

CURRICULUM VITAE OF FUPING GAO

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PROFESSIONAL EXPERIENCE

- 2009 – now: *Professor, **Institute of Mechanics, Chinese Academy of Sciences (CAS)***
- 2003 – 2009: *Associate Professor, **Institute of Mechanics, CAS***
- 2003 – 2003: *Assistant Professor, **Institute of Mechanics, CAS***
- 2001 – 2002: *Post-Doctoral Research Fellow, Center for Offshore Foundation Systems, **University of Western Australia**; School of Engineering, **Griffith University**, Australia*
- 2000 – 2000: *Visiting Scholar, Department of Civil Engineering, **Hong Kong University of Science and Technology***

QUALIFICATIONS

- Ph.D. 2001: *Engineering Mechanics (Ocean Engineering), **Institute of Mechanics, CAS***
- Master Eng. 1997: *Geotechnical Engineering, **Beijing Jiaotong University**, China*
- Bachelor Eng. 1994: *Mining Engineering, **Wuhan University of Science and Technology**, China*

RESEARCH INTERESTS

- ✧ Wave/current-structure-soil Interaction
- ✧ Offshore geomechanics
- ✧ Stability analysis of offshore pipeline and riser system
- ✧ Soil erosion & scour around marine structures
- ✧ Wave modelling in Geo-centrifuges and its application

PROFESSIONAL SERVICES AND MEMBERSHIPS

- ✧ Member of Editorial Board (Associate Editor), ***Ocean Engineering*** (Elsevier) [2013-now]

- ✧ Member of Editorial Board, *Applied Mathematics and Mechanics* (Chinese Version) [2013-now]
- ✧ Member of Editorial Board, *Chinese Journal of Geotechnical Engineering* [2012-now]
- ✧ TPC Member, *International Society for Offshore and Polar Engineering (ISOPE)* [2011-now]
- ✧ Member, *American Society of Civil Engineers (ASCE)* [2009-now]
- ✧ Member of Seventh-Term Scientific Committee, *Association of Offshore Engineering of China* [2008-now]
- ✧ Member of Editorial Board, *The Open Journal of Ocean Engineering* (Bentham Science) [2008-now]
- ✧ Member of International Scientific Committee, *4th International Conference on Scour and Erosion* [2008]
- ✧ Member of Editorial Board, *Journal of Hydrodynamics* (Elsevier) [2008-now]
- ✧ Vice Chair, Technical Committee of 213: Geotechnics of Soil Erosion, *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)* [2007-now]
- ✧ Member, *International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)* [2003-now]
- ✧ **Session Chair/ Co-Chair for International Conferences:** *ISOPE-2006 (San Francisco, USA); The Seventh ISOPE Pacific/Asia Offshore Mechanics Symposium (Dalian, CHINA, 2006); 4th International Conference on Scour and Erosion (Tokyo, JAPAN, 2008); ISOPE-2010 (Beijing, CHINA); OMAE-2010 (Shanghai, CHINA); ISOPE-2012 (Rhodes, GREECE); ISOPE-2013 (Anchorage, Alaska, USA)*

SELECTED PUBLICATIONS

(A) JOURNAL PAPERS

1. Qi, W.G. and Gao, F.P. (2014): Physical modeling of local scour development around a large-diameter monopile in combined waves and current. *Coastal Engineering*, 2014, 83: 72-81. (SCI/EI)
2. Gao, F.P. , Wang, N., Zhao, B. (2013): Ultimate bearing capacity of a pipeline on clayey soils: Slip-line field solution and FEM simulation. *Ocean Engineering*, 2013, 73: 159-167. (SCI/EI)
3. Zang, Z.P., Gao, F.P., Cui, J.S. (2013): Physical modeling and swirling strength analysis of vortex shedding from near-bed piggyback pipelines. *Applied Ocean Research*, 2013, 40: 50-59. (SCI/EI)
4. Zhang, Y., Jeng, D.-S., Gao, F.P., Zhang, J.-S. (2013): An analytical solution for response of a porous seabed to combined wave and current loading. *Ocean Engineering*, 2013, 57: 240-247. (SCI/EI)
5. Gao, F.P. & Zhao, B. (2012): Slip-line field solution for ultimate bearing capacity of a pipeline

on clayey soils. *Theoretical & Applied Mechanics Letters*, 2012, 2: 051004.

