CURRICULUM VITAE

Professor Dong-Sheng Jeng

August 2012

Contents

1. Biography

1.1 Personal Information

Name:	Dong-Sheng **JENG**
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Nationality	Australian
Age	48
Marital Status	Married, two daughters, 14 and 8 years old

1.2 Education

Degree	University	Year (award)
Ph.D.:	Department of Environmental Engineering, The University of Western Australia, Australia	1997
MEng (Civil):	Department of Civil Engineering, National Chung-Hsing University, Taiwan	1989
BEng (Civil):	Department of Civil Engineering, National Chung-Hsing University, Taiwan	1987
Master of Education (High Education)	Institute of Teaching and Learning, The University of Sydney, Australia	2008

1.3 Professional Experience (University)

Position	Department/University, Country	Duration
Professor	NRP Chair in Civil Engineering, Division of Civil Engineering, University of Dundee, UK	10/2007 –
	Notice required: six (6) months	
Adjunct Professor	Zhejiang University, China	6/2012 – 5/2015
Adjunct Professor	Shanghai Jiao Tong University, China	12/2010 – 11/2013
Adjunct Professor	Griffith University, Australia	2/2010 – 12/2012
Visiting Scholar	School of Engineering, The University of Queensland, Australia	7-11/2009
Sir Allan Sewell Visiting Fellow	Griffith School of Engineering, Griffith University, Australia	7-8/2009
Environmental Hydraulics Visiting Fellow	Faculty of Engineering, University of Hong Kong, Hong Kong	10/2007
Associate Professor	School of Civil Engineering, The University of Sydney, Australia	2007
Visiting Professor	Ocean University of China, Qingdio, China	2006 -2009
Hai-Tan Visiting Professor	Dalian University of Technology, China	2006 – 2009
Adjunct Professor	Jiangsu University, China	6/2006 -
Senior Lecturer	Department of Civil Engineering, The University of Sydney, Australia	6/2004 -2006
Visiting Professor	Laboratoire de technologie écologique, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland	1/2006 -2/2006
Visiting Professor	Department of Mathematics, The University of British Columbia, Canada.	6/2005 – 7/2005
Senior Visiting Fellow	Institute of Mechanics, Chinese Academy of Sciences	12/2004 – 1/2005
Special Professor	Research Institute of Coastal and Ocean Engineering, Hohai University, China	2004

Position	Department/University, Country	Duration
Senior Lecturer	School of Engineering, Griffith University Gold Coast Campus, Australia	1/2003 –-6/2004
Visiting Fellow	National Science Council, Taiwan	12/2002 -1/ 2003
Lecturer	School of Engineering, Griffith University Gold Coast Campus, Australia	7/1999 – 12/ 2002
Visiting Fellow	Japanese Society for Promotion of Science, Japan	12/2001 – 1/ 2002
Visiting Fellow	National Science Council, Taiwan	6/1999
Postdoctoral Research Associate	Special Research Centre for Offshore Foundation Systems, The University of Western Australia, Australia	5/1997 – 6/1999

1.4 Awards and Honours

- OMAE Special Appreciation Award, 2008, OOAE Division of ASME.
- Excellent Article Award (with Tsai & Lee), The Chinese Society of Ocean Engineering, Taiwan, 2001.
- ARC Postdoctoral Fellowship, Australian Research Council Postdoctoral Research Fellowship, 1999
- Gledden Travel Award, The University of Western Australia, 1998
- Excellent Article Award (with Tsai and Twu), The Chinese Institute of Civil and Hydraulic Engineering Society, Taiwan, 1993

2. Research

2.1 Research Areas

I have been working in the different research areas that are outlined in the following sections. Some of them have been done over last 15 years, and some of them are new developed areas.

Strand#1: Offshore Geotechnics

I have been working in the area of offshore geotechnics since 1993. My most significant contributions have been in the field of coastal geotechnical engineering, specifically issues associated with wave–seabed–structure interaction (WSSI), which have a major bearing on the understanding and construction of coastal structures. I established the first analytical solutions for the inherent problems of WSSI in 3D short-crested wave systems and revised the conventional consolidation equation for anisotropic seabeds with variable permeability to obtain closed-form solutions. My 3D models allow the determination of wave-induced oscillatory liquefaction in front of breakwaters under obliquely incident wave; this represents the most dangerous condition and one that cannot be dealt with using either 1D or 2D models. My analytical solutions have been widely used for verifying numerical simulations and for determining wave surface profiles using measured pore pressure in marine sediments. These solutions were the basis of a major chapter in 'The mechanics of scour in the marine environment' (Chater 10, Sumer & Fredsoe, 2002) and have been widely used by coastal engineers for the prediction of wave-induced oscillatory liquefaction around marine structures and the installation of *in situ* facilities.

Recently, with the first approximation of residual pore pressure, I (with Seymour) established a general formula for the prediction of the wave-induced residual liquefaction, using the technique of Laplace transformation. This solution allows engineers to evaluate the instability of the seabed *in situ* without the need of extensive computation. In addition to the works on mathematical formulations, I have also developed a general Finite Element Model for the WSSI problem. The introduction of the concept of repeatability into this model overcomes the limitations of lateral boundary conditions in conventional numerical models, and provided precise predictions of wave-induced pore pressure. Critically, the model includes realistic seabed properties with anisotropic soil behaviour and non-homogeneous soil characteristics, which significantly affects the potential for wave-induced liquefaction. This advance was recognised in an invited book chapter.

Another new development in this direction is the integration of wave and geotechnical models in 3D, which is part of a current EPSRC project. In this model, 3D wave and 3D geotechnical models have been developed separately, and then link together to form a 3D two-way coupling model. Part of preliminary results has been submitted to international journal recently.

Currently, I and my students are working on the development of poro-elastoplastic models for post-liquefaction and densification in marine sediment under dynamic loadings (such as waves, currents and earthquakes etc.). This is also part of my current EU project—MERMAID (2012-2016). We are also establishing new conceptual model for pore pressure accumulations in marine sediment with instant cyclic shear stresses, unlike the existing models based on the maximum cyclic shear stresses.

Strand #2: Geotechnical & Geo-Environmental Engineering

I and my workers have been working on the problems of soil-structure interaction and their applications in civil infrastructures since 2005. We developed poro-elastic models for soil-pile interaction and ground vibration due to moving loading. We also developed 2.5D approach for soil-structure interactions problems and applied to several geotechnical engineering problems.

Recently, I and my student have developed a series of porous model for simulation of contaminant transport in landfill clay liners. The new contribution of the proposed model is the inclusion of soil behavior in the conventional solute transport model. Both small strain and finite strain are considered as well as unsaturation. Our research results demonstrated the significant effects of soil behavior on the contaminant transport in landfill. This will provide geo-environmental engineers a better understanding of solute transport landfill sites.

Currently, I and my co-worker (Dr. Zhang at Center for Marine Geotechnical Engineering, Shanghai Jiao Tong University) are working on the rainfall-induced slope stability through laboratory experiments and stochastic approach. The preliminary results form a manuscript that was submitted to Computers & Geotechnics.

In addition to geo-environmental engineering, my students and I have also investigated the pavement design in Gold Coast area (Bolton & Jeng, 2003) and design of a portable triaxial compression apparatus (Jeng et al., 2004).

Different from the conventional approaches, We have also developed Artificial Neural Network model for several geotechnical engineering problems, such as wave-induced liquefaction, settlement of piles; and stability of pipelines (Jeng et al., 2004; Cha et al., 2007; Ismail & Jeng, 2011)

Strand #3: Groundwater Hydraulics

I and my co-workers (including my students) have derived a series of analytical approximations for the tide-induced water table fluctuations in coastal aquifers since 2000. The most significant contributions are the second-order approximation based on shallow water expansion (Teo et al., 2003) and the new definition of capillary effects (Jeng et al., 2005). Most groundwater models have based on Boussinesq equation, which is the zeroth-order governing equation in the shallow water expansion, until Teo et al. (2003). The research results demonstrated the effects of higher-order components.

Recently, I and my student have developed a numerical code to automatically generate the higher-order analytical solutions for tide-induced groundwater table fluctuations in coastal aquifers. This new code will automatically cover all previous analytical approximations. Part of preliminary results was published in the international journal—*Ground Water*.

The future development of the research group in this direction will be the development of coupled model for wave, porous seabed and groundwater interactions. Mathematical and numerical models are under construction and laboratory experiments and field study will be conducted in 2012/2013.

Strand #3: Coastal Engineering

I developed a Fourier wave theory for three-dimensional short-crested waves in front of a breakwater during my Master degree study, which employed the implicit expression wave profile and provide a better prediction of wave characteristics for almost highest waves. The numerical results concluded that the maximum wave energy occurs near the highest wave, rather than the highest waves.

I and my students (in Australia and UK) have developed a software-based model for the application of headland control in coastal management. The model has been successfully applied to the prediction of long-term shoreline in Australia, which is part of Australian Research Council Linkage project funded by ARC and NSW governments and DHI. This model has also been applied to the coastal management in Taiwan and recently in Scotland and England as two MRes (i.e., MPhil in Australia) projects.

Recently, I and my co-workers (including the PDRA at Dundee and Prof Phillip Liu at Cornell) further extended the Cornell breaking wave model (COBRAS) to the case with porous seabed and link with the geotechnical model (PORO-WSSI) developed by my group. Part of preliminary results has been submitted to international journal recently. This model has been further extended to the case of wave-current interactions.

In addition to two-dimensional porous model for wave-seabed-structure interactions, we also developed three-dimensional model. Based on TRUCHAS model, we added the internal wave generation model and link with poro-elastoplastic seabed model to form PORO-WSSI III model. This model was first applied to the case around breakwater heads. One of my recent PhD (Ye, 2012) completed some preliminary study for the three-dimensional models. We are working on another components with currents.

Strand#4: Marine Energy Systems

I have been working on the offshore wind energy system from different aspects since he was at University of Sydney with the support of internal grant-USyd Sustainable Energy research Grant. I and my student first assessed the potential of offshore wind energy in Australia and identify the possible sites. The results have been presented in Offshore Technology Conference (OTC) in 2007. Later, this framework has been further improved and applied to Taiwanese region.

Recently, I and my students at Dundee are working on the civil engineering design of offshore wind energy systems, which integrates individual models such as aerodynamic, hydrodynamic, coastal, geotechnical and structural models. A group of students are working on the development of individual models and integrated model. Another current focus of the group is the rocking of mono-pile and its effects on foundation stability. A series of laboratory experiments has been conducted at Technological University of Denmark (DTU) since January 2009. A visiting PhD student from (DTU) worked on the development of numerical model of the rocking of offshore mono-pile. The numerical model was validated by the experimental data from DTU. Currently, another student at Shanghai Jiao Tong University is working on numerical study for Donghai Wind Farm system with focus on the foundation stability. Some preliminary research outcomes will presented in the international conference (CEBM2012) (Chang & Jeng, 2012).

