

韦雁机 助理教授

东方理工高等研究院；手机：18958021271；Email: yanji.wei@eias.ac.cn

浙江省宁波市镇海区同心路 568 号，邮编 315200

Google Scholar: <https://scholar.google.nl/citations?user=jiG2jRgAAAAJ&hl=en>

概述

韦雁机，博士，东方理工高等研究院助理教授。2006年毕业于同济大学港航航道与海岸工程专业，同年进入国家海洋局第二海洋研究所攻读硕士，毕业后留所从事海洋工程地质调查工作。2012年前往爱尔兰都柏林大学攻读博士，2016年在荷兰格罗宁根大学从事博士后研究，主要研究方向为海洋可再生能源综合平台及波浪能装置水动力学。2019年供职于荷兰 AKTIS 海洋工程咨询公司，主要从事海洋工程气象，港口航道布置可行性以及船舶系泊安全性等相关工程咨询及研究。2022年8月入职东方理工高等研究院，从事海洋新能源开发相关的工程及研究。

主要研究方向：

海洋新能源资源开发利用、港口，海岸与近海工程相关水动力学，脑部血流动力学及临床应用等。

教育背景

2012.09-2015.12 博士（计算与应用数学），爱尔兰都柏林大学
2006.09-2009.06 硕士（海洋地质），国土资源部第二海洋研究所
2002.09-2006.06 本科（港口航道与海岸工程本科），同济大学

工作经历

2022.08-至今 东方理工高等研究院，助理教授
2019.05-2022.07 荷兰 Aktis Hydraulics，港口海岸及近海工程专家
2016.06-2019.06 荷兰格罗宁根大学，博士后
2009.07-2012.09 国家海洋局第二海洋研究所工程中心，中级工程师

发表成果

■ 期刊论文

- [1] Shen, Y. †, **Wei, Y.** †, Bokkers, R. P., Uyttenboogaart, M., & Van Dijk, J. M. C. Patient-specific cerebral blood flow simulation based on commonly available clinical datasets. *Frontiers in Bioengineering and Biotechnology*, 197(2022).
- [2] Yin, M., Hu, H., Wu, K., Wei, Y., Zhang, X., Zhu, K., & Yan, X. Computational study on effects of jet fans to traffic force in highway tunnel. *Tunnelling and Underground Space Technology*, 118(2021), 104155.
- [3] Zhang, C., **Wei, Y.**, Dias, F., Hu, X, An efficient fully Lagrangian solver for modeling wave interaction with oscillating wave surge converter, . *Ocean Engineering* 236 (2021): 109540.
- [4] **Wei, Y.**, Bechlenberg, A., Jayawardhana, B., and Vakis, A. I., Modelling of a wave energy converter array with nonlinear power take-off using a mixed time-domain/frequency-domain method. *IET Renewable Power Generation*. rpg2.12231.
- [5] Shen, Y., **Wei, Y.**, Bokkers, R. P., Uyttenboogaart, M., & van Dijk, J. M. C. (2020). Study protocol of validating a numerical model to assess the blood flow in the circle of Willis. *BMJ Open*, 10(6), e036404.
- [6] Tay, Z. Y, and **Wei, Y.**, Power enhancement of pontoon-type wave energy convertor via hydroelastic response and variable power take-off system. *Journal of Ocean Engineering and Science* 5.1 (2020): 1-18.
- [7] **Wei, Y.**, Bechlenberg, A., van Rooij, M., Jayawardhana, B., and Vakis, A. I., Modelling of a wave energy converter array with a nonlinear power take-off system in the frequency domain. *Applied Ocean Research*, 90 (2019): 101824.
- [8] **Wei, Y.**, Barradas-Berglind, J. J., van Rooij, M., Prins, W. A., Jayawardhana, B., and Vakis, A. I.*, Frequency-Domain Hydrodynamic Modelling of Dense and Sparse Arrays of Wave Energy Converters. *Renewable Energy* 135 (2019): 775: 788.
- [9] Renzi, E*, **Wei, Y.**, and Dias, F. The pressure impulse of wave slamming on an oscillating wave energy converter. *Journal of Fluids and Structures* 82 (2018): 258-271.

