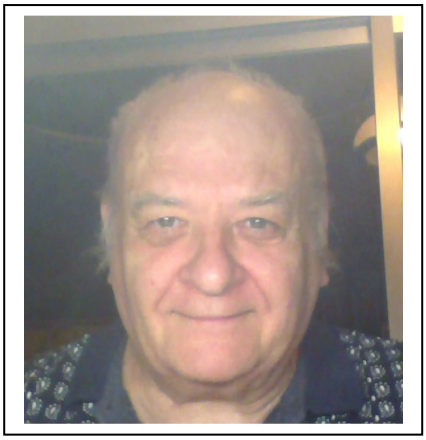
Curriculum Vitae



Personal

NAME:	**E T RICHARD DEAN**
NATIONALITY:	British
AGE / DATE OF BIRTH:	65 years, 3 Sep 1952
E-MAIL ADDRESS	richard.dean@caribgeo.com
EXPERTISE	Geotechnical Engineering, including onshore, offshore and coastal civil engineering; foundation design; environmental geotechnics; earthquake geotechnics; offshore geotechnics

General

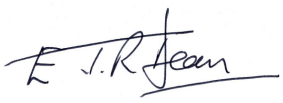
Dr E T Richard Dean has worked in various geotechnical engineering roles onshore, offshore, and in research worldwide. He has published numerous papers in the technical literature, and is the author of a textbook on Offshore Geotechnical Engineering. He presently provides geotechnical consultancy and reporting services through his company Caribbean Geotechnical Design Limited, registered in the UK and in Trinidad and Tobago.

Academic qualifications

B.Sc.(Open)	Open University, 2017, Honours 1st class
Master of Business Administration	Open University, 1994
Ph.D, Geotechnical Engineering	Cambridge University, 1989
M.Phil Geotechnical Engineering	Cambridge University, 1981
MA Civil Engineering	Cambridge University, 1978
BA Civil Engineering	Cambridge University, 1974, Honours 1st class

Industry and professional memberships

ISO	Corresponding Committee Member of Geotechnical Panel P4 of ISO TC67/SC7/WG7, Jackup Foundation Design and Assessment
ICE	Graduate Member of the Institution of Civil Engineers



Work experience

1997-now
Principal Geotechnical Engineer
Caribbean Geotechnical Design Limited

Geotechnical site investigation, data interpretation, geological and hazard assessment, engineering analysis and design including bearing capacity, slope stability, liquefaction assessment, pile capacity, for structures including factory buildings, housing estates, schools, and heavy industrial plants in Trinidad and Tobago and in St.Vincent and the Grenadines. Landslide assessment in Indian Walk, Laventille, and elsewhere in Trinidad and Tobago

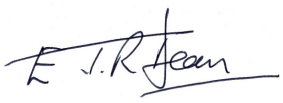
Offshore site investigations, foundation design and analysis (soil profile, pile capacity, pile drivability, mudmats, seismic analysis, jackup site-specific assessment), for offshore Mexico, Nigeria, Egypt, Qatar, Arabian Gulf, Trinidad, the Caspian Sea and Israel, for clients including Exxon, Shell, Ranger, ONGC, Centrica, OKIOC, QGPC, PEMEX, Saudi Aramco, Repsol, Petrotrin, EOG, BPTT, Thales GeoSolutions, Gardline, GEMS, Capital Signal.

Bid preparation for nearshore site investigation and foundation design for Angola LNG plant (Terratest Madrid/ChevronTexaco). Assembly of engineering teams, software, procedures, and report templates for offshore site investigation (C&C/Subtec). Feasibility studies for an offshore highway and an offshore island.

Geotechnical research. Supervision and analysis of centrifuge model tests at Cambridge University for Shell (deepwater piles) and Exxon (jackups). Software development (SLR Consulting). Development of a soil constitutive model (in-house product)

2005 - 2008
Senior Lecturer
University of the West Indies

Delivery of undergraduate lectures and supporting materials in soil mechanics and foundation engineering. Development of new undergraduate courses and labs. Research projects in soil mechanics and foundation engineering.



1997-1999 **Senior Geotechnical Engineer, Training, HSE, and Quality Manager** **SAGE Engineering Limited**	Supervision of site investigations, software development, and design, for platform and jackup locations offshore India. Design of an offshore support platform for a windfarm. Development of a Company Training Scheme for Chartered Civil Engineers, scheme accepted by the Institution of Civil Engineers. Development of Company Quality and HSE Policies
1983–1994 **Research Associate** **Geotechnical Group, Cambridge University Engineering Department, UK**	Centrifuge Authorizing Engineer, responsible for experimental procedures and safety. Supervision of centrifuge model experiments including tests on a mobile arctic caisson, footing models, earthquakes on submerged embankments and dams, pile tests, tests of contaminant migration from a landfill site. Writing og data acquisition software. Constitutive model development
1975-1976 **Graduate Civil Engineer** **Sir William Halcrow & Partners**	Design of a steel jacket platform and associated structures. Finite element analysis and reporting
1974-1975 **Graduate Civil Engineer** **Ove Arup & Partners, London**	Site investigations, Hydrodynamic design and naval architecture for a concrete platform with earthquake resistance for offshore Alaska

Publications - Books

2009

Dean, E.T.R.