The future development of the research group in the area of marine energy will be the development of a multi-marine energy system such as the current project of "3-in1" marine energy system. We plan to start a series of study of combined wave & wind energy, wave& tidal energy or wind, wave & tidal energy. This will include theoretical and experimental studies from individual to the whole system.

Strand #5: Artificial Neural Network

I have successfully applied artificial neural network model to several engineering problems such as liquefaction, slope stability, scour around piers, tidal level forecasting. The ANN models include the conventional BPN, Bayesian, adaptive neural-fuzzy models. Most of the previous researches conducted by the research group in the area of ANN model have been limited to the application of ANN model in civil engineering problems.

Recently, I and my student (Mr. Ismail) at Dundee successfully developed a higher-order neural network model, which can provide better understanding between input variable and neural layers, and has the capacity to handle the non-linear relations between variables. This new model has been first applied to the predictions of pile head settlements (HON-Pile). Some preliminary results were published in 2011 (Ismail & Jeng, 2011).

Strand #6: Biology-Plant Science

I established the collaborated with Scottish Crop Research Institute (SCRI) recently. One PhD student is working on this direction under the support of joint studentship between University of Dundee and SCRI. The main research focus of this project is to simulate the process of expansion of seed coat mucus through fluid mechanics models together with laboratory experiments at SCRI. Research outcomes was published/submitted to international journals.

The future development in this area will be (i) modeling of the whole processes of expansion of mucus around seed; (ii) explore the methodology of slowing up the process of expansion for the remove of mucus; and (iii) application of mucus to construction materials.

2.2 Publications

2.2.1 Summary

I have published over 300 international journal articles and conference papers since 1993. My publications cover wide range of civil engineering relevant areas, such as offshore geotechnics, coastal engineering, groundwater hydraulics, offshore wind energy and application of neural network in civil engineering.

Summary[#]

	~01	02	03	04	05	06	07	08	09	10	11	12	Under Review	Total
Book/ Book chapters	-	-	1	1	-	-	1	4	1	-	-	(2)	-	8(2)
Journal articles	47	17	12	7	14	12	21	15	10	5	11	10(7)	12	181(7)
Conference papers	32	10	15	10	6	7	11	5	3	14	2	5(3)	-	120(3)
Others	-	-	-	-	-	-	-	1						1
Total	**79**	**27**	**28**	**18**	**20**	**19**	**33**	**25**	**14**	**19**	**13**	**15(12)**		**310(12)**

() denotes the papers in press/accepted

2.2.2 Citations

I have produced a career average over 10 publications per year in international peer-review journals and book chapters since 1993. The number of annual citations (Web of Knowledge) is increasing (Figure 1), with >125 citations p.a. since 2009, sum of the time cited is 1257 with the average citations per articles of 6.41, and an H-index of 20.

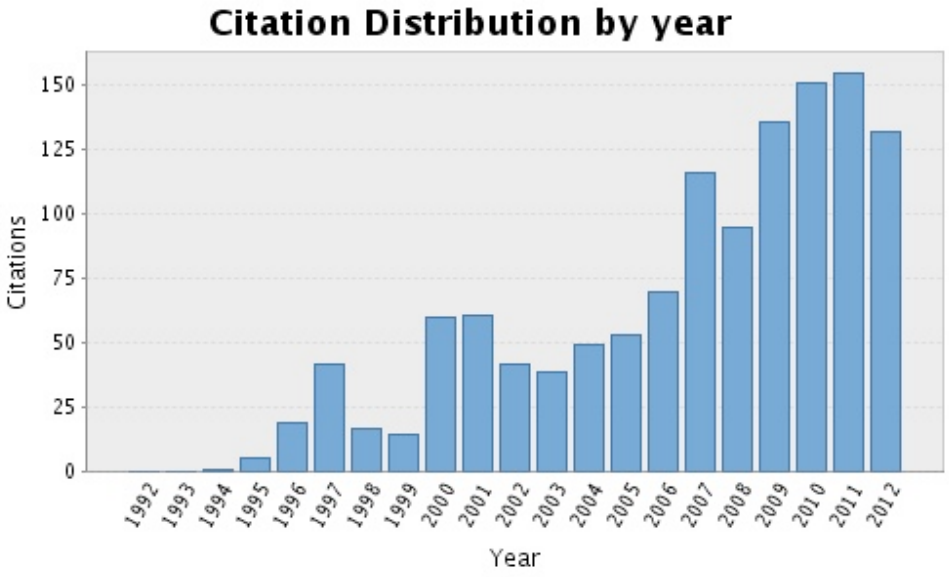

Figure 1: Annual citations for DSJ (Web of Knowledge; last updated: 08/24/2012 11:10 GMT)

2.2.3 List of Publications

BOOKS

1. **Jeng D-S** (2012) Porous models for wave-seabed interactions. Springer (in press, scheduled in November 2012)

BOOK CHAPTERS

2. **Jeng D-S** (2003) A general finite element model for wave-seabed-structure interaction. In: Numerical Analysis and Modelling in Geomechanics (edited by John Bull), Chapter 3, E& FN SPON, London, 59–100 (invited).
3. Li L, Barry DA, **Jeng D-S** & Prommer H (2004) Tidal dynamics of groundwater flow and contaminant transport in coastal aquifers. In: Coastal Aquifer Management-Monitoring, Modeling and Case Studies (edited by A. H. D. Cheng and D. Ouazar), Chapter 6, 115-142 (invited).
4. **Jeng D-S** and Zheng, Y (2007) Energy from offshore wind: An overview. In: Water Wind Art and Debate: How environmental concerns impact on disciplinary research, edited by Gavin Birch, USyd Press, 247-282.
5. Bateni SM, Mortazavi SM & **Jeng D-S** (2008) Runoff forecasting using an Adaptive Neuro-Fuzzy approach. In: New topics in water resources research (edited by Henrik M Anderssen), Chapter 2, Nova Science Publishers Inc.,15-27 (ISBN: 978-1-60021-974-8).
6. Cha DH, Blumenstein M, Zhang H & **Jeng D-S** (2008) A neural-genetic technique for coastal engineering: Determining wave-induced seabed liquefaction. In: Engineering evolutionary intelligent systems, Studies in Computational Intelligence, SCI Series, Vol. 82, Springer Berlin/Heidelberg, 331-357. DOI 10.1007/978-3-540-75396-4_12 (ISBN 978-3-540-75395-7)
7. **Jeng D-S** (2008) Random wave-induced pore pressure and effective stresses in marine sediments. In: Ocean engineering research advances (edited by Alan I. Prescott), Chapter 5, Nova Science Publishers Inc, 113-166 (ISBN: 978-1-60021-777-7)
8. Lee TL & **Jeng D-S** (2008) Application of Artificial Neural Networks in Civil Engineering. In: Artificial intelligence: new research (edited by Randal B. Bernstein and Wesley N. Curtis), Chapter 1, Nova Science Publishers Inc., 57-207 (ISBN: 978-1-60456-282-8)
9. Shabani B, **Jeng D-S** & Small, J. (2009) Wave-associated seabed behaviour near submarine buried pipelines. In: Rock mechanics: new research, Nova Science Publishers Inc., 3-109 (ISBN: 978-1-60692-459-4)
10. **Jeng D-S** (201X) Offshore Geotechnics, In: Handbook of Ocean Engineering, Chapter 44, Springer (in press)

JOURNAL ARTICLES

11. Hsu JRC, **Jeng D-S** & Tsai CP (1993) Short-crested wave-induced soil response in a porous seabed of infinite thickness. International Journal for Numerical and Analytical Methods in Geomechanics, 17(8), 553–576.
12. Hsu JRC & **Jeng D-S** (1994) Wave-induced soil response in an unsaturated anisotropic seabed of finite thickness. International Journal for Numerical and Analytical Methods in Geomechanics, 18(11), 785–807.
13. Tsai CP & **Jeng D-S** (1994) Numerical Fourier solution of standing waves in finite water depth. Applied Ocean Research, 16(3), 185–193.
14. Tsai CP, **Jeng D-S** & Hsu JRC (1994) Computations of the almost highest short-crested waves in deep water. Applied Ocean Research, 16(6), 317–326.
15. Hsu JRC, **Jeng D-S** & Lee CP (1995) Oscillatory soil response and liquefaction in an unsaturated layered seabed. International Journal for Numerical and Analytical Methods in Geomechanics, 19(12), 825–849.
16. Ohyama T, **Jeng D-S** & Hsu JRC (1995) Fourth-order theory for multiple-wave interaction. Coastal Engineering, 25, 43–63.
17. **Jeng D-S** (1996) Wave-induced liquefaction potential in a cross-anisotropic seabed. Journal of the Chinese Institute of Engineering, 19 (1), 59–70.
18. **Jeng D-S** (1996) Wave-induced liquefaction potential at the tip of a breakwater. Applied Ocean Research, 18(5), 229–241.
19. **Jeng D-S** & Hsu JRC (1996) Wave-induced soil response in a nearly saturated seabed of finite thickness. Géotechnique, 46(3), 427–440.
20. **Jeng D-S** & Lin YS (1996) Finite element modelling for water waves-seabed interaction. Soil Dynamics and Earthquake Engineering, 15(5), 283–300.
21. Lin, Y. S. & **Jeng D-S** (1996) Response of poro-elastic seabed to a 3-D wave system: A finite element analysis. Coastal Engineering in Japan, 39(2), 165–183.
22. Seymour BR, **Jeng D-S** & Hsu JRC (1996) Transient soil response in a porous seabed with variable permeability. Ocean Engineering, 23(1), 27–46.
23. **Jeng D-S** (1997) Soil response in cross-anisotropic seabed due to standing waves. Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 123(1), 9–19.
24. **Jeng D-S** (1997) Wave-induced seabed instability in front of a breakwater. Ocean Engineering, 24(10), 887–917.
25. **Jeng D-S** (1997) Discussion of "Response of poro-elastic beds to standing wave" by Sekiguchi et al., Soils and Foundations, 37(2), 139.
26. **Jeng D-S** & Lin, Y. S. (1997) Non-linear wave induced response of porous seabeds: A finite element analysis. International Journal for Numerical and Analytical Methods in Geomechanics, 21(1), 15–42.
27. **Jeng D-S** & Seymour BR (1997) Short-crested wave-induced seabed response with variable permeability. Journal of the Chinese Institute of Engineering, 20(4), 377–388.

28. **Jeng D-S** & Seymour BR (1997) Response in seabed of finite depth with variable permeability. Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 123(10), 902–911.

29. **Jeng D-S** & Seymour BR (1997) Wave-induced pore pressure and effective stresses in a porous seabed with variable permeability. Journal of Offshore Mechanics and Arctic Engineering, Transaction ASME, 119(4), 226–233.

30. Lin, Y. S. & **Jeng D-S** (1997) The effect of variable permeability on the wave-induced seabed response. Ocean Engineering, 24(7), 623–643.

31. **Jeng D-S** (1998) Wave-induced seabed response in a cross-anisotropic seabed in front of a breakwater: An analytical solution. Ocean Engineering, 25(1), 49-67.