6. Gao, F.P., Han, X.T., Cao, J., Sha, Y., Cui, J.S. (2012): Submarine pipeline lateral instability on a sloping sandy seabed. *Ocean Engineering*, 2012, 50: 44–52. (SCI/EI)
7. Gao, F.P., Han, X.T., Yan, S.M. (2012): A numerical model for ultimate soil resistance to an untrenched pipeline under ocean currents. *China Ocean Engineering*, 2012, 26(2): 185–194. (SCI/EI)
8. Gao, F.P., Yan, S.M., Yang, B., Luo, C.C. (2011): Steady flow-induced instability of a partially embedded pipeline: Pipe-soil interaction mechanism. *Ocean Engineering*, 2011, 38: 934–942. (SCI/EI)
9. Li, X.J., Gao, F.P., Yang, B., Zang, J. (2011): Wave-induced pore pressure responses and soil liquefaction around pile foundation. *International Journal of Offshore and Polar Engineering*, 2011, 21(3): 233–239. (SCI/EI)
10. Hong Y.S., Federico M. M., Gao, F.P. (2010): ISAB-2010 Foreword. *Procedia Engineering*, 2010, 4:1-2. (EI)
11. Gao, F.P., Yan, W.J., Ge F. (2010): Geotechnical investigation and tension-pile solution for foundation of SFT prototype at Qiandao Lake. *Procedia Engineering*, 2010, 4:127-134. (EI)
12. Yan, W.J. & Gao, F.P. (2010): Numerical analysis of interfacial shear degradation effects on axial uplift bearing capacity of a tension pile. *Procedia Engineering*, 2010, 4: 273-281. (EI)
13. Gao, F.P. & Luo, C.C. (2010): Flow-Pipe-Seepage Coupling Analysis on Spanning Initiation of a Partially-Embedded Pipeline. *Journal of Hydrodynamics*, 2010, 22(4): 478-487. (SCI)
14. Zhao, C.G., Liu, Y., Gao F.P. (2010): Work and energy equations and the principle of generalized effective stress for unsaturated soils. *International Journal for Numerical and Analytical Method in Geomechanics*, 2010; 34: 920–936. (SCI, EI)
15. Jeng, D.S., Zhou, X.L., Luo, X.D., Wang, J.H., Zhang, J. and Gao, F. P. (2010): Response of Porous Seabed to Dynamic Loadings. *Geotechnical Engineering Journal, SEAGS & AGSSEA*, 41(4).
16. Yang, B., Gao, F. P., Jeng, D.S., Wu, Y. X. (2009): Experimental study of vortex-induced vibrations of a cylinder near a rigid plane boundary in steady flow. *Acta Mechanica Sinica*, 25: 51-63. (SCI, EI)
17. Yang, B., Gao, F. P., Li, D.H., Wu, Y. X. (2009): Physical Modelling and Parametric Study on Two-Degree-of-Freedom VIV of a Cylinder near Rigid Wall. *China Ocean Engineering*, 23(1): 119-132. (SCI, EI)
18. Yang, B., Jeng, D.S., Gao, F. P., Wu, Y. X. (2008). Forces Acting on the Seabed around A Pipeline in Unidirectional Ocean Currents. *The Open Civil Engineering Journal*, 2:148-155.
19. Yang, B., Gao, F. P., Wu, Y. X. (2008): Flow-induced Vibrations of a Cylinder with Two Degrees of Freedom near Rigid Plane Boundary. *International Journal of Offshore and Polar Engineering*, 18 (4): 302-307. (SCI, EI)
20. Yang, B., Gao, F. P., Jeng, D.S., Wu, Y. X. (2008): Experimental study of vortex-induced vibrations of a pipeline near an erodible sandy seabed. *Ocean Engineering*, 35: 301-309. (SCI, EI)