- [10] Barradas-Berglind, J. J., Dijkstra, T., **Wei, Y.**, van Rooij, M., Meijer, H., Prins, W. A., Vakis, A. I., Jayawardhana, B., Revenue maximisation and storage utilisation for the Ocean Grazer wave energy converter: a sensitivity analysis. *IET Renewable Power Generation*, 12(11), (2018): 1241-1248.
- [11] Dias, F.*, Renzi, E., Gallagher, S., Sarkar, D., **Wei, Y.**, Abadie, T., and Rafiee, A., Analytical and computational modelling for wave energy systems: the example of oscillating wave surge converters. *Acta Mechanica Sinica*, (2017): 1-16.
- [12] **Wei, Y.**, Barradas-Berglind, J. J., van Rooij, M., Prins, W. A., Jayawardhana, B., and Vakis, A. I.*, Investigating the adaptability of the multi-pump multi-piston power take-off system for a novel wave energy converter. *Renewable Energy* 111 (2017): 598-610.
- [13] **Wei, Y.** *, Abadie, T., and Dias, F., A cost-effective method for modelling wave-OWSC interaction. *International Journal of Offshore and Polar Engineering* 27(4) (2017): 366-373.
- [14] Wu, K, Zhu, K., Zhang, X., Kang, C., and **Wei, Y.** *, A zonal different-time-step algorithm for multi-physics simulation in closed system. *Journal of Signal Processing Systems* 86, no. 2-3 (2017): 279-288.
- [15] **Wei, Y.** *, Abadie, T., Henry, A., and Dias, F., Wave interaction with an oscillating wave surge converter, Part II: Slamming. *Ocean Engineering* 113 (2016): 313-334.
- [16] **Wei, Y.** *, Rafiee, A., Henry, A., and Dias, F., Wave interaction with an oscillating wave surge converter, Part I: Viscous effects. *Ocean Engineering* 104 (2015): 185-203.
- [17] **韦雁机***, 叶银灿. 床面上短圆柱体局部冲刷三维数值模拟[J], *水动力学研究与进展 A 辑*, 2008, 23(6): 655-661.
- [18] **韦雁机***, 叶银灿. 桩周冲刷三维数值模拟[J], *海洋工程*, 2009, 27(4): 61-66.
- [19] 来向华*, 叶银灿, **韦雁机**, 苟净慷, 傅晓明. 杭州湾海底管道冲刷自埋演化过程初步研究[J], *海洋学研究*. 2011, 29.2: 65-71.
- [20] 黄本胜*, 邱静, **韦雁机**. 导沙底墙三维水流数值模拟及其导沙效果分析[J], *水动力学研究与进展 A 辑*. 2014, 02: 238-244.

■ 著作（章节）

- [1] 叶银灿等著, 中国海洋灾害地质学[M], 海洋出版社, 2012.05. **韦雁机**, 第八章: 海洋构筑物基础冲刷及工程防护, 4 万字/103 万字.
- [2] **Wei, Y.**, Chapter 8: Local Scour and Protection of Marine Structures, In Ye Yin-can, *Marine Geo-Hazards in China (1st Edition)*, Elsevier Science, 2017: 297-359.