32. **Jeng D-S** (1998) Effect of cross-anisotropic soil behaviour on the wave-induced seabed response. Géotechnique, 48(4), 555–561.

33. Zen K, **Jeng D-S**, Hsu JRC & Ohyama T (1998) Wave-induced seabed instability: Difference between liquefaction and shear failure. Soils and Foundations, 38(2), 37–47.

34. **Jeng D-S** & Cheng L (1999) Wave-induced seabed response around a pipe laid on a poro-elastic seabed. Journal of Offshore Mechanics and Arctic Engineering, Transaction ASME 121(4), 227–236.

35. **Jeng D-S** & Lin YS (1999) Wave-induced pore pressure around a buried pipeline in Gibson soil: Finite element analysis. International Journal for Numerical and Analytical Methods in Geomechanics, 23 (13), 1559–1578.

36. **Jeng D-S** & Lin YS (1999) Pore pressures on a submarine pipeline in a cross-anisotropic non-homogeneous seabed under wave loading. Canadian Geotechnical Journal, 36(3), 563–572.

37. **Jeng D-S**, Rahman MS & Lee TL (1999) Effects of Inertia forces on wave-induced seabed response. International Journal of Offshore and Polar Engineering, 9(4), 307–313.

38. **Jeng D-S** (2000) On calculating the length of a short-crested wave over a porous seabed. Applied Ocean Research, 22(2), 63–73.

39. **Jeng D-S**, Cha DH, Lin YS & Hu PS (2000) Analysis on pore pressure in a porous seabed in the vicinity of a caisson. Applied Ocean Research, 22(6), 317–329.

40. **Jeng D-S** & Cheng L (2000) Wave-induced seabed instability around a buried pipe in a poroelastic seabed. Ocean Engineering, 27(2), 127–146.

41. **Jeng D-S** & Lin YS (2000) Poroelastic analysis for wave-seabed interaction problem. Computers and Geotechnics, 26(1), 43–64.

42. **Jeng D-S** & Lin YS (2000) Response of in-homogeneous seabed around buried pipeline under ocean waves. Journal of Engineering Mechanics, ASCE, 126(4), 321–332.

43. **Jeng D-S** & Rahman MS (2000) Effective stresses in a porous seabed of finite thickness: Inertia effects. Canadian Geotechnical Journal, 37(4), 1388–1397.

44. Li L, Barry DA, Stagnitti F, Parlange J-Y & **Jeng D-S** (2000) Beach water table fluctuations due to spring-neap tides: The moving boundary effects. Advances in Water Resources, 23, 817–824.

45. Lin YS & **Jeng D-S** (2000) Effects of variable shear modulus on wave-induced seabed response. Journal of the Chinese Institute of Engineers, 24(1), 109–15.

46. Lin YS & **Jeng D-S** (2000) Short-crested wave-induced liquefaction in porous seabed. Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 126(5), 481–494.

47. Wang X, **Jeng D-S** & Lin YS (2000) Effects of a cover layer on wave-induced pore pressure around a buried pipe in an anisotropic seabed. Ocean Engineering, 27(8), 823–39.

48. **Jeng D-S** (2001) Mechanism of the wave-induced seabed response in the vicinity of a breakwater: A review. Ocean Engineering, 28(5), 539–572.

49. **Jeng D-S** (2001) Numerical modelling for wave-seabed-pipe interaction in a non-homogeneous porous seabed. Soil Dynamics and Earthquake Engineering, 21(8), 699–712.

50. **Jeng D-S** (2001) A new wave dispersion equation: Effects of soil characteristics. International Journal of Offshore Mechanics and Arctic Engineering, ASME, 125(4), 177–181.

51. **Jeng D-S** (2001) Wave dispersion equation in a porous seabed. Ocean Engineering, 28(12), 1585–1599.

52. **Jeng D-S**, Cha DH, Lin YS & Hu PS (2001) Wave-induced pore pressure around a composite breakwater. Ocean Engineering, 28(10), 1413–1432.

53. **Jeng D-S**, Barry DA & Li L (2001) Water wave driven seepage in marine sediments. Advances in Water Resources, 24(1), 1–10.

54. **Jeng D-S** & Lee TL (2001) Dynamic response of porous seabed to ocean waves. Computers and Geotechnics, 28(2), 99–128.

55. **Jeng D-S**, Postma PF & Lin YS (2001) Stresses and deformation of a buried pipe under ocean wave loading. Journal of Transportation Engineering, ASCE 127(5), 398–407.

56. **Jeng D-S**, Li L & Barry DA (2001) Wave-induced seepage into seabed. International Journal for Numerical and Analytical Methods in Geomechanics, 25, 771–787.

57. Li L, Barry DA & **Jeng D-S** (2001) Tidal fluctuations in a leaky confined aquifer: Dynamic effects of an overlying phreatic aquifer. Water Resources Research, 37(4), 1095–1098.

58. Barry DA, Parlange J-Y, Li L, Lisle IG, **Jeng D-S** & Stagnitti F (2002) Scope for further analytical solutions for constant-flux Infiltration into a semi-Infinite soil profile, or redistribution in a finite soil profile, Water Resources Research, 38(12), doi10.1029/2001WR000461.

59. Barry DA., Parlange, J.-Y., Li L & **Jeng D-S** (2002) Comment on "Analytical decomposition of the nonlinear unsaturated flow equation" by Sergio E. Serrano, Water Resources Research, 38(2), 10.1029/2001 WR 000 421

60. Barry DA, Parlange J-Y, Hogarth WL, Li L & **Jeng D-S** (2002) Comment on "Solute transport under non-linear sorption and decay" by Sergio E. Serrano, Water Research, 38, 3173–3174.

61. Cha DH, **Jeng D-S**, Rahman MS, Sekiguchi H, Zen K & Yamazaki H (2002) Effects of dynamic soil behaviour on the wave-induced seabed response. International Journal of Ocean Engineering and Technology, 16(5), 21–33.

62. Eicher JA, Guan H and **Jeng D-S** (2002) A parametric study of an offshore concrete pile under combined loading conditions using finite element method. Electronical Journal for Structural Engineering, 2, 32–43.

63. Gao FP, Gu XY, **Jeng D-S** & Teo HT (2002) An experimental study for wave-induced instability of pipelines: The breakout of pipelines. Applied Ocean Research, 24(2), 83–90.

64. **Jeng D-S** (2002) Wave kinematics of partial reflection from a vertical wall. Ocean Engineering, 29(13), 1711–1724.

65. **Jeng D-S**, Gao FP & Sekiguchi H (2002) Numerical modelling of non-linear wave-pipeline-seabed interaction: Application of GFEM-WSSI. Journal of Engineering, 13(2), 77–90.

66. **Jeng D-S**, Li L & Barry DA (2002) Analytical solution for tidal propagation in a coupled semi-confined/phreatic coastal aquifer. Advances in Water Resources, 25(5), 577–584.

67. **Jeng D-S** & Tsai CP (2002) Comment on "Standing wave pressures on wall" by V. Prabhakar and V. Sundar. Ocean Engineering, 29(7), 845–847.

68. Lee TL, Tsai CP, **Jeng D-S** & Shieh RJ (2002) Neural network for the prediction and supplement of tidal record in Taichung Habor, Taiwan. Advances in Engineering Software, 33(6), 329–338.

69. Lee TL & **Jeng D-S** (2002) Artificial neural networks for tide forecasting. Ocean Engineering, 29(9), 1003–1022.

70. Lee TL, Tsai CP & **Jeng D-S** (2002) Analytical solution of wave-induced seabed response: effects of inertia forces. Ocean Engineering, 29(12), 1577–1601.

71. Lee TL, Tsai CP & **Jeng D-S** (2002) Ocean waves propagating over a Coulomb-damped poroelastic seabed of finite thickness: An analytical solution. Computers and Geotechnics, 29(2), 119–149.

72. Li L, Barry DA, Stagnitti F, Parlange J-Y & **Jeng D-S** (2002) Reply to Comment on "Beach water fluctuations due to spring-neap tides: moving boundary effects" by Serrano, S. E., Advances in Water Resources, 25, 586-588.

73. Li L, **Jeng D-S** & Barry DA. (2002) Tidal fluctuations in a leaky confined aquifer: Localised effects of an overlying phreatic aquifer. Journal of Hydrology, 265, 283–287.

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293. **Jeng D-S** (2008): Non-linear wave-induced accumulation of pore pressure in marine sediments. The Ninth International Conference on Computational Structures Technology, Athens, Greece, 2-5 September 2008 (to be presented)

294. Ou J, **Jeng D-S** & Chan AHC (2008): Three-dimensional poro-elastoplastic model for wave-induced pore pressure in a porous seabed around breakwater heads. The Ninth International Conference on Computational Structures Technology, Athens, Greece, 2-5 September 2008 (CD ROM)

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299. Iannetta P, Begg G, Karley A, Valentine TA, Holman T, Wells D, Deng W, **Jeng D-S**, Squire G & Toorop P (2010): Seed traits and plant coexistence: Capsella as a model. BES Annual Meeting (CD ROM)

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301. **Jeng D-S**, Luo X & Zhang J (2010) Numerical model for rocking of mono-pile in a porous seabed. Comsol Conference 2010, Paris (CD ROM)

302. **Jeng D-S**, Luo X & Zhang J (2010) Integrated model for ocean waves propagating over marine structures on a porous seabed. Comsol Conference 2010, Paris (CD ROM)

303. Lee TL, Lin HM, **Jeng D-S** & Tsai SH (2010): Assessment of wave energy potential in Taiwan: the fuzzy analytic Hierarchy process. The 20th International Offshore and Polar Engineering (ISOPE2010), Beijing 2010 (CD ROM).

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309. Zhang J-S, Wang B, **Jeng D-S**, Liu PL-F & Dong P (2010) An integrated model of wave-seabed-structure interactions, The 9th International Conference on Hydrodynamics (ICHD2010), Shanghai 2010 (CD ROM)

310. Zhang J-S & **Jeng D-S** (2010): Solitary wave-induced flow motion and seabed response around a porous breakwater. The Young Coastal Engineering conference (CD ROM)

311. Zhang J & **Jeng D-S** (2010): Integrated model for wave motion and seabed response around a submerged permeable breakwater. The 23rd Scottish Fluid Mechanics Meeting, 19 May 2010, Dundee (CD ROM)

312. Lee TL, Lin HM, **Jeng D-S** & Yang B (2011): Waves-induced soil response around breakwater heads. The 21st International Offshore and Polar Engineering (ISOPE2011), 1005-1009.

