

CURRICULUM VITAE

MARK F RANDOLPH

DATE OF BIRTH: 3 July 1951

NATIONALITY: Australian, British

ACADEMIC BACKGROUND: PhD, St John's College, Cambridge (1978)
MA, The Queens College, Oxford (1978)
BA Hons (1st Class) in Eng. Science, The Queens College, Oxford (1973)

PROFESSIONAL AFFILIATIONS: Chartered Professional Engineer
Fellow, Australian Academy of Science
Fellow, Australian Academy of Technological Sciences & Engineering
Fellow, Royal Academy of Engineering, UK
Fellow, Institution of Engineers, Australia
Member, College of Civil Engineers, Australia
Member, Intl. Society of Soil Mech. and Foundation Engineering
Member, British Geotechnical Society
Member, Australian Geomechanics Society

COUNTRIES WORKED IN: Australia, Britain, France, Hong Kong, India, Japan, Malaysia, Singapore, Sweden, Thailand, Vietnam, USA

EXPERTISE: Geotechnical Engineering, Offshore Geomechanics, Research, Computer Programme Development for Geotechnical Applications, Teaching

MAJOR PROJECT EXPERIENCE:

- Submarine slide impact on pipelines offshore Australia
- Grouted pile design in cemented carbonate sediments for North-West Shelf, Australia
- Pile tip damage for offshore driven piles in dense sand, North Sea
- Drag anchor installation in layered clays and sands, North Sea
- Design of driven piles in high plasticity clays, offshore West Africa
- Construction issues associated with bored piles in variably weathered granite, Hong Kong
- Suction caisson installation resistance and capacity, offshore Angola
- Large capacity bored pile foundation for MyThuan Bridge, Vietnam
- Piled raft analysis for high-rise building in Dubai
- Dynamic and static pile testing and analysis of the Narrows bridge over the Swan River, Western Australia.
- Piled raft foundation assessment, HBI Plant, Western Australia.
- Impact assessment of Wanaea/Cossack pipeline culvert protection system and North Rankin "A" conductors.

- Dynamic pile testing and foundation design for railway and road bridges over the Swan River and elsewhere in Western Australia.
- Pile design and load test interpretation of piled foundations for the QV1 building and Forest Place/City Station, Perth, WA
- Review of the eastern approach embankment stability for the road bridge (Windan bridge) over the Swan River. This review also addressed long term settlements and pile soil interaction.
- Assessment of causes and remedial action for the damaged Goodwyn “A” primary piles.
- Assessment of cyclic shear data for the Exxon Bream B and West Tuna gravity platforms.
- Cyclic triaxial testing and advice to Woodside in connection with sea-bed liquefaction.
- Advice to BHP Petroleum in connection with potential liquefaction of the Challis mooring foundation.
- Review of reports on grouted pile response in Bass Strait for Esso.
- Advice and analysis in connection with the Andrew Platform, North Sea for BP and various other projects in the North Sea for McClelland Engineers.
- Advice and analysis to Nobel Denton & Associates on pile capacities in calcareous soils off Brazil.
- Advice and analysis on the North Rankin A foundation upgrade and analysis and laboratory testing for the Goodwyn A Platform.
- Member of steering committees for the Esso onshore grouted driven pile test programme and for the Woodside onshore grouted section test programme in South Australia.
- Numerous centrifuge test projects for offshore piles and anchors for Exxon and Woodside.
- Correlations of offshore pile load test data in clay for Amoco.

EMPLOYMENT HISTORY:

Advanced Geomechanics, Perth	
Director	1994 - Present
The University of Western Australia	
Australian Research Council Federation Fellow	2005 - 2010
Director, Centre for Offshore Foundation Systems	1997 - 2005
Professor	1990 - Present
Associate Professor	1989 - 1990
Senior Lecturer	1986 - 1990
The University of Cambridge	
Lecturer in Engineering	1984 - 1986
Assistant lecturer	1979 - 1984
Fellow of St John’s College and	1978 - 1986
Director of Studies in Engineering	
Building Research Establishment, Department Environment, UK	
Higher Scientific Officer, Geotechnics Division	1973 - 1975

LANGUAGES: English

AWARDS:	Maurice Lubbock Memorial Prize (Oxford)	1973
	Institution of Civil Engineers Prize (Oxford)	1973
	Cooling Prize (B.G.S) for young engineers	1975
	Research Fellowship, St John's College, Cambridge	1978
	British Geotechnical Society Prize	1982
	E H Davis Lecturer, Australian Geomechanics Society	1997
	Mathis Lecturer, Massachusetts Institute of Technology	1998
	John Henry Garrood King Medal (ICE, UK)	2000
	XVII Manuel Rocha Lecture, Portugese Geot. Soc.	2000
	Gabriel Kassiff Memorial Lecture, Technion, Israel	2001
	Centenary Medal, Australia	2003
	Rankine Lecture, British Geotechnical Assoc.	2003
	1 st C W Lovell Lecture, Purdue University	2003
	Geotechnical Research Medal (Inst. Civil Eng., UK)	2004
	British Geotech. Assoc. Prize (Inst. Civil Eng., UK)	2005
	Federation Fellow, Australian Research Council	2005
	John Booker Medal, IACMAG	2005
	2005 Poulos Lecture, Aust. Geomech. Soc., Sydney	2006
	William Mong Distinguished Lecturer, Univ. of Hong Kong	2008