■ 会议论文

- [1] **Wei, Y.**, Barradas Berglind, J. D. J., Muhammad Zaki Almuzakki, M., van Rooij, M., Wang, R., Jayawardhana, B., Vakis, A. I., A Fourier Approximation Method for the Multi-Pump Multi-Piston Power Take-Off System, In *Proceedings of the 37th International Conference on Ocean, Offshore and Arctic Engineering*, Madrid, Spain, June 2018 .
- [2] Wang, R., **Wei, Y.**, van Rooij, M., Jayawardhana, B., Vakis, A. I., Influence of a Taut Cable on the Performance of a Point-Absorber Wave Energy Converter, In *Proceedings of the 37th International Conference on Ocean, Offshore and Arctic Engineering*, Madrid, Spain, June 2018 .
- [3] Tay, Z. Y., **Wei, Y.**, Vakis, A. I., Energy Extraction of Pontoon-Type Wave Energy Converter, In *Proceedings of the 37th International Conference on Ocean, Offshore and Arctic Engineering*, Madrid, Spain, June 2018.
- [4] **Wei, Y.**, Barradas Berglind, J., van Rooij, M., Prins, W., Jayawardhana, B., Vakis, A, A frequency-domain model for a novel wave energy converter. In *Proceedings of the 12th European Wave and Tidal Energy Conference*, Cork, Ireland, August 2017.
- [5] Barradas-Berglind, J. J., Muñoz Arias, M., **Wei, Y.**, Prins, W. A., Vakis, A. I., & Jayawardhana, B.. Towards Ocean Grazer's modular power take-off system modeling: a port-hamiltonian approach. In *Processing of 20th World Congress of the International Federation of Automatic Control* (pp. 15663-15669). (IFAC-PapersOnLine; Vol. 50, No. 1), Toulouse, France, July 2017.

- [6] Barradas-Berglind, J. J., Muñoz Arias, M., **Wei, Y.**, Prins, W., Vakis, A. I., & Jayawardhana, B., Energy-based modeling of the Ocean Grazer power take-off system. 121. In Processing of 36th Benelux Meeting on Systems and Control, Spa, Belgium, March 2017.
- [7] **Wei, Y.**, Abadie, T., and Dias, F., A cost-effective method for modelling wave-OWSC interaction, In Proceedings of the 26th International Society of Offshore and Polar Engineering Conference, Rhodes, Greece, 658-664, June, 2016.
- [8] **Wei, Y.**, and Dias, F., Numerical study of three dimensional effects of wave impact on an oscillating wave surge converter. In Proceedings of the 34th International Conference on Ocean, Offshore and Arctic Engineering, St. John's, Newfoundland, Canada, May 2015.
- [9] **Wei, Y.**, Henry, A., Olivier, O., and Dias, F., Numerical study of wave slamming on an oscillating wave surge converter. In Proceedings of the 33rd International Conference on Ocean, Offshore and Arctic Engineering, San Francisco, USA, June 2014.
- [10] Henry, A., Kimmoun, O., Nicholson, J., Dupont, G., **Wei, Y.**, and Dias, F., A two dimensional experimental investigation of slamming of an oscillating wave surge converter. In Proceedings of the 24th International Offshore and Polar Engineering Conference, Busan, Korea, June 2014.
- [11] **Wei, Y.**, Rafiee, A., and Dias, F., On the viscous effects in the interaction of water waves with an oscillating wave surge converter. In Proceedings of the 10th European Wave and Tidal Energy Conference, Aalborg, Denmark, September 2013.
- [12] **Wei, Y.**, Rafiee, A., Elsaesser, B., and Dias, F., Numerical simulation of an oscillating wave surge converter. In Proceedings of the 32nd International Conference on Ocean, Offshore and Arctic Engineering, Nantes, France, June 2013.

学生论文指导（含合作指导）

- 2022 石永康 博士研究生，漂浮式光伏结构水动力
- 2019 Bechlenberg, A., PhD, Technological and financial analyses of the Ocean Grazer.
- 2019 Ajjaj, El, M., BSc, machine learning for wave energy converter array
- 2018 Bechlenberg, A., MSc, Performance Analysis of Floater Arrays in the Ocean Grazer 3.0 Design.
- 2018 Wang, R. PhD, Design and optimization of the Ocean Grazer platform.
- 2018 Zaharia, R.M., MSc, Understanding the single pump single piston system.
- 2017 Yu, Z., MSc, Frequency-domain hydrodynamic analysis of the floater blanket.
- 2017 Zwetsloot, R.J.M., MSc, Hydrodynamic analysis of the Ocean Grazer platform.
- 2017 Marti Manresa, G., MSc, ComFLOW simulations compared to wave tank experiments.
- 2017 Fernandez Vuelta., BSc, A. Modular modelling for the WEC's power take-off system.

参与工程项目（部分）

- 2022 Wind driven flow assessment for