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314. Chang K T & **Jeng D-S** (2012): Wave-induced seabed response around offshore wind turbine foundation: Donghai offshore wind farm, China. The 2nd International Conference on Civil Engineering and Building Materials (CEBM2012), Hong Kong, China (to be presented)

315. Liu B & **Jeng D-S** (2012): Dynamic response of a porous seabed combined wave and current loadings: effects of inertial terms. Proceedings of the ASME 31st International Conference on Ocean, offshore and Arctic Engineering (OMAE 2012), June 10-15, 2012, Rio de Janeiro, Brazil (CD ROM)

316. Wang Y & **Jeng D-S** (2012): Seabed stress response by jet trenching. The 2nd International Conference on Civil Engineering and Building Materials (CEBM2012), Hong Kong, China
317. Zhang Y, Zhang J-S, **Jeng D-S**, Zhang C (2012): Numerical modeling of seabed response to the combined wave-current loading. Proceedings of the ASME 31st International Conference on Ocean, offshore and Arctic Engineering (OMAE 2012), June 10-15, 2012, Rio de Janeiro, Brazil (CD ROM)
318. Liao CC & **Jeng D-S** (2012): An analytical solution for wave (current)-induced pore pressure in a porous seabed: Full dynamic approach. The 22nd International Offshore and Polar Engineering (ISOPE2012) (CD ROM)
319. Liao CC & **Jeng D-S** (2012): Dynamic soil response of poro-elastic seabed to nonlinear waves and currents. The 10th International Conference Of Numerical Analysis And Applied Mathematics, Greece (to be presented)
320. Zhang Y, Zhang J-S, Zhang H, Zhao H & **Jeng D-S** (2012): Three-dimensional model for wave-induced dynamic soil response around breakwaters. The 22nd International Offshore and Polar Engineering (ISOPE2012), (CD ROM)
321. Zhang C, Zhang JS, **Jeng D-S** and Zheng JH (2012): Development of a three-dimensional model for wave-induced seabed response. The 6th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering, Keelung, Taiwan, September 2012 (to be presented).

MINOR PUBLICATIONS

322. **Jeng D-S** & Zheng Y (2008): Potential of offshore wind energy in Australia. Waves, Marine Coastal Community Network, 1491), 9–10. (ISSN 1321-7593)

2.2.5 Theses

- Jeng D-S (1997) Wave-Induced Seabed Response in Front of a Breakwater. PhD Thesis. The University of Western Australia, Australia.
- Jeng D-S (1989) Numerical Analysis on the Steep Short-Crested Waves. Master Thesis, National Chung-Hsing University, Taiwan, R. O. C.
- Jeng D-S (2008) Comparison of traditional approach, problem-based learning and mixed approaches in engineering education. MSc Thesis, The University of Sydney, Australia.

2.3 Invited Seminars and Lectures

2.3.1 Short courses

1. Mechanism of Wave-Seabed-Structure Interaction, Institute of Mechanics, Chinese Academy of Science, China, December 2005 (Short-Course)
2. Modeling of Wave-Seabed-Structure Interaction. Dalian University of Technology, June-July 2006 (short course)

3. Porous Models for Wave-seabed Interaction. Beijing Technological University, June 2012 (short course)

2.3.2 Keynote/invited speech

4. Free surface flow of groundwater: Revisit of shallow water expansion. The 6th International Conference on Hydro-Science and Engineering, Brisbane, Australia, May 31-June 3, 2004 (invited speech).
5. Modeling of wave-seabed-structure interaction: A review. Computational Mechanics—The WCCM6-APCOM04, Beijing, China, November 2004 (invited Keynote Speech)
6. Recent Advances in Marine Geotechnics, The First Frontier Forum on Geomechanics & Geo-engineering, Dalian, July, 2006 (invited keynote)
7. Wave-Induced Seabed Response around Breakwaters (WSSI System), Institute of Engineers, Hong Kong, October 2007
8. Recent advances in marine energy in the UK, 2010 Environmental Sustainable Development International Symposium, Tainan, Taiwan, June 2010
9. Recent Advances in Marine Geotechnics, The 9th Engineering Geology Congres (GeoEng2012), Qingdu, China, October 2012 (to be presented)
10. Integrated models for offshore wind energy system. Offshore Wind In Practice, Foundations and Installation Workshop, London, UK, October 2012 (to be presented)
11. Recent Advances in Wave-seabed-structure Interactions. International Coastal Geotechnical Symposium, Hanzhou, ChinaNovember 2012 (to be presented)

2.3.3 Research seminars at universities

12. Optimal design of seabed protection for a buried pipeline, Fen Chia University, Taiwan, 1999.
13. Recent development of wave-seabed interaction models, National Chung-Hsing University, Taiwan, 1999.
14. Mechanism of Wave-induced soil response in the vicinity of a caisson, National Chung-Kong University, Taiwan, 1999
15. Recent development of wave-seabed interaction models, National Chung-Hsing University, Taiwan, 1999.
16. Poro-elastic analysis for wave-seabed interaction, National Taiwan Ocean University, Taiwan, 1999
17. Finite element modeling for wave-seabed-structure interaction, National Jiaotung University, Taiwan, 1999.
18. A general finite element model for wave-seabed-structure interaction, University of Newcastle, Australia, 2001
19. A general finite element model for wave-seabed-structure interaction, Kyoto University, Japan, 2001
20. Tidal dynamics in confined and unconfined aquifer, Kyoto University, Japan, 2001

21. General Finite Element Model for the wave-seabed-structure interaction (GFEM-WSSI), Kyushu University, Japan, 2002
22. Poro-elastic modelling for wave-seabed-structure interaction, The University of Queensland, Australia, 2002.
23. Tidal dynamics in coastal aquifers, Leader University, Taiwan, 2003
24. Elastoplastic model for wave-seabed-structure interaction, Hohai University, China, 2004
25. Tidal dynamics in coastal aquifers, The University of Sydney, Australia, 2004
26. Tidal dynamics in coastal aquifers, University of Dundee, UK, 2004
27. Application of Neural network in coastal engineering, The University of Sydney, 2004.
28. Mechanism of Wave-Seabed-Structure Interaction, Dalian University of Technology, China, January 2005
29. Free surface flow in porous media. University of Newcastle, June 2006
30. Tidal dynamics in Coastal Aquifer. Jiansu University, China, June 2006
31. Mechanisms of Ocean Waves Propagation over Marine Sediments, National Taiwan Ocean University, December 2006
32. Wave-Induced Pore Pressure Build-Up in marine sediments &Research Agenda, University of Dundee, June 2007, UK
33. Energy from Offshore Wind. Hohai University, China, September 2007
34. Tidal Dynamics in Coastal Aquifers. University of Hong Kong, October 2007
35. Energy from Offshore Wind. University of Hong Kong, October 2007
36. Energy from Offshore Wind. University of Technology Sydney, May 2007
37. Tidal Dynamics in Coastal Aquifers. National Chiao-Tong University, August 2008
38. Energy from Offshore Wind—The Next North Sea, National Chiao-Tong University, August 2008
39. 3D Poro-Elastoplastic Models For Wave-Seabed Interaction Around Marine Structures, National Chung-Kung University, August 2008
40. Energy from offshore wind: the next North oil: Griffith University, July 2009
41. Recent advances in marine energy system, National Chung-Kung University, June 2010
42. From ocean waves to geotechnics, renewable energy and plant biology cross Asia, to Australia and UK. Hohai University, June 2010.
43. From ocean waves to geotechnics, renewable energy and plant science cross Asia, to Australia and UK. Shanghai Jiao Tong University, August 2011
44. Mechanism of wave-seabed-structure interaction. Sichuan University, August 2011
45. Recent Advances in Marine Geotechnics. Zhejiang University, December 2011.

46. Recent Work in Marine Geotechnics at Dundee. Beijing Technological University, December 2011

47. Multi-Discipline Research in Civil Engineering@Dundee. Hohai University, July 2012

2.4 Research Funding

2.4.1 Current grants

1. Christensen etc [28 Partners] (2012-2016): Innovative multi-purpose offshore platforms: Planning, design and operation (MERMAID). The 7th Framework Programme, EU Programme, Euro 5,500,000 (€130,000 to me)
2. Jeng (2011-2013): Numerical model for wave-seabed interaction round breakwaters. Sichuan University Open Fund Scheme, RMB100,000.
3. Jeng (2012-2015): Mechanism of wave(current)-seabed-structure interactions. National Science Funding Council (China), RMB740,000
4. Jeng D-S (2011-2013): Coupling model for fluid-soil-structure interaction. 1000People Plan Starting Fund, Shanghai Jiao Tong University, RMB4,000,000
5. Jeng D-S & Zhou XL (2011-2013): On bottom stability of submarine pipeline due to wave-induced liquefaction. Royal Society-NSFC International Joint Project, £12,000 （UK）and RMB135,000 (China)
6. Guo Y & Jeng D-S (2010-2013): IOWES: Integrated models for stability of offshore wind energy system. Scottish Energy Technology Partnership Renewables, £63,000

2.4.2 Completed grants

National Competitive Grant

7. Sumer BM et al. (2008-2012): Seabed wind farm interaction. The Danish Council for Strategic Research (DSF)/Energy and Environment, 9,369,525 DKK [involved in work package]
8. Jeng D-S & Dong P (2009-1012): Integrated prediction of 3D wave-induced liquefaction around breakwater heads. EPSRC Grant #EP/G006482/1, £464,565
9. Li L, Lockington DA, Gibbes BR & Jeng D-S (2009-2011) Multiphase flow and transport in complex coastal wetland systems. ARC Discovery Grant, AUD$290, 000.
10. Jeng D-S (2010-2011): Mechanism of wave-seabed-structure interaction (WSSI) in coastal zones: process, simulation and understanding. Scotland-China Higher Education Research Partnership for PhD Studies, British Council China, £13,834 （UK）and RMB52,000 (China)
11. Jeng D-S, Small JS and Liu P L-F (2008-2010) Three-dimensional wave-induced liquefaction around the head of a breakwater. ARC Discovery Grant, #DP0877666, AUD $330,000 (This grant has been relinquished due to my move to Dundee)
12. Jeng D-S (ARCIF) and Liu PL-F (2008) Coupled models for waves, a porous seabed and breakwater interactions. ARC Linkage International Fellowship, #LX0881904, AUD $67,984. (This grant has been relinquished due to my move to Dundee)
13. Jeng D-S, Chan AHD, Seymour BR, Teng B, Gao FP and Lu J-F (2008-2010) Energy from Offshore Wind: Stability of Offshore Mono-piles in Shallow Water.