Offshore Geotechnical Engineering: Principles and Practice, Thomas Telford

2008

Dean, E.T.R.

Foreword to a book by M.Srbulov entitled *Geotechnical Earthquake Engineering: Simplified Analyses with Case Studies and Examples*, Springer

2007

Dean, E.T.R., Gay, D., Ibrahim, J., and Shrivastava, G.S.

Oceanographic and civil engineering aspects of an offshore island in Otaheite Bay

Chapter 13 of *Aluminum Smelting: Health, Environmental and Engineering Perspectives*, edited by M. Khare, C.K.Sankat, G.S.Shrivastava, and C.Venkobachar, Ian Randle Publishers, 191-215

Publications – Papers

2019

Dean, E.T.R.,

Soil hinges – macroscopic evidence and modelling considerations. *International Journal of Geomechanics* 19(10) https://doi.org/10.1061/(ASCE)GM.1943-5622.0001481

2018

Dean, E.T.R.,

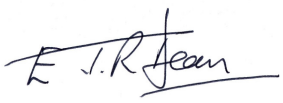
Assessment method for leaning instability of jackups during preloading in deep soft clay. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering 171(4): 310–323, https://doi.org/10.1680/jgeen.17.00182*

Aagesen R, Dean ETR, Lee FH, and Li Y.

Simplified analysis of chord and brace effects on jackup leg penetration for preloading in soft clay. *Canadian Geotechnical Journal*, https://doi.org/10.1139/cgj-2017-0434

2017

Dean, E.T.R.,



New ways to represent inter-particle forces as effective stresses in a macroscopic continuum. *International Journal of Geomechanics, 17(9).* http://ascelibrary.org/doi/10.1061/%28ASCE%29GM.1943-5622.0000948

2015

Dean, E.T.R.,
Particle mechanics approach to continuum constitutive modelling. *Geotechnical Research* 2(1) 3 –34 *Awarded the Institution of Civil Engineers' Telford Premium Award for Best Paper in 2015 published in Geotechnical Research*, http://www.icevirtuallibrary.com/page/authors/awards-for-papers

2014

Dean, E.T.R., and Mohammed, R.,
Simplified Shockwave Analysis of the Standard Penetration Test. *International Journal of Geomechanics* 14(6), http://ascelibrary.org/doi/abs/10.1061/%28ASCE%29GM.1943-5622.0000379

2013

Dean, E.T.R.
Predicting Punchthrough of Jackup Spudcans on Sand and Clay Layers. *International Journal of Geomechanics,* 13(6), 869-876 http://ascelibrary.org/doi/abs/10.1061/(ASCE)GM.1943-5622.0000261

2012

Dean, E.T.R. and Deokiesingh, S.,
Plugging Criterion for Offshore Pipe Pile Drivability. *Geotechnique, 63(9), 796-800* http://www.icevirtuallibrary.com/doi/abs/10.1680/geot.12.T.011

2009

Dean, E.T.R., and Metters, R.,
Cyclic Stiffness Degradation in Nonlinear Jackup Dynamics. Paper OTC 19998, *Offshore Technology Conference* https://www.onepetro.org/journal-paper/SPE-132170-PA

2008

Dean, E.T.R.
Consistent preload calculations for jackup spudcan penetration in clays. *Canadian Geotechnical Journal*, 45(5), 705-714 http://www.nrcresearchpress.com/doi/abs/10.1139/T07-108#.Wgyl-JVe7IU

2007

Dean, E.T.R.
Issues in soil constitutive modelling. *Proc ICCES 07, Int Conference on Advances in Computational and Experimental Engineering Sciences, Miami,* 641-646

Dean, E.T.R.

