berkeley
March	Lecture	EBMUD Infrastructure week seminar
March	Invited speaker	ASCE Region 9 California Infrastructure Symposium
April	Invited speaker	Cornell Program in Infrastructure Policy Annual Advisory Board meeting
May	Speaker	MPM Workshop, UC Berkeley
June	Keynote	18th U.S. National Congress for Theoretical and Applied Mechanics
June	Lecture	Tsinghua University, Beijing
June	Lecture	Chang'an University, Xian
June	Lecture	Xian University of Science and Technology, Xian
June	Lecture	Shanghai University, Shanghai
June	Lecture	Tongji University, Shanghai
June	Keynote	Southeast University Summer School, Nanjing
August	Invited speaker	University of New Mexico
September	Webinar	National Academies of Sciences, Engineering, and Medicine
September	Keynote	IS Atlanta – 4th International Symposium on Geomechanics from Micro to Macro, Atlanta
September	Invited speaker	2018 ICTPA-IACGE Joint Seminar on Smart, Innovative and Sustainable Transportation in California, Los Angeles
October	Invited speaker	NAE Committee on Geological and Geotechnical Engineering meeting
November	Invited speaker	The 50th Kansas Geotechnical Engineering Conference
November	Invited speaker	Hong Kong Geotechnical Engineering Office Seminar
December	Invited speaker	Second JTC1 Workshop on Triggering and Propagation of Rapid Flow-like Landslides
December	Keynote	Dissemination Seminar of Cross-ministerial Strategic Innovation Programs, Japan
December	Lecture	U.S. Army Engineer Research and Development Center, Vicksburg

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	NSF 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 2nd 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	19th 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

2016

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	5th 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	9th Lumb Lecture, University of Hong Kong
November	Seminar	Shenzhen Geotechnical Investigation & Surveying Institute Co., Ltd., China
December	Seminar	Pacific Consulting, Tokyo, Japan

Grants and Contracts

Funding Agencies

University of Cambridge

[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," 1st April 2006 – 31st 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," 1st October 2006 – 30th 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)," 1st October 2006 – 30th 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," 1st April 2010 to 31st 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 Cembridgesens", 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

University of California, Berkeley

[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-June 2019, $159,984

[52] **The Center for Information Technology Research in the Interest of Society**: PI "Smart Road Corridors by Meso-Scale In-Pavement Distributed Infrastructure Sensing", April 2018-March 2019, $60,000

[53] **Department of Energy**: Co-I "The Eagle Ford Shale Laboratory," with Lawrence Berkeley National Laboratory, July 2018-June 2021, $139,560

[54] **The Center for Information Technology Research in the Interest of Society**: PI "Cognition to Action in Extreme Events: An Iterative Exploration of Integrated Infrastructure Network Models, Communication Methods, and Policy Interventions for Disaster Risk Reduction", April 2018-March 2019, $60,000

[55] **California Energy Commission**: Co-I "Performance Based Earthquake Engineering Assessment Tool for Gas Storage and Transmission System," June 2019- March 2022, $4,994,400

[55] **National Science Foundation:** PI "Modelling and Monitoring of Urban Underground Climate Change (MUC2)," August 2019-July 2022, $550,000

[56] **National Science Foundation:** PI "I-Corps: Dynamic Distributed Fiber Optic Sensor System," August 2019-July 2022, $50,000

[57] **Bakar Fellowship**: PI "Smart Infrastructure using Real-time Distributed Sensing Technology," July 2019-June 2021, $150,000

[58] **Department of Energy:** Co-I "Community Resilience through Low-Temperature Geothermal Reservoir Thermal Energy Storage," June 2019-September 2020, $260,000

[59] **Institute of Transportation Studies**: PI "Resilient road network during wildfire event by integrating traffic network analysis and communication network analysis at a regional scale," July 2019-June 2020, $80,000

[60] **National Science Foundation:** PI "SitS NSF-UKRI: Dynamic Coupling of Soil Structure and Gas Fluxes Measured with Distributed Sensor Systems: Implications for Carbon Modeling," January 2020 - December 2023, $450,000

[61] **California Energy Commission**: PI "Integrated Distributed Fiber Optic Sensing for Real-time Monitoring of OWT Gearbox and Tower Operation and Marine Animal Activities," June 2020- May 2023, $648,512