ARC Linkage International Award,#LX0881902, AUD $59,828 (This grant has been relinquished due to my move to Dundee)

14. Cassidy MJ, Randolph MF, Cheng L, Hao H, Zhao X-L, Sammut K, Jeng D-S, Albermani F, Baldock T, Gaudin C, Einav I, Duncan A, Woods A, Kodikara J, Ivey G, He F, Li J, Hu Y, Rivero M, Griffith C, Li F, Dunbabin M, Burn S & Dyt C (2006-2009) Subsea pipelines for reliable and environmentally safe development of ocean hydrocarbon resources. *CSIRO Falgship Cluster*, AUD $3,100,000 (8% share to Dong Jeng) (This grant has been relinquished due to my move to Dundee)
15. Jeng D-S, Vila Concejo, A, Short AD, Hughes MG & Ranasinghe RJ (2006-2009) Port Stephens Flood tide Delta: Shoreline Management Issues. ARC Linkage-Project LP0668979, AUD $372,000
16. Jeng D-S, Seymour BR, Luan M & Gao F (2006-2007) Progressive of liquefaction within marine sediments: Comparison between centrifuge model-ling, full-scale tests and numerical modelling. ARC Linkage-International Award, LX0665976, AUD $22,000.
17. Jeng D-S, Zhang H, Lin M & Seymour BR (2004-2007) Modelling of sand wave migration and its interaction with pipelines. ARC Linkage-International Award, LX0455606, AUD $53,800.
18. Jeng D-S, Tao L, Seymour BR (2004-2007) Coupling modelling of waves, groundwater and porous seabed. ARC Discovery Grant DP0450906, AUD $365,000
19. Jeng D-S, Li L & Barry DA (2003-2005) Poro-elastic, single domain model of wave-induced transport and transformation of pollutants in coastal sediments, ARC Discovery Grant, DP0343443, AUD $287,000
20. Jeng D-S & Barry DA (2002-2004) Tidal watertable fluctuation in a sandy ocean beach, ARC Linkage-International, LX0345715, AUD $10,212
21. Jeng D-S & Li L (2002) Contaminant transport in marine sediment. Australian Research Council Linkage-International Fellowship, LX0209115, AUD $20,724.
22. Jeng D-S (2002) Non-linear poro-elastic model for wave-induced seabed response and scientific visits of large-scale wave facilities in Taiwan, Australia (AAS)-Taiwan (NSC) Exchange Program, AUD $5,600.
23. Jeng D-S and Randolph MF (2001-2003) Mechanism of the wave-induced liquefaction in the vicinity of a caisson, Australian Research Council Large Research Grant, A00104092, AUD $187,000.
24. Jeng D-S, Sekiguchi H. (2001) Mechanism of wave-seabed-pipe interaction: scour and liquefaction, Australian Research Council International Researcher Exchange Award (ARC IREX), X00106737, AUD $10,000
25. Jeng D-S (2001) Study on non-linear wave-induced liquefaction, Australia (AAS)-Japan (JSPS) Exchange Program, AUD $14,300.
26. Lee TL, Jeng D-S & Lin C. (08/2001-07/2002) Assessment of the earthquake induced liquefaction by artificial neural networks, National Science Council Research Grant (Taiwan) NT$182,000.
27. Tsai CP & Jeng D-S. (08/2001-07/2002) Studies on the wave deformation over a poro-elastic medium (III), National Science Council Research Grant (Taiwan) NT$840,000.

28. Jeng D-S (1999) Centrifugal modeling and theoretical investigations of wave-seabed-caisson interaction, Australian Research Council Postdoctoral Research AUD $18,000
29. Jeng D-S (1999) Preliminary investigation for mechanism of wave-seabed-pipe interaction. Australia (AAS)-Taiwan (NSC) Exchange Program, AUD $7,000.
30. Tsai CP & Jeng D-S (08/1999-07/2000) Studies on the wave deformation over a poro-elastic medium (I), National Science Council Research Grant (Taiwan) NT$560,000.
31. Lin YS & Jeng D-S. (08/1999-07/2000) Wave-induced seabed response in the vicinity of a caisson-type breakwater. National Science Council Research Grant (Taiwan), NT$320,000.
32. Thiagarajan K & Jeng D-S (1999) Heave oscillation of a submerged vertical cylinder, Australian Research Council Small Grant Scheme (UWA), AUD$12,000.

Internal Grant

33. Jeng D-S (2011): Studies of wave/current-seabed interactions, Key Laboratory of Ocean Engineering, Self-development Research Scheme, Shanghai Jiao Tong University, , RMB200,000
34. Jeng D-S (2007-2009) Innovative approaches for wind, waves, offshore wind farm and seabed interaction: a coupled model. USyd Sustainable Energy Research Grant, AUD $203,544 (This grant has been relinquished after 2008 due to my move to Dundee)
35. Jeng, D-S (2007) Three-dimensional models for wave-induced liquefaction around the head of a breakwater. USyd Bridging Grant, AUD $70,000
36. Chan AHD and Jeng D-S (host collaborator)(2007) An integrated model for wave-induced progressive liquefaction in a porous seabed. USyd International Visiting Research Fellowship, AUD $19,300.
37. Jeng D-S (2007) Three-dimensional wave-induced liquefaction around the head of a breakwater. USyd Bridge Grant, $70,000.
38. Jeng, D-S (2006) Effects of Seepage Face on Tidal Dynamics in a Sandy Beach: Case study in Jimmy's Beach, USyd Research & Development Grant, , AUD $21,000
39. Jeng, D-S (2006) Mechanism of wave-induced pre pressures in marine sediments. USyd Bridge Encourage Grant, AUD $26,300.
40. Jeng D-S (2005) Three-dimensional poro-elastic model for wave-seabed interaction around the head of a breakwater. USyd Research & Development Grant, AUD $20,000
41. Jeng D-S.(2003) Theoretical and experimental investigations of tidal dynamics in coastal aquifers. Griffith University Research Development Grant, AUD $11,980.
42. Tao L, Jeng D-S, Lemckert C (2003) Hydrodynamic experimental analysis package of floating offshore structures. Griffith University Infrastructure Grant, AUD $100,000.
43. Jeng D-S & Barry DA (2002) Sir Allen Senior Fellowship (For Prof. Andrew Barry), Griffith University, AUD $6,000

44. Jeng D-S (2002) Ocean waves propagating over a sloping sandy beach, Griffith University Research Development Grant, AUD $26,394
45. Jeng D-S, Lemckert C, Tao L (2002) Facilities of wave survey system, Griffith University Research Infrastructure Grant, AUD $100,000
46. Jeng D-S. (2001) Prediction and protection of the seabed instability around a buried offshore pipeline, Australian Research Council Small Grant Scheme, AUD $22,000
47. Dobson J, Gray M, Brown L, Bemhardt D, Knight AEW, Bushell G, Kennedy D, Jeng D-S, Lu J. (2001) Software and minor hardware for modelling and computation in science and engineering, Griffith University Research Infrastructure Grant, AUD $66,022
48. Jeng D-S, Lemckert C, Nataamadja A & Guan H (2000) Wave-seabed-structure interaction modelling system, Griffith Infrastructure Grant, AUD $82,000.
49. Hsu JRC & Jeng D-S. (1998) Mechanism of wave-induced re-suspension from seabed, Australian Research Council Small Grant Scheme (UWA), AUD $10,000.

Consultant funding

50. Jeng D-S (2000) A single source water supply system (KRP System), KRP Consulting Engineering Pty Ltd, AUD$2,000
51. Jeng D-S (2002) Theoretical investigation for the effects of cross-anisotropic soil behavior on pavement materials, Border-Tech Geotechnical Engineering Serving, AUD$2,000
52. Jeng D-S (2003) One-dimensional consolidation tests. Border-Tech Geotechnical Engineering Serving, AUD$3,000
53. Jeng D-S & Brennan AJ (2008) Centrifugal and numerical modeling for cyclic loading on foundation of mono-piles. JP Kenny Wood group, £12,000
54. Jeng D-S & Knappett JA (2009) Stability analysis of foundation around submarine pipeline in XXX. Arup UK. (XXX is the site of case study, which cannot be release due to the confidential agreement), £25,000
55. Jeng D-S (2011) Rocking of offshore mono-pile foundation. JP Kenny Wood group, £32,000
56. Jeng D-S (2011) Assessment of report -- Caisson Pore Water Pressure Desktop Investigation Analysis for Extreme Wave Events-Hay Point Expansion Stage 3, BHP Billiton Mitsubishi Alliance, Aurecon Hatch (Australia), £3,000

Proposals under review

57. **Jeng D-S**, Guo YK, Cuthbertson A, Haynes H, Fernandes T & Whitehouse R, (2012) Reciprocal interactions of marine environments and very large tidal current turbine array and their impact on device performance. EPSRC Supergen Marine Challenge 2, requested budget £1,200,000.

3. Teaching

3.1 Teaching Activities

I have taught/coordinated the following courses in three universities since July 1999.

Griffith University (Australia)

Program Coordinator

- MEng (Coastal Engineering), Griffith University, 2003
- BEng (Coastal Engineering), Griffith University, 2002-2003

Undergraduate Course

- Hydraulics I (2nd Year course) -2000-2003 (100%)
- Soil Mechanics (2nd Year course)-2000 only (100%)
- Hydraulics II (3rd year course) -1999-2002 (100%)
- Coastal & Estuarine Hydrodynamics (3rd year course) -2000-2002 (100%)
- Coastal Engineering Design (3rd year course) -2004 (100%)
- Pollution Control in Civil Engineering (4th Year course) -2000-2003 (100%)
- Coastal Modeling (4th Year course) -2001-2003 (100%)
- Water and Waste Water Engineering (4th Year Course) -2003
- Thesis/project (4th year course) -2003

Postgraduate Course

- Coastal Hydrodynamics -2001-2002 (100%)
- Numerical Modeling in Coastal Engineering – 2001-2003 (100%)
- Dissertation -2003 (100%)

The University of Sydney (Australia)

Undergraduate Course

- CIVL3612 Environmental Fluid Engineering II, Semester 1, 2007 (100%)
- CIVL3613 Coastal Engineering, since Semester 2, 2004 (100%)
- CIVL4614 Hydrology and Wind Engineering, since Semester 1, 2005 (100%)
- CIVL4020 Thesis 1, since Semester 2, 2004 (100%)
- CIVL4021 Thesis 2, since Semester 2, 2004 (100%)

Postgraduate Course

- ENGG5000 A guide to for Postgraduate Students in Engineering, , since Semester 1, 2005 (faculty course) (100%)

University of Dundee (UK)

Undergraduate Courses

- EG10026 Professional Design (UG, Level 1)-since 2009 (20%)
- EG21002 Engineering Design and communication (UG, Level 2) –since 2008 (25%)
- EG21005 Engineering Mathematics (UG, Level 2) –since 2010 (50%)
- CE40006 Environmental Hydraulics (UG, Level 4), since 2008 (50%)
- CE40007 Geo-environmental Engineering (UH, Level 4), since 2009 (25%)

Postgraduate Courses

- CE50013 Environmental Engineering (MRes)- 2007-2009 (50%)
- CE50023 Offshore Geotechnical Engineering (MSc)- since 2008 (40%)
- CE51002 Communication Skill (MSc)-2009-2010 (100%)

Short course delivery in other universities

- Poro-elastic model for wave-seabed interaction -Institute of Mechanics, Chinese Academy of Science, December 2004-January 2005
- Mechanism of wave-seabed-structure interaction –Institute of Geotechnical Engineering, Dalian University of Technology, June 2006
- Research methods in Science and Engineering, Shanghai Jiao Tong University, December 2011
- Porous models for Wave-seabed-Structure Interactions, Beijing Technical University, June 2012

3.2 Teaching Portfolio

3.2.1 Teaching methodology-student focused learning

My teaching model consists of two components: face-to-face lecturing and an on-line learning model (Blackboard or WebCT). I deliver teaching materials through face-to-face teaching, and use the on-line models to provide supplementary materials for student self-learning.