Thermodynamic derivation of yield envelope shapes. *Proc ICCES 07, Int Conference on Advances in Computational and Experimental Engineering Sciences, Miami,* 529-540

Dean, E.T.R.
Thermodynamic derivation of an asymptotic flow rule. *Proc ICCES 07, Int Conference on Advances in Computational and Experimental Engineering Sciences, Miami,* 599-611

2006

Dean, E.T.R. The Need for Research in Onshore and Offshore Geotechnical Engineering. Guest Editorial. *West Indian Journal of Engineering*, Vol.28, No.2 (January), iii

2005

Dean, E.T.R.
Patterns, Fabric, Anisotropy, and Soil Elasto-plasticity. *International Journal of Plasticity* **21**(3), 513-571 http://www.sciencedirect.com/science/article/pii/S0749641904000427

Doyle, E.H., Dean, E.T.R., and Newlin, J.A.
Lateral pile design of the URSA tension leg platform
Proc ISFOG – *Int Conf Frontiers in Offshore Geotechnics*, Australia

Dean, E.T.R.
A spudcan foundation model with excess pore pressures. Part 1. A principle of effective Loads *Marine Structures*, Special issue: Jack-Up Platforms, eds C. D'Mello, B. McKinley and L. F. Boswell, **17**(3-4), 219-243 http://www.sciencedirect.com/science/article/pii/S0951833904000565

2004

Doyle, E.H., Dean, E.T.R., Sharma, J.S., Bolton, M.D., Valsangkar, A.J., and Newlin, J.A.
Centrifuge model tests on anchor piles for tension leg platform. Paper 16845, *Offshore Technology Conference*, Houston https://www.onepetro.org/conference-paper/OTC-16845-MS

Dean, E.T.R.
New descriptions of stress, specific geometry, and strain in three dimensions. *Mechanics Research Communications*, **31**, 577–591 http://www.sciencedirect.com/science/article/pii/S0093641304000321

Dean, E.T.R., and Serra, H.
Concepts for mitigation of spudcan-footprint interaction in normally consolidated clay. *Proc Int Conf ISOPE 2004,* https://www.onepetro.org/conference-paper/ISOPE-I-04-248

2003

Dean, E.T.R.

A spudcan foundation model with excess pore pressures. *9th Int Conf, the Jackup Platform, Design, Construction, and Operation*, http://www.sciencedirect.com/science/article/pii/S0951833904000565

Dean, E.T.R.
On the idea that many macroscopic elasto-plastic behaviours are determined by properties and processes at mesoscopic scale, In "Plasticity 2003 - Dislocations, Plasticity, and Metal Forming", *Proc 10th Int Symp Plasticity and its Current Applications*, NEAT Press, Maryland USA, pp.516-519

2001

Dean, E.T.R.
Scale modelling of fluid flow in geotechnical centrifuges – discussion. *Soils and Foundations*, 41(4), 106-107

Dean, E.T.R.
New descriptions of plane strain. *Geotechnique,* Vol.51, No.1, pp.15-36
http://www.icevirtuallibrary.com/doi/abs/10.1680/geot.2001.51.1.15

1998

Dean, E.T.R.
Specific lengths and some constitutive models. *Geotechnique* 48(1), pp.1-32
http://www.icevirtuallibrary.com/doi/abs/10.1680/geot.1998.48.1.1

Dean, E.T.R., James, R.G., Schofield, A.N., and Tsukamoto, Y.,
Drum centrifuge study of three-leg jackup models on clay. *Geotechnique,* 48(6), 1998, 761-785
http://www.icevirtuallibrary.com/doi/abs/10.1680/geot.1998.48.6.761

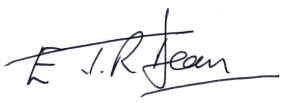
1997

Langen, H.van, Wong, P.C., and Dean, E.T.R.
Formulation and Validation of a Theoretical Model for Jack-Up Foundation Load-Displacement Assessment. *6th Int Conf The Jackup Platform, Design, Construction, and Operation*, City University, London http://www.sciencedirect.com/science/article/pii/S0951833999000155

Dean, E.T.R., Hsu, Y.S., James, R.G., Sasakura, T., Schofield, A.N., and Tsukamoto, Y.
Centrifuge modeling of jackups and spudcans on drained and partially drained silica sand. *Marine Structures*, 10, 221-241. http://www.sciencedirect.com/science/article/pii/S095183399600024X

Dean, E.T.R., James, R.G., Schofield, A.N., and Tsukamoto, Y.
Theoretical modeling of spudcan behaviour under combined load. *Soils and Foundations*, 37(2), 1-15
https://www.jstage.jst.go.jp/article/sandf1995/37/2/37_2_1/_article

Dean, E.T.R., James, R.G., Schofield, A.N., and Tsukamoto, Y.