21. Gao, F. P., Yan, S.M., Yang, B., Wu, Y. X. (2007): Ocean currents-induced pipeline lateral stability. *Journal of Engineering Mechanics, ASCE*, 133(10): 1086-1092. (SCI, EI)
22. Jeng, D.S., Seymour, B., Gao, F.P., Wu, Y.X. (2007): Ocean waves propagating over a porous seabed: residual and oscillatory mechanisms. *Science in China, Series E Technological Sciences*, 50(1): 81-89. (SCI, EI)
23. Gao, F. P., Yang, B., Wu, Y. X., Yan, S.M. (2006): Steady currents induced seabed scour around a vibrating pipeline. *Applied Ocean Research*, 28: 291-298. (SCI, EI)
24. Gao, F. P., Jeng, D. S., Wu, Y. X. (2006): An Improved Analysis Method for Wave-Induced Pipeline Stability on Sandy Seabed. *Journal of Transportation Engineering, ASCE*, 132(7): 590-596 (SCI, EI)
25. Zhao, C.G., Dong, J., Gao, F.P. (2006). An Analytical Solution for Three-Dimensional Diffraction of Plane P-Waves by a Hemispherical Alluvial Valley with Saturated Soil Deposits. *Acta Mechanica Sinica*, 19(2):141-151 (SCI, EI)
26. Yang, B., Gao, F. P., Wu, Y.X., Li, D.H. (2006): Experimental Study on Vortex-Induced Vibrations of Submarine Pipeline Near Seabed Boundary in Ocean Currents. *China Ocean Engineering*, 2006, 20(1):113-121 (SCI, EI)
27. Zhao, C.G., Dong, J., Gao, F.P., Jeng, D.S. (2006): Seismic responses of a hemispherical alluvial valley subjected to SV waves: A three-dimensional analytical approximation. *Acta Mechanica Sinica*, 22(6): 547-557. (SCI, EI)
28. Gao, F. P., Wu, Y. X. (2006): Non-linear wave induced transient response of soil around a trenched pipeline, *Ocean Engineering*, 33: 311-330 (SCI, EI)
29. Yang, B., Gao, F.P., Wu, Y.X. (2006): Dimensional Analysis and Experimental Apparatus on Interaction between Ocean Current-Pipeline and Seabed, *Journal of Ship Mechanics*, 10(3): 130-141 (EI)
30. Zhao C.G., Yang Z.M., Gao F.P. and Zhang Y.N. (2005). Influential Factors of Loess Liquefaction and Pore Pressure Development. *Acta Mechanica Sinica*, 21(2): 129-132. (SCI, EI)
31. Gao, F. P., Jeng, D. S. and Sekiguchi, H. (2003): Numerical Study on the Interaction between Non-Linear Wave, Buried Pipeline and Non-Homogenous Porous Seabed. *Computers and Geotechnics*, 30: 535-547 (SCI, EI)
32. Gao, F. P., Gu, X. Y. and Jeng, D. S. (2003) : Physical Modeling of Untrenched Submarine Pipeline Instability. *Ocean Engineering*, 30 (10): 1283-1304. (SCI, EI)
33. Gao, F. P., Gu, X. Y., Jeng, D. S. and Teo H.T. (2002): An Experimental Study for Wave-Induced Instability of Pipelines: The Breakout of Pipelines. *Applied Ocean Research*, 24: 83-90. (SCI, EI)
34. Jeng, D. S., Gao, F. P. and Sekiguchi, H. (2002): Effects of Wave Non-Linearity on the Wave-Induced Responses of Soil and Buried Pipeline: Application of GFEM-WSSI. *Journal of Engineering*, 13(2): 77-90
35. Gu, X.Y., Gao, F.P. and Pu, Q. (2001): Wave-Soil-Pipe Coupling Effect upon Submarine Pipeline On-Bottom Stability. *Acta Mechanica Sinica*, 17(1): 86-96 (SCI, EI)
36. Pu, Q., Li, K., Gao F.P. (2001): Scour of the Seabed under a Pipeline in Oscillating Flow. *China Ocean Engineering*, 15(1) : 129-137. (SCI, EI)

(B) CONFERENCE PAPERS

37. Qi, W.G., Gao, F.P. (2014): Responses of sandy seabed under combined waves and current: Turbulent boundary layer and pore-water pressure. *Proceedings of the 8th International Conference on Physical Modelling in Geotechnics 2014 (ICPMG 2014)*, Perth, Australia, 14-17

January 2014. pp. 561-567.