I use summarative assessments in mid-semester and final examinations, while I use formative assessments for design assignments, which require some literature review for information literacy and development of research skills. In the design assignments, students are grouped in pairs and have regular discussions in the discussion board oon-line modulus. I also use on-line assessments in my courses, which require regular posting of information on the discussion board within some specified topics.

When I was at the University of Sydney, to help students develop their generic skills, I introduced "oral and poster presentations" into final year student projects-CIVL4020 & 4021 Thesis, which was new in the UoS at USyd. This new component enforces students to improve their communication skills and to adapt themselves to team work. To help students in developing their research skills, I ran a series of workshops for undergraduate students in 2005, and these will become on-line models in 2006.

To move my teaching model toward student-focused learning, I conducted a simple survey with my students in semester 1 2005 to understand what they think about some education terms such as "learning & teaching" and "how students study the UoS?", and

tried to find out a better teaching methodology. I usually conduct a student evaluation by myself in Week 6. The objective of this mid-semester survey is to adapt my teaching method in the second-half of the semester to reflect students' comments. In this case, the students will benefit from their feedback, rather than waiting for the next year. I have also invited my colleagues to attend my lectures for peer review of my teaching.

After I joined Dundee, I immediately take a new MSc modulus (CE50023 Offshore Geotechnics), which was firstly time to run as the MSc degree of Offshore Geotechnical and Earthquake Engineering was started in 2008. This didn't take me too much effort to develop the teaching materials for this modulus, because I have been working in this are since 1993. Later on, I have taught more modulus at both UG & PG levels since 2008. I used same teaching methodology and approaches at University of Dundee and receive good response from students.

3.2.2 Research-led teaching

To help my students undertake a deep learning approach, I attempted to link the theoretical work with current real engineering practice through problem-based learning models. I integrate the fundamental theories with current engineering problems into design assignments. For example, the design assignment for Hydrology requires students to integrate all theories learned in the course and conduct an urban design for NSW regions. In Coastal Engineering (CIVL3613), I establish a problem-based learning model using the case study in Port Stephens, which integrates most concepts in the course into one package.

I always integrate my updated research outcomes into my teaching activities. For example, I have included my recent research work "tidal dynamics in coastal aquifers" into groundwater hydrology in CIVL4614 Hydrology. Another example is that I included my recent work in the area of "Mechanisms of wave-seabed-structure interaction" and the case study of Jimmy's Beach into the course CIVL3613 Coastal Engineering. The former case involves my previous research work, and the latter is part of my recent projects.

After I joined University of Dundee, I continuously integrated my recent research outcomes into teaching activities, especially UG level 4 and MSc courses. I do not only include the research outcomes into lecturer, but also include in the coursework (i.e., assignment in Australia). Since these are senior year course of BEng or MSc program, the students are more self-motivation and appreciate the effort you have devoted to.

3.2.3 Scholarship in teaching

To update my knowledge in higher education and teaching methodology, I attended a 3-day course –"Principles and practice of University Teaching & Learning" in 2004. Then, I completed a 1-year course "Graduate Certificate in Educational Studies" in 2005, and "Graduate Diploma in Education Studies" in 2006. I completed my "Master in Education (major in Higher Education)" in April 2008.

I have done research in engineering education. One is the "Grade Adjustment Procedure", which is designed to ensure that students have been assessed fairly to satisfy the requirement of quality issuance in higher education. The model will minimise the variety of assessments among courses and lecturers. The model was published in *International Journal of Engineering Education*. The other is the online student self-learning model for coastal engineering courses. I compared the teaching methodology and

outcomes of student learning at USyd and Griffith. The results were published in an international coastal education conference.

3.2.4 Leadership in teaching

I led the development of a WebCT teaching model in the School of Civil Engineering, when I was at USyd. Before I joined the Civil/USyd, the on-line teaching with WebCT was rarely used. I established the first WebCT site for the final year student projects (Thesis 1 & 2) in 2004, and gradually developed the WebCT sites for other courses. I have encouraged and helped my colleagues in setting up their WebCT sites since 2005. Now, about 30% of our UoS have either used or are being developed for the WebCT sites.

I led a project within the Faculty's development plan for the development of an "E-learning model for engineering student self-learning" at USyd in 2005. In the project, we developed WebCT sites for "Fluid" relevant UoS. All these courses are now running on WebCT.

I developed the curricula of the UG courses CIVL3613 & CIVL4614, as they are new courses after re-structuring of the Civil degree program. Taking into account the graduate attributes from the Faculty of Engineering, I re-designed the unit of study courses CIVL4020 & 4021 & ENGG5000. I also developed the curricula of two new Master of Engineering (MES) courses-CIVL5658 Advanced Environmental Fluids and CIVL5657 Advanced Coastal Engineering.

ENGG5000 was designed for all new postgraduate students in the Faculty. I coordinated the UoS and re-developed the curricula of this UoS in 2005. The goal of the UoS is to provide the fundamental knowledge of research, links with industry, university policies and scientific writing etc. Eight professors from the Faculty were invited to give a presentation for each task in 2005. I designed a WebCT site and organised the 3-day workshop in 2005. Based on students' feedback, I re-designed the UoS to be a 1-day workshop in Semester 1, 2006.

After I Joined University of Dundee in 2007, I immediately take the role of programme coordinator of MSC program of Offshore Geotechnical and Earthquake Engineering. After the whole program was established and started in September 2008, I passed the role of programme coordinator to another junior staff member.

I was invited to run a four-week short course "Poro-elastic models for Wave-Seabed-Structure Interaction" for 35 PhD students at the Institute of Mechanics, Chinese Academy of Sciences during December 2004 and January 2005. Late, I ran similar short course at Dalian University of Technology in 2005 and Beijing Technical University in 2012.

3.3 Supervision

3.3.1 Supervision of Postdoctoral Research Associates

1. Professor Jisheng Zhang, University of Dundee, June 2009 – December 2011—currently at Hohai University, China
2. Associate Professor Chi Zhang, University of Dundee, September2010 – September 2011—currently at Hohai University, China

3. Dr Jinhua Ou, University of Dundee, December 2007 –March 2009—currently at Birmingham Consultancy
4. Dr Jian Li, University of Sydney, March 2005 –November 200—currently at University of Western Australia, Australia
5. Associate Professor Bin Yang, University of Sydney, January 2007–November 2007—currently at South-Western Jiao Tong University, China
6. Associate Professor Denzel Gui, University of Sydney, January 2007-December 2007-currently at National Taipei University of Technology, Taipei, Taiwan
7. Associate Professor. Haijiang Liu, University of Sydney, September 2005-September 2006—currently at University of Tokyo, Japan
8. Professor Frank Lu, University of Sydney, October 2005-November 2006—currently at Jiangsu University, China
9. Professor Fuping Gao, Griffith University, December 2001–December 200—currently at Institute of Mechanics, Chinese Academy of Sciences, Beijing, China

3.3.2 Completed Postgraduate Research Students

1. Dr. W Deng (2012): Engineering novel geotextiles from an understanding of the dynamic properties of seed coat mucus, University of Dundee
2. Dr. AZ Ismail (2012): Artificial neural network modeling for pile foundation design, University of Dundee
3. Dr. H Zhang (2012): Numerical study for solute transport in unsaturated porous medium, University of Dundee
4. Dr. JH Ye (2012): Integrated model for wave-seabed interaction around marine structures, University of Dundee
5. Dr. XL Zhang (2010): Numerical study for pore pressure accumulation due to seismic waves. (PhD) Dalian University of Technology (Co-supervisor)-supported by Chinese Scholarship Council (CSC)
6. Dr. DH Cha (2010) Assessment of liquefaction potential: application of Artificial Neural Network. (PhD), Griffith University (principle supervisor before 2004, changed to associate supervisor after 2004)
7. Dr. EH Ghee (2010) The behavior of axially loaded piles subjected to lateral soil movements. (PhD), Griffith University (associate supervisor)
8. Dr. Z Liu (2009): Soil response around caisson breakwaters due to dynamic loading. (PhD), Dalian University of Technology (Co-supervisor)
9. Mr. B Shabani (2008) Wave-associated seabed behavior near submarine buried pipelines. (MPhil), University of Sydney
10. Ms H. T. Teo (2003) Tidal Dynamics in Coastal Aquifers. (MPhil) Griffith University
11. Mr. D. H. Cha (2002) Mechanism of ocean waves propagating over a porous seabed. (MPhil) –Griffith University

3.3.3 Completed MEng/MSc/MRes Students

12. Miss J Eicher (2001) Finite element analysis of combined structural and coastal loads on a concrete pile. (MEng) –Griffith University
13. Mr. C Daniel (2009): Wave-induced pore pressures in a porous seabed around breakwater heads (MEng)-University of Dundee
14. Mr. G Gerard (2009): An integrated model for an offshore pile, seabed and seawater interaction (MEng)- University of Dundee
15. Mr. Z Fu (2009) Random wave-induced pore pressure around breakwater heads (MSc)-University of Dundee
16. Mr. R Bumanis (2009) Dynamic analysis of offshore wind turbine structures (MSc)-University of Dundee
17. Miss C Henry (2009) Application of headland control for coastal management in England (MRes) –University of Dundee
18. Miss D Findlay (2009) Application of headland control for coastal management in Scotland (MRes) –University of Dundee
19. Mr. P Lucey (2010): Marine Energy Devices: Simulation of flow around tidal current energy, (MEng), University of Dundee
20. Mr. J Cumiskey (2010): Hydrodynamic loading on offshore mono-pile. (MSc)-University of Dundee
21. Mr. X Luo (2010): "2-in-1" marine energy system. (MSc)-University of Dundee
22. Mr. G Pearson (2010): Foundation stability of offshore mono-pile (MSc)-University of Dundee
23. Mr. P Dong (2011): Numerical study for wave-induced pore pressure accumulation in marine sediments (MSc)-University of Dundee
24. Mr. X Huang (2011): Two-dimensional fully-dynamic consolidation pipeline model for wave-seabed pipeline interactions (MSc), University of Dundee
25. Mr. X Meng (2011): Structural Analysis of wind turbines (MSc)-University of Dundee
26. Mr. H Zhao (2011): Three-dimensional models of wave-seabed breakwater interactions- (Msc)-University of Dundee
27. Mr. J Upton (2012): Seabed response to loading on an offshore wind turbine-(MEng)-University of Dundee
28. Mr. J Fang (2012): Numerical modeling of the foundation of marine piled structures (MSc)-University of Dundee
29. Mr. H Yang (2012): Contaminant transport in capped deformable partially saturated sediments (MSc)-University of Dundee.