PUBLICATIONS:

Summary: 3 Books and book contributions
150 Journal publications
240 Conference papers
120 Research and consulting reports
5 Computer programs and manuals

Key publications:

Fleming W.G.K., Weltman A.J., Randolph M.F. and Elson W.K. (2009). "Piling Engineering", 3rd Edition, Surrey University Press, Halstead Press.

Randolph, M.F. and White, D.J. (2008). Upper bound yield envelopes for pipelines at shallow embedment in clay. *Géotechnique*, 58(4), 297-301

White, D.J. and Randolph, M.F. (2007). Seabed characterisation and models for pipeline-soil interaction. *Int. J. of Offshore and Polar Eng.*, 17(3), 193-204.

Chen, W. and Randolph, M.F. (2007). Radial stress changes and axial capacity for suction caissons in soft clay. *Géotechnique*, 57(6), 499-511.

Einav, I. and Randolph, M.F. (2006). Effect of strain rate on mobilised strength and thickness of curved shear bands. *Geotechnique*, 56(7), 501-504.

Hossain, M.S., Hu, Y., Randolph, M.F. and White, D. (2005). Limiting cavity depth for spudcan foundations penetrating uniform clay. *Géotechnique*, 55(9), 679-690. (Awarded 2005 BGA prize.)

Einav, I. and Randolph, M.F. (2005). Combining upper bound and strain path methods for evaluating penetration resistance. *Int. J. Numerical Methods in Engineering*, 63(14), 1991-2016.

Lu Q., Randolph M.F., Hu Y. and Bugarski I.C. (2004). A numerical study of cone penetration in clay, *Geotechnique*, 54(4), 257-267.

Randolph, M.F. (2003). 43rd Rankine Lecture: Science and empiricism in pile foundation design, *Géotechnique*, 53(9), 785-796.

Gourvenec S. and Randolph M.F. (2003). Effect of strength non-homogeneity on the shape of failure envelopes for combined loading of strip and circular foundations on clay, *Géotechnique*, 53(6), 575-586.

Reul, O. and Randolph, M.F. (2003). Piled rafts in overconsolidated clay – Comparison of in-situ measurements and numerical analyses. *Géotechnique*, 53(3), 301-315.

Randolph M.F. (2002). Foundation and anchoring systems in soft sediments, *Geotecnia*, 94(Mar), 7-33.

Puzrin A.M. and Randolph M.F. (2001). On the superposition of plastically dissipated work in upper bound limit analysis, *Proc. Royal Soc. London: Series A*, 567-586.

Randolph M.F. (2000). Pile-soil interaction for dynamic and static loading. Keynote Lecture, *Proc. 6th Int. Conf. On Application of Stress-Wave Theory to Piles*, Sao Paulo, Appendix: 3-11.

Randolph M.F., Martin C.M. and Hu Y. (2000). Limiting resistance of a spherical penetrometer in cohesive material. *Géotechnique*, 50(5): 573-582.

Guo W.D. and Randolph M.F. (1999). An efficient approach for settlement prediction of pile groups. *Géotechnique*, 49(2): 161-179.

Horikoshi K. and Randolph M.F. (1998). Optimum design of piled rafts. *Géotechnique*, 48(3): 301-317.

Hu Y. and Randolph M.F. (1998). A practical numerical approach for large deformation problems in soil. *Int. J. Num. & Anal. Methods in Geomechanics*, 22(5): 327-350.

De Nicola A. and Randolph M.F. (1997). The plugging behaviour of driven and jacked piles in sand. *Géotechnique*, 47(4): 841-856.

Neubecker S.R. and Randolph M.F. (1996). The kinematic behaviour of drag anchors in sand. *Canadian Geotechnical Journal*, Vol. 33, No. 4, pp 584-594.

Randolph M.F., Dolwin J. and Beck R.D. (1994). Design of driven piles in sand. *Géotechnique*, 44(3): 427-448.

Randolph, M.F. (1994). Design methods for pile groups and piled rafts. State-of-the-art lecture, *Proc. XIII International Conference on Soil Mechanics and Foundation Engineering*, New Delhi, 5: 61-82.

Randolph M.F., Carter J.P. and Wroth C.P. (1979). Driven piles in clay - effects of installation and subsequent consolidation. *Géotechnique*, 29(4): 361-393.

Randolph M.F., and Wroth C.P. (1978). Analysis of deformation of vertically loaded piles. *J. Geot. Eng. Div., ASCE*, 104(GT12): 1465-1488.