38. Qi, W.G., Tian, J. K., Zheng H.Y., Wang, H.Y., Yang, J., He, G. L., Gao, F.P. (2014): Bearing capacity of the high-rise pile cap foundation for offshore wind turbines. *Proceeding of International Conference on Sustainable Development of Critical Infrastructure (IC-SDCI 2014)*, Shanghai, China, May 16-18, 2014.
39. Han, X.T., Gao, F.P. (2013): A Pipe-soil interaction model for anti-rolling pipeline on-bottom stability on a sloping sandy seabed. *The Proceedings of the 23rd International Offshore and Polar Engineering Conference (ISOPE)*, 2013. pp. 210-215. (EI, ISTP)
40. Zang, Z.P., Gao, F.P., Mou, Y.C., Li, Z.B. (2013): Transverse VIV response of piggyback pipelines with various configurations in ocean current. *The Proceedings of the 23rd International Offshore and Polar Engineering Conference (ISOPE)*, 2013. pp. 448-453. (EI, ISTP)
41. Qi, W.G., Gao, F.P., Han, X.T., Gong, Q.X. (2012): Local scour and pore-water pressure around a monopile foundation under combined waves and currents. *The Proceedings of the 22nd International Offshore and Polar Engineering Conference (ISOPE)*, 2012, pp. 159-165. (EI, ISTP)
42. Zang, Z.P., Gao, F.P., Cui, J.S. (2012): Vortex Shedding and Vortex-Induced Vibration of Piggyback Pipelines in Steady Currents. *The Proceedings of the 22nd International Offshore and Polar Engineering Conference (ISOPE)*, 2012. pp. 565-571. (EI, ISTP)
43. Gao F.P., Cao J., Han X.T., Sha Y., Zhang E.Y., Wu Y.X., Cui J.S. (2011): Full-Scale Physical Modeling of Pipeline Instability on a Sloping Seabed. *Proceedings of Annual Offshore Technology Conference (OTC 2011)*, Paper No. OTC-21260, 2-5 May 2011, Houston, Texas, USA. pp.474-480.
44. Cui, J.S., Gao, F.P., Zang, Z.P., Han, X.T. (2011): Vortex Shedding Suppression of Cylindrical Structures Near Plane Wall. *The 5th Cross-strait Conference on Structural and Geotechnical Engineering (SGE-5)*, Hong Kong, China, 13-15 July 2011. pp. 938-945.
45. Zang Z.P., Cheng, L., Gao, F.P. (2011): Application of ROMS for simulation evolution and migration of tidal sand waves. *Proceedings of the Sixth International Conference on Asian and Pacific Coasts (APAC 2011)*, 2011, Hong Kong, China.
46. Gao, F.P., Yan, S.M., Zhang, E.Y., Wu, Y.X., Jia, X. (2010): Lateral soil resistance to an untrenched pipeline under the action of ocean currents. *Proceedings of the Second International Symposium on Frontiers in Offshore Geotechnics (ISFOG-2)*. University of Western Australia, Perth, Australia, 2010, 797-802. (Invited Presentation)
47. Li, X.J., Yang, B., Gao, F.P., Zang, J. (2010): A FEM Model for Wave-Induced Pore Pressure Response around a Pile Foundation. *The Proceedings of the 20th International Offshore and Polar Engineering Conference (ISOPE)*, 2010. pp. 674-679. (EI, ISTP)
48. Yan, S.M., Gao, F.P., Cao, J., Zhang, E.Y. , Li, G.H., Wu, Y.X. (2010): Physical Modeling of Untrenched Pipeline Breakout From Sand-Bed in Ocean Currents. *Proceedings of the 29th International Conference on Ocean, Offshore and Arctic Engineering (OMAE)*, Paper No. OMAE2010-20183. (EI, ISTP)