3.3.4 Current Postgraduate Research Students

PhD students at University of Dundee

1. Mr. J Stojsavljevic (2009~): A coupled model for waves, groundwater and porous seabed interactions, University of Dundee
2. Mr. E Smith (2010~): Integrated model for foundation of offshore wind energy system. Scottish ETP renewable studentship
3. Mr. J Yermai (2011~): Transport and transformation of pollutants in marine water sediments, University of Dundee
4. Mr. H Zhao (2012 ~): Two-dimensional model for post-liquefaction and densification in marine sediments, University of Dundee
5. Miss Y Li (2012~): Interactions of marine environments and offshore widn turbines in a large array, University of Dundee

PhD students in overseas

6. Miss Y Zhang (2011~): Wave (current)-induced soil response around breakwater heads, Shanghai Jiao Tong University
7. Mr. CC Liao (2011 ~): Standing wave-induced post-liquefaction in marine sediments, Shanghai Jiao Tong University
8. Mr. B Liu (2011~): Laboratory study for pore pressure variations in marine sediments due to dynamic loading, Shanghai Jiao Tong University
9. Mr. KT Chang (2012~): Numerical modeling for seabed instability around offshore wind farm, Shanghai Jiao Tong University
10. Miss Y Wang (2012~): Stress analysis of jet trenching in the installation of offshore wires for offshore wind energy systems, Shanghai Jiao Tong University
11. Miss N Yang (2012~): Numerical and experimental study on cable tension of offshore wind turbines, Shanghai Jiao Tong University

Uncompleted postgraduate student (5) due to my move to University of Dundee

These students moved the supervision to other staff members, due to my leave from University of Sydney

1. Miss S. J. Williams (2005~2011) Change the supervisor to Professor John Patterson, University of Sydney (completed in 2011)
2. Mr D Jiang (1/2007~2011) Move to School of Geoscience, University of Sydney (completed in 2011)
3. Miss S Kham (1/2007~) Change the supervisor to Professor John Small, University of Sydney
4. Mr Bin Xu (3/2007 ~) Quit the study and moved to industry
5. Miss Y Zheng (1/2007~) Change the supervisor to Professor John Small, University of Sydney

Uncompleted postgraduate student (4) due to my move to University of Sydney

These students moved the supervision to other staff members, due to my leave from Griffith:

6. Mr. M. Bolton (2004) Mathematical model for pavement design on non-cohesive sand. (He was appointed as an associate lecturer at Griffith University after I left)

7. Mr. A. Brook (2004) Coupling model for wave-seabed-breakwater interaction. (He has to stayed at Griffith University due to his UPRS)
8. Mr. L. Menefy (2004) Coupling model for wave-seabed-breakwater interaction. (he has to stayed at Griffith University due to his UPRS)
9. Miss H. T. Teo (2004) Numerical modeling for slat-water intrusion. (She moved to University of Queensland with her APA)

3.3.5 Completed BEng Student Projects

1. Mr. D. H. Cha (2000) Wave-induced pore pressure in the vicinity of a caisson. -Griffith University
2. Mr. P. F. Postma (2000) Mechanism of wave-seabed-pipe interaction. -Griffith University
3. Mr. S. Adam (2001) A laboratory design for pumping well test. -Griffith University
4. Mr. D. Becirevic (2001) General numerical model for urban drainage systems. -Griffith University
5. Mr J. Lee (2001) Non-linear waves over a porous seabed in front of a vertical wall. -Griffith University
6. Mr. R. Marshall (2001) Analysis of stormwater pollution control device. -Griffith University
7. Miss C. Schacht (2001) Wave propagating over a submerged breakwater. -Griffith University
8. Miss H. T. Teo (2001) Perturbation approximation to short-crested waves. -Griffith University
9. Mr. C. Chaster (2002) Application of SMADA in urban hydrology. -Griffith University
10. Mr. M. Bolton (2002) Development of a mathematical model for pavement design on non-cohesive sand. -Griffith University
11. Mr. A. Brook (2002) Headland control and the equilibrium bay equation - Applications and modelling. -Griffith University
12. Miss C. Downes (2002) MATLAB program of Stokes wave theory and Fourier approximation for wave forces on a vertical wall under a short-crested wave system. -Griffith University
13. Mr. L. Foley (2002) Design of a portable triaxial compression apparatus. -Griffith University
14. Mr. G. James (2002) Generation of unit hydrograph and its application sin hydrological design. -Griffith University
15. Mr. A. Rojevic (2003) Non-linear wave-induced seabed response around a caisson. -Griffith University
16. Mr. L. Menefy (2003) Numerical study of seepage flow in the vicinity of cofferdams. -Griffith University

17. Mr. B. Jamesion (2003); Analytical solution of tidal dynamics in layered coastal aquifers. -Griffith University
18. Mr. D. Cameron (2003) Parametric study for slope stability analysis: effects of groundwater table and other parameters.-Griffith University.
19. Mr. S. Plain (2004) Wave-induced pore pressure in the vicinity of a caisson. University of Sydney, HD grade
20. Mr. E. Anthonyand Mr. E, Ghaly (2005) Survey and Design of Available Composite Slabb. University of Sydney,
21. Mr. T.B. Hore (2005) Effects of rainfall on slope stability. University of Sydney (together with Mr. Gimelli)
22. Mr. A. J. Gimelli (2005) Effects of rainfall on slope stability. University of Sydney (together with Mr. Hore)
23. Miss E. L. Lockett (2005) Artificial Neural Network model for local scour around a bridge pier. – University of Sydney, (environmental fluid stream student)-HD grade
24. Mr. R. R. Younes (2006) Coastal modeling for port Stephens: management issues, University of Sydney,
25. Mr. B. Xu (2006) Development of offshore wind farm: I. wave-structure interaction model, University of Sydney, (environmental fluid stream student) HD grade
26. Mr. T. L. Vo (2006) Development of offshore wind farm: II. Soil-structure interaction model, University of Sydney, (geotechnical stream student)
27. Miss Y. Zheng (2006) Development of offshore wind farm: III. Structural analysis University of Sydney, (structural stream student)
28. Mr. Kelly Kwok (2006) Development of offshore wind farm: IV. Environmental Management issues, University of Sydney
29. Mr. D. Leung (2006) Development of offshore wind farm: V. cost analysis, University of Sydney
30. Mr. S Cai (2006) Dynamic response of seabed under random waves: I. Mathematical model., University of Sydney
31. Mr. P. Choi (2006) Dynamic response of seabed under random waves: II. Numerical models for oscillatory mechanism, University of Sydney,
32. Mr. C. L. Chew (2006) Dynamic response of seabed under random waves: III Numerical models for residual mechanism, University of Sydney
33. Mr. H Wolgamot (2007): Wave modeling in the New South Wale region, University of Sydney-HD grade
34. Mr. M-E Ewan (2009): Design of offshore wind energy systems-A review of existing design, University of Dundee
35. Mr. F Duggan (2010): A review of wave energy models, University of Dundee
36. Mr. B Wang (2010): Numerical modeling of wave-structure-seabed interaction, University of Dundee

37. Mr. T Xia (2010): Structural analysis of wind turbine. University of Dundee
38. Mr. C O'Donnell (2010): Environmental impact of offshore wind energy devices, University of Dundee
39. Mr. Y Chen (2011): 3D wave model around the detached breakwater, University of Dundee
40. Mr. S Hao (2011): Wave-induced liquefaction around breakwater, University of Dundee
41. Mr. H Yang (2011): Two-dimensional integrated model for wave-seabed-pipeline interaction, University of Dundee
42. Mr. D Craven (2012): A study into the factors affecting wind turbine design, University of Dundee
43. Mr. G Mitchell (2012): An evaluation of the effectiveness of environmental impact assessment in promoting consistent outcomes for wind farm development in the UK, University of Dundee
44. Mr. H Nazir (2012): An assessment of the financial feasibility of offshore wind farm development in United Kingdom, University of Dundee

3.4 Participation in Professional Teaching Development Activities

Since I only had little teaching experience before I joined Griffith, I attempted to attend the workshops/seminars organised by Griffith Institute of Higher Education (GIHE) since 1999, when time is convenient. For example, I attended the workshop "Subject Design and Flexible Learning" in 1999, "Introduction to Blackboard" and "Using Communication Tools"in 2001 and "Evaluation Researching Your Teaching and Student Learning" in 2002. I also attended the teaching workshop developed by Faculty of Engineering and Information Technology in 2001.

After I moved to the University of Sydney in June 2004, I completed Graduate Certificate in Higher Education in 2005 and Graduate Diploma in Higher Education, and expected to complete the program in July 2006. I completed my Master of Education (Higher Education) in April 2008.

4. International Profile

4.1 Summary

DJ has been actively involved in various interaction academic activities, such as organising symposium for international conferences; editorship/associate editorship/editorial Board member for numerous international journals; technical reviewers for over 40 international journals; assessors for numerous research councils. He also has international collaboration worldwide, crossing Asia, Northern America, EU & Australia.

4.2 Professional Affiliations

- Member, American Geophysical Union
- Member, American Society of Mechanic Engineers (ASME)
- Member, International Society of Offshore and Polar Engineering
- Member, ICMSM

4.3 Professional Activities

A. Editorial Board/Conference Organization Member

A.1 Editor/Associate Editor/Editorial Board of Journals

- Editor-in-Chief, The Open Civil Engineering Journal (since 2008)
- Editor, Engineering Application of Artificial Intelligence (since 2010)
- Associate Editor, Ocean Engineering (since 2006)
- Guest Editor, the Special Issue-Offshore Geotechnics, Ocean Engineering (2011)
- Associate Editor, International Journal of Offshore Mechanics and Arctic Engineering, ASME (since 2008)
- Editorial Board Member, Advances in Water Resources (since 2004)
- Editorial Board Member, Soil Dynamics and Earthquake Engineering (since 2011)

A.2 Editorial Board of Conference/Organizer of Symposiums/Workshop

- International Conference on Civil/Structural Engineering Computing (since 2001)
- The 17th Australian Conference on the Mechanics of Structures and Materials, Gold Coast, 12-14 June 2002.
- Organiser of mini-symposium "Recent Advances in Fluid-Solid-Structure Interaction", The 6th World Sixth World Congress on Computational Mechanics in conjunction with Second Asian-Pacific Congress on Computational Mechanics, Beijing, China, September 5-10, 2004
- Co-organiser (with Dr. Ling Li and Professor Alex Cheng) of symposium "Sea-Water Intrusion and Coastal Aquifer" in The 6th International Conference on Hydro-science and Engineering, Brisbane, 2004

- Executive committee Member, ISOPE pacific/Asia Offshore Mechanics Symposium (PCOMS), since 2006
- Technical Committee Member (TPC), International Offshore and Polar Engineering Conference (since 2007)
- Session organizer, International conference on Offshore mechanics and Arctic Engineering, ASME (since 2007)
- Symposium coordinator, Offshore Geotechnics Symposium, International conference on Offshore mechanics and Arctic Engineering, ASME (since 2008)
- Organiser of Workshop "Energy from Offshore wind-Individual and Integrated Approaches", Telford Institute Workshop, Dundee, October 2008
- Vice Chair, Geotechnical Committee, International Offshore and Polar Engineering Conference (ISOPE), since 2012
- International Steering Committee Member, International Offshore and Polar Engineering Conference (ISOPE), since 2011

B. Technical reviewer: Journal manuscripts

I have regularly served as technical reviewers for the following journals. I reviewed about 50 articles per year (average) since 2005.