Numerical modeling of three-leg jackup behaviour subject to horizontal load. *Soils and Foundations*, 37(2), 17-26 https://www.jstage.jst.go.jp/article/sandf1995/37/2/37_2_17/_article

1995

Dean, E.T.R., Hsu, Y.S., James, R.G., Schofield, A.N., Murff, J.D., and Wong, P.C.
Centrifuge modeling of 3-leg jackups with non-skirted and skirted spudcans on partially drained sand, Paper OTC 7839, *Offshore Technology Conference*, Houston. https://www.onepetro.org/conference-paper/OTC-7839-MS

1993

Wong, P.C., Chao, J.C., Murff, J.D., Dean, E.T.R., James, R.G., and Schofield, A.N.
Jackup rig foundation modeling II . Paper OTC 7303, *Offshore Technology Conference,* Houston, 1993. https://www.onepetro.org/conference-paper/OTC-7303-MS

1992

Dean, E.T.R., Hsu, Y.S., James, R.G., Schofield, A.N., Tan, F.S.C., and Wong, P.C.
The bearing capacity of conical footings on sand in relation to the behaviour of spud footings of jackups. In *Predictive Soil Mechanics, Wroth Memorial Symposium*, Thomas Telford.
http://www.icevirtuallibrary.com/doi/abs/10.1680/psm.19164.0015

Murff, J.D., Prins, M.D., Dean, E.T.R., James, R.G., and Schofield, A.N.
Jackup rig foundation modeling, Paper OTC 6807 *Offshore Technology Conference*, Houston.
https://www.onepetro.org/conference-paper/OTC-6807-MS

1991

Murff, J.D., Hamilton, J.M., Dean, E.T.R., James, R.G., Kusakabe, O., and Schofield, A.N.
Centrifuge testing of foundation behavior using full jackup rig models. Paper OTC 6516, *Offshore Technology Conference*, Houston. https://www.onepetro.org/conference-paper/OTC-6516-MS

1982

Dean, E.T.R., and Schofield, A.N.
Two centrifuge model tests: Earthquakes on submerged embankments
Proc Atti del XV Convegno Nazionale di Geotechnica, pp.115-129

Publications – Technical Reports and Theses

2006

Charles, R., Dean, E.T.R., Kanithi, V., Shrivastava, G., and Venkobachar, C.
Report to the Ministry of Works and Transport. Engineering Restoration of Upper Pashley Street Community Infrastructure. Report on Damages to Infrastructure

Technical Report No. ISRN UWI-STA/CVENG/TR-□-2006/1+TT, University of the West Indies

1993

Dean, E.T.R., Hsu, Y.S., James, R.G., and Schofield, A.N.
Development of a new apparatus for centrifuge testing of offshore jackup platform models and Data report for centrifuge test YSH1: 3-leg jackup model with flat spuds on dense water-saturated sand, Technical Report CUED/D-Soils/TR267, Cambridge University

1992

Dean, E.T.R., James, R.G., Schofield, A.N., Tan, F.S.C., and Tsukamoto, Y.
Combined vertical, horizontal, and moment loading of circular spudcans on dense sand foundations: Data report for drum centrifuge tests YT11L-A thru -G and YT21L-G thru -Y,
Technical Report CUED/D-Soils/TR244, Cambridge University

1990

Dean, E.T.R.
Isotropic transformations models for finite axial strains events
Technical Report CUED/D-Soils/TR224, Cambridge University

1989

Dean, E.T.R.
Development and some consequences of a proposed new fundamental constitutive assumption for isotropic soils with induced anisotropy: Axiom 1.
Technical Report CUED/D-Soils/TR223, Cambridge University

Dean, E.T.R.
Triangular continuum mechanics, Vol.1, Theory of homogeneous deformations. Technical Report CUED/D-Soils/TR215, Cambridge University

1988

Dean, E.T.R.
Isotropic transformations soil constitutive models with induced anisotropy in axial deformations events. Ph.D.thesis, Cambridge University

Dean, E.T.R. and Edgcombe, K.
FLY14 User Manual. Technical Report CUED/D-Soils/TR203, Cambridge University

1987

Dean, E.T.R.
An alternative to the advection-dispersion equation. Technical Report, Cambridge University

Dean, E.T.R.
Earthquake Response of Submerged Embankments, Data Report for Centrifuge Test RD09/1
Technical Report CUED/D-Soils/TR203, Cambridge University

Dean, E.T.R.
Dynamic Testing of Soil Elements and Centrifuge Models of Soil Structure Interaction Problems, Data Report for Centrifuge Test SERC#1 : Dry model
Technical Report CUED/D-Soils/TR195, Cambridge University

Dean, E.T.R.
Earthquake Response of Submerged Embankments, Data Report for Centrifuge Test RD08
Technical Report CUED/D-Soils/TR194, Cambridge University

1981

Dean, E.T.R.
Aspects of earthquake effects on embankment dams, M.Phil Thesis, Cambridge University