[62] **California Energy Commission**: PI "Natural Gas Storage - Safety Monitoring with Autonomous Reflectometry Technologies," June 2020- May 2023, $376,375

[63] **The Pipeline and Hazardous Materials Safety Administration (PHMSA):** PI "Distributed Strain Sensing for Pipeline Safety against Fault Moving and Landslides," September 2020- August 2022, $250,000

[64] **US Army Corps of Engineers:** PI "Levee Monitoring with Distributed Strain Sensing, Black Hawk, LA" October 2020 – December 2021, $90,000

[65] **National Science Foundation:** Co-PI "SCC-CIVIC-PG Track B: Rehearsing Natural Disasters through Games and Simulations," (PI - Thomas Maiorana, UC Davis), January 2021 – February 2022, $49,911

[66] **Institute of Transportation Studies**: PI Testing wildfire evacuation strategies and coordination plans for Wildland-Urban Interface (WUI) communities in California, August 2021-August 2022, $80,000

[67] **The Green Initiative Fund:** PI "The role of the underground to realize a zero-carbon UC campus energy system, June 2021-May 2022, $74,850

[67] **National Science Foundation:** Co-PI "Belmont Forum Collaborative Research: Residual Risk of Extreme Floods: a challenge for achieving sustainable development goals," (PI - Mathias Kondolf, UC Berkeley), August 2021 – July 2023, $42,160

[68] **East Bay Municipal Utility District:** PI Center for Smart Infrastructure (Phase 1), November 2021 to October 2022, $1,500,000

[69] **Caltrans (via Pacific Earthquake Engineering Research Center)**: PI "Regional needs for recovery bridges through post-earthquake traffic assessment Highway Network Traffic Models of the SF region," June 2022-May 2024, $200,000

[70] **Bakar Prize**: "Smart Infrastructure using Real-time Distributed Sensing Technology," March 2022-February 2024, $225,000

[71] **US Army Corps of Engineers:** PI "Levee Monitoring with Distributed Strain Sensing, Black Hawk, LA-Phase 2" April 2022 – March 2023, $90,000
[72] **National Science Foundation:** PI "Context-specific scientific simulation models to mitigate wildfire risks," July 2022 – June 2023, $50,000
[73] **Marin Wildfire Prevention Authority**: PI "Marin County Evacuation Risk Factor Tool", May 2022-Sept 2023, $98,124.
[74] **Department of Energy:** PI "Geothermal-based Optimized Energy Systems (GOES)", October 2022-December 2025, $192,540
[75] **State of Massachusetts (via HEET):** PI "Performance and Potential Assessment for Networked Geothermal Demonstration Project," October 2022 – September 2025, $450,000
[76] **National Science Foundation:** PI "SCC-IRG Track 1 Designing Smart, Sustainable Risk Reduction in Hazard-Prone Communities: Modeling Risk Across Scales of Time and Space," October 2022 – September 2023, $2,500,000
[77] **Caltrans**: PI "Evaluation of Soil Plug Geotechnical Resistance in the Design of CISS Piles," October 2022 – February 2026, $730,000
[78] **Caltrans**: PI "Geotechnical Resistance Capacity and Stress Distribution of Soil/Grout Interface of Ground Anchors in Various Soil/Rock Conditions," December 2022 – November 2025, $600,000
[79] **Institute of Transportation Studies**: PI Transit System Vulnerability and Resilience, December 2022-June 2023, $80,000
[80] **National Science Foundation:** PI "Long-range Dynamic Distributed Strain Sensing System for Smart Infrastructure Monitoring," September 2023 – August 2026, $547,134

Industry (including consultancy)