- Acta Geotechnia
- Advances in Water Resources
- Advances in Engineering Software
- Applied Ocean Research
- Applied Soft Computing
- Coastal Engineering
- Coastal Engineering Journal
- Computers & Geotechnics
- Computers & Structures
- Engineering Application of Artificial Intelligence
- Environmental Engineering Science
- Environment Modelling and Software
- Geotechnique
- Geotechnical Engineering, Proceedings of Institute of Civil Engineers
- Hydrological Process
- Indian Journal of Marine Science
- International Journal of Neural System
- International Journal for Numerical and Analytical Methods in Geomechanics
- International Journal for Offshore and Polar Engineering
- International Journal of Offshore Mechanics and Arctic Engineering, ASME
- International Journal of Solid and Structures

- Journal of the Chinese Institute of Civil and Hydraulic Engineers
- Journal of Coastal Research
- Journal of Computation Physics
- Journal of Earth Science System
- Journal of Energy Engineering (ASCE)
- Journal of Engineering Mechanics (ASCE)
- Journal of Engineering Mathematics
- Journal of Environmental Engineering (ASCE)
- Journal of Geophysics Research (Ocean)
- Journal of Hydraulic Engineering (ASCE)
- Journal of Hydrology
- Journal of Hydroinformation
- Journal of Irritation Engineering (ASCE)
- Journal of Porous Media
- Journal of Sound and Vibration
- Journal of Waterway, Port, Ocean and Coastal Engineering (ASCE).
- Journal of Zhejiang University (SCIENCE)
- Mathematical and Computer Modelling
- Proceedings of The Royal Society A
- Science in China (Series E)
- Water Resources Management
- Water Resources Research
- Water Science Engineering

C. Technical Reviewer: Research Proposals

- Research Council, University Grent (Belgium), 1997-1998
- Research Grants Council of Hong Kong, 2004
- Australian Research Council (ARC) OZ reader (since 2004)
- National Science Foundation (USA), since 2006
- Norwegian Research Council (Norway), since 2007
- International Exporters, Division of Ocean Engineering, Chinese Academy of Science, since 2006
- National Major Science Foundation Research Council (973), China, since 2010
- 1000 People Plan Scheme, China, since 2011
- Young 1000 People Plan Scheme, China, since 2011 (interview panel committee)
- NSFC reviewer, since 2010

D. External Examiners of PhD (MPhil) students

- Vasantha KD (2006) Pattern recognition using neural and functional networks. PSG College of Technology, Bharathiar University, India (PhD)
- Khanna N (2007) Investigation of phytoplankton dynamics using time series analysis of biophysical parameters in Gippsland Lakes, South-eastern Australia, RMIT University (PhD)
- Yeow K (2007) Three dimensional scour along offshore pipelines. The University of Western Australia (PhD)
- Sharma A (2007) Clustering for data mining: A particle Swarm optimization approach. The University of the South Pacific (MPhil)
- Joorabchi A (2008) Intelligent predictive models for water resources engineering. Griffith University (MPhil)
- Yu Y (2011) Numerical study of the Brisbane River plume in Moreton Bay, Australia. Griffith University (MPhil)
- Li M (2012) Three-dimensional wave-structure interaction modeling using the scaled boundary finite element method. Griffith University (PhD)
- Hansen NM (2012) Interaction between seabed soil and offshore wind turbine foundations. Technical University of Denmark (DTU), Denmark (PhD)

E. External Assessor for Academic Promotion/Confirmation

- Dr. M Blumenstein (2004): Promotion from Lecturer to Senior Lecturer, Griffith University
- Dr. H Zhang (2006): Promotion from Lecturer to Senior Lecturer, Griffith University
- Dr. TE Baldock (2008): Promotion from Senior Lecturer to Associate Professor, The University of Queensland
- Dr. H Guan (2008): Promotion from Senior Lecturer to Associate Professor, Griffith University
- Professor. JJ Jiao (2010): Promotion from Associate Professor to Professor, University of Hong Kong
- Dr. CH Liang (2010): Promotion from Lecturer to Senior Lecturer, University of Newcastle, UK
- Dr. DF Liang (2011): Confirmation of Lectureship, University of Cambridge, UK
- Dr. TE Baldock (2012): Promotion from Associate Professor to Professor, The University of Queensland
- Professor JS Zhang (2012): Promotion from Associate Professor to Professor, Hohai University, China

5. University Service

5.1 Summary

I summarize the administrative service I have been involved within the university.

- *Academic leadership：*

During my 3-year academic life (2004-2007) at University of Sydney (USyd), I was the group leader f Environment Fluid Group. The group consists of 3 academic staff members, 3 postdoctoral RA and 10 postgraduate students (PhD & MPhil). Among these, all RA and 7 postgraduate students worked with me. Before I joined USyd, there was one staff member with two (2) PhD students but no any ARC funding at all. Since I took the leadership, I rapidly expanded the size of the group and research incoming up to AUD$1.0M from both ARC and industry before I left USyd.

My major role as the Pro-Head of Research Committee at Civil/USyd was to help junior staff members at the School to develop their research profiles, especially internal and external grant applications. Basically, I went through their proposals and provided my detailed feedback before submission of their proposals.

I proposed the establishment of W3C (Wind, Wave & Water Center), which was approved by the university in 2006. I was the first director of the center before I moves to Dundee.

Since I joined University of Dundee (UoD) in late 2007, I have been leading the geo-environmental group, which consists of 8 academic staff members, 3 PDRA and 15 PhD students. Among these, 1 postdoctoral RA and 8 PhD students are working with me in various research directions. One of my roles is to monitoring the junior staff members and to help them establishing their academic career, especially when they face the difficulties in proposal preparation, teaching issues, handling students' response, and connections with industry. At Civil/UoD, we have regular reviews for all academic staff members (excluding professors) to ensure their performance maintain at a competitive level. My role is to interview (or informal meeting) junior staff members in both geotechnical and environmental areas every 6 months. In the review meeting, we (the staff member and I) went through their performance in both research and teaching components and set-up the target for long-term (1 year) and short-term (6 months). At the end of year, we (another two senior staff members and I) will conduct a formal annual review for junior staff members and report to Dean of the school.

- *General Administration：*

I was Pro-Head of research committee at Civil/USyd when I was there. Within the School of Civil Engineering, I look after research issues within the school. Meanwhile, I am also a member in the faculty Research Committee, which looks after the ranking of internal grant applications and scholarship application, and examiners' reports on research students' submissions (including PhD & MPhil students). I ran a common course at the faculty level (zero credit course) regarding research methodology for all fresh engineering postgraduate students in 2005 and 2006.

I was a member of the Management Committee at Civil/USyd, which consists of the head of school and another two research group leaders. We had regular management meetings every three months. I had been involved in the strategic plan for school future development, decision making for human resources, plan for school budget and finance, and any issues related to the school developments.

I was a member of academic board at University of Sydney. One of my major roles is the involvement in the revision of policies related to research & teaching, sever as an external member in the selection committee for academic appointments.

After I joined UoD, I have more involvements in administration at different levels because of very limited number of senior staff members in the British system. Basically, I have been involved in various administrations at the Division, School and University levels. For example, selection committee of academic appointments within School and College, strategic plan of the division and school development, human resources issues, preparation of document for research assessments, revision of college polices for research and teaching, and more recently preparation for external review of Division of Civil Engineering.

Regarding administration in teaching, I have been the member in the staff-student committee since I joined UoD. I have been heavily involved in the recruitments of international students for 3+1+1 and MSC program in the Chinese market, which has attracted about 80 international students from China to the School (i.e., the faculty in Australian system) since 2008. I have been the teaching review committee at the School since 2009, because I have taught various courses in both Australia and the UK, more teaching experience in different levels of UG & PG courses, and have a Master degree in Higher Education from USyd in 2008. My role in this committee is to review all UG & PG programs currently running by the School, including the course contents, activities, assessments and possible improvements in the next year. The most recent review was completed in early 2011.

Telford Institute was founded by Scottish government in 2007 for initializing research network focusing on Civil Engineering and relevant areas for all Scottish Universities. I organized the first Telford Workshop for Offshore Wind Farms in 2008, in which four international high-profile researchers from both academia and industry were invited to deliver seminars. The participants came from Scottish universities, industries and local government authorities. I have be the representative of Telford Institute in the Scottish Energy Technology Partnership since 2011.

In addition to the internal administration in the university, I have also involved in several external administration since I moved to the UK. Since I am the NRP (Northern Research Partnership) Chair in Civil Engineering, one of my responsibilities is to co-ordinate the research activities in the relevant areas of Civil Engineering among three partnership universities (UoD, University of Aberdeen and Robert Golden University). I have involved/co-ordinated several workshops in the areas of “offshore wind energy” and “offshore geotechnics”; the preparation of joint research projects between three universities; initialization of industry projects and Scoping study for National Subsea Research Institute (NSRI). Since 2010, I served as

a panel member for Scottish Energy Technology Partnership (ETP) Panel, in which I represented The Telford Institute (Civil Engineering). The major responsibility of Scottish ETP panel is to initialize possible collaborations among Scottish universities and industry in all energy resources (the recent focus is renewable energy) and report to and provide advices to Scottish Government for policies making and funding release.

5.2 Griffith University Services

- Member, School of Engineering Assessment Board Committee, since 1999.
- Editor, School of Engineering Research Activity Report, 2000.
- Organiser, Annual Review of Teaching Performance Symposium, 1999-2000.
- Organiser, Coastal Engineering Group Meeting (weekly), 2001.
- Organiser, School of Engineering's water wave tanks Construction plan, 2001-2002.
- Organiser, Master of Engineering in Coastal Engineering, 2001 (the course commenced in 2002).
- Program Convenor, Master of Engineering in Coastal Engineering (since 2002)
- Acting Program Convenor Bachelor of Master of Engineering in Coastal Engineering (Semester 1 2002 only)
- Reviewer, Griffith University Research Higher Degree Student Guideline (2002)
- Committee Member, Griffith University Research and Development Grant Scheme, Faculty of Engineering and Information Technology (2002)

5.3 University of Sydney Services

- Member, Academic Board, University of Sydney, since 2006
- Member, Research Committee, Faculty of Engineering, since 2005.
- Member, Management Committee, School of Civil Engineering, since 2005.
- Member, Research Committee, School of Civil Engineering, since 2006.
- Pro-Head, Research Committee, School of Civil Engineering, since 2006.
- Group Leader, Environmental Fluids, School of Civil Engineering, since 2005

5.4 University of Dundee

- The 4th Year student co-ordinator
- Member, Student-Staff Committee
- Selection committee of appointments of academic staff member within the School and University
- Member, Scottish Energy Technology Partnership Panel
- Member, Technical Review Panel within the School

- Interview committee for new staff appointments
- Committee for staff promotion.

The updated version by 8 September 2012

References

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