49. Zhao, B., Gao, F.P., Kang, R.Y. (2010): Numerical Investigation on Bearing Capacity of a Pipeline on Clayey Soils. *Proceedings of the 29th International Conference on Ocean, Offshore and Arctic Engineering (OMAE)*, Paper No. OMAE2010-20200. (EI, ISTP)
50. Zhao, B., Gao, F. P., Liu, J.M., Wu, Y.X. (2009): Vertical Bearing Capacity of a Partially-Embedded Pipeline on Tresca Soils. *The Proceedings of the 19th International Offshore and Polar Engineering Conference (ISOPE)*, Osaka, Japan, 2009, 469-473. (EI, ISTP)
51. Luo, C. C. and Gao, F. P. (2008): Numerical Investigation on the Onset of Tunnel Erosion Underneath a Submarine Pipeline in Currents. *Proceeding of Fourth International Conference on Scour and Erosion*, Tokyo, Japan, 2008, 214-219.
52. Yang, B., Gao, F. P., Wu, Y.X. (2008): Experimental Study on Flow Induced Vibration of a Cylinder with Two Degrees of Freedom Near a Rigid Wall. *The Proceedings of the 18th International Offshore and Polar Engineering Conference (ISOPE)*, Vancouver, BC, Canada, 2008, 469-474.
53. Gao, F. P. & Randolph, M. F. (2007): Wave Generation System in a Drum Centrifuge and Its Application. *The Proceedings of 10th China National Conference on Soil Mechanics and Geotechnical Engineering*, November 1-4, 2007, Chongqing, China. Vol 1: 274-280.
54. Gao, F. P., Yang, B., Yan, S.M., Wu, Y.X. (2007): Occurrence of Spanning of a Submarine Pipeline with Initial Embedment *The Proceedings of the 17th International Offshore and Polar Engineering Conference (ISOPE)*, Lisbon, Portugal, 2007, 887-891.
55. Gao, F. P., Yang, B., Yan, S.M., Wu, Y.X. (2006): Physical Modeling of Current-Induced Seabed Scour around a Vibrating Submarine Pipeline, *The Proceedings of the 16th International Offshore and Polar Engineering Conference (ISOPE)*, San Francisco USA, 2006, 108-112.
56. Wu, Y.X., Zheng, Z.C, Gao, F.P. Li, Q.P. (2006): Study on the Performance of a Compact Compound Oil/Gas/Water Separator for Offshore Oil Industry *The Proceedings of the 16th International Offshore and Polar Engineering Conference (ISOPE)*, San Francisco USA, 2006, 225-229.
57. Gao, F.P., Yan, S.M., Yang, B., Li, Q., Wu, Y.X. (2006): Experimental Study of Submarine Pipeline Stability on Sandy Seabed under the Influence of Ocean Currents, *The 7th Pacific/Asia Offshore Mechanics Symposium---ISOPE PACOMS-2006*, Dalian, China, September 17-20, 2006, 152-156.
58. Gao, F. P. & Randolph, M. F. (2005): Progressive Ocean Wave Modeling in Drum Centrifuge. In: *Frontiers in Offshore Geotechnics*, Taylor & Francis Group plc, London, UK.
59. Gao, F.P., Wu Y.X. Jeng, D.S., Jia, X. (2005): Wave-Induced Pipeline On-bottom Stability: Comparisons between Pipe-Soil and Wave-Pipe-Soil Interaction Mode. *The Proceedings of the 15th International Offshore and Polar Engineering Conference (ISOPE)*, Seoul, Korea, 2005 , Vol. (2): 109-114.
60. Gao, F.P., Wu Y.X. Jeng, D.S. (2004): The Effects of Backfill Soil Properties on Wave-induced Seepage Force upon Trenched Pipeline. *The Proceedings of the 14th International Offshore and Polar Engineering Conference*, 2004, Toulon, France, Vol. (2): 44-49.
61. Wu, Y.X., Yang H.P., Pu Q., Li K. and Gao F.P. (2004): Oscillatory flow Induced Hydrodynamic Forces upon a Pipeline near Erosive Sandy Seabed. *The Proceedings of the 14th International Offshore and Polar Engineering Conference (ISOPE)*, 2004, Toulon, France, Vol. (2): 56-61.
62. Gu, X.Y., Gao, F.P. and Pu, Q. (2001): Wave-Induced Breakout of Untrenched submarine Pipes on Sand. *The Fifteenth International Conference on Soil Mechanics and Geotechnical Engineering*, Istanbul, Turkey: 1303-1306.
63. Zeng, Q. L., Zhao C. G. and Gao F. P. (1995) : A Semi-analysis Element Method for Analyzing Transient Three-dimensional Temperature Field in Tunnel after Fire. *New Developments in Structure Engineering—Theories and Practices*, Beijing: 273-278.