University of Cambridge

[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] **Sunkyong 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", 1st October 2006 – 31st September 2007
[43] **Tokyo Gas**: PI "Soil-pipeline interaction", 1st 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", 1st October 2007 – March 2008
[50] **Arup,** PI "NHBC Foundation Project" 1st December 2007
[51] **Arup,** PI "Development of a tool for assessing Embodied Energy and Carbon Emissions for HA construction projects" 1st 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", 1st October 2008 – March 2009
[55] **Tokyo Gas:** PI "Gas migration modeling in soils", 1st 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", 1st October 2009 – February 2010 (through CUTS)
[63] **BP**: PI "Run-off modeling" 1st 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", 1st October 2010 – February 2011
[66] **Japan Oil, Gas And Metals National Corporation: "**Geomechancial Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial," 1st November 2010 – 31st March 2011
[67] **Tokyo Gas**: PI "Soil pipeline interaction in paved ground", 1st October 2011 – February 2012
[68] **Japan Oil, Gas And Metals National Corporation: "**Geomechancial Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial," 1st July 2011 – 31st March 2012
[69] **BP**: PI "City scale modelling of geothermal energy," 1st October 2012-31st 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] **Virgina Tech** "Thermal pile testing," 2013
[90] **Japan Oil, Gas And Metals National Corporation: "**Geomechancial 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", 1st October 2012 – February 2013
[92] **Japan Oil, Gas And Metals National Corporation: "**Geomechancial Modelling and Simulations of Wellbore Deformation and Stability during the Nankai Trough Methane Gas Production Trial," March 2014 – June 2014
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[95] **Arup** "Shell Centre FO monitoring project"
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[99] **Samsung**, "Intelligent monitoring and safety management system for Li-ion Batteries,
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[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

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[111] **Tokyo Gas**: PI "Soil pipeline", 1st 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

University of California, Berkeley
[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 – May 2018
[116] **Japan Oil, Gas And Metals National Corporation: "**Study on wellbore stability and reinforcement of unconsolidated formation," January 2017 – September 2017
[117] **CERN:** "Tunnel assessment" June 2017
[118] **Cambridge Centre for Smart Infrastructure and Constriction**, January 2017 - 2022
[119] **Toyo Engineering Corporation** "Wellbore monitoring using distributed fiber optic sensors," November 2017-March 2019
[120] **ENGEO** "FO based settlement monitoring in San Francisco," March – June, 2018
[121] **Exxon Mobil Corporation** "MPM Modelling of Sand Production and Water Injection," March 2018 to March 2021
[122] **Japan Oil, Gas And Metals National Corporation**: "Study on wellbore stability and reinforcement of unconsolidated formation," January 2018 – June 2018
[123] **Nippo Corporation**: "City-scale Pavement Maintenance Optimization for Environmental Impact Mitigation," May 2018 to April 2022.
[124] **Takenaka Corporation**: Research donation, 2018, 2019
[125] **Hayward Baker Nicolson Construction Company JV**: "Fiber optic monitoring", June 2018
[126] **Enzan Kobou Co. Ltd**: Research donation, 2018, 2019, 2022
[127] **Kajima Construction, Japan** : CITRIS Industry partnership, 2018, 2019, 2020, 2021, 2022
[128] **Hong Kong Government**, 7th Slope Safety Technical Review Board, 2018-2021
[129] **Shimizu Corporation**: Research donation, 2019
[130] **Golder Associates,** "Fiber optics monitoring", May 2019
[131] **AECOM-Singapore**, "Fiber optics monitoring of tunnel", 2018-present
[132] **Enel** "Smart monitoring of ENEL infrastructure," via CITRIS, 2019
[133] **Toyo Engineering Corporation** "Wellbore monitoring using distributed fiber optic sensors," January 2020-November 2020
[134] **Nippo Corporation**, Pavement monitoring, 2020, 2022, 2023
[135] **Toyota Corporation,** Pavement monitoring, 2020, 2022, 2023
[136] **BHP** Mine tailings assessment, 2021-2023
[137] **Applied Foundation Testing,** Pile monitoring, 2020, 2022
[138] **East Bay Municipal Utility District,** fiber reinforced lining, 2020-present
[139] **Enel Green Power North America, Inc.** "DFOS monitoring of wind farm infrastructure," 2022-2023
[140] **Tishman Speyer**, Ground settlement monitoring, 2022-present
[141] **Enzan Kobou,** Developing EPB TBM Intelligent Systems using Sensing Data and Machine Learning, 2022-2024
[142] **Geo-Search**, The Value of GPR-Based Mapping Tool, 2022&2023
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[144] **Molecor,** Pipeline testing and analysis, 2023
[145] **Schnabel Engineering,** Dam monitoring, 2023
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I. Books or Chapters in Books

A. Books

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6. Fern, J., Rohe, A., Soga, K. and Alonso, E. The Material Point Method for Geotechnical Engineering: A Practical Guide. CRC Press, 2019, 420pp. www.crcpress.com/The-Material-Point-Method-for-Geotechnical-Engineering-A-Practical-Guide/Fern-Rohe-Soga-Alonso/p/book/9781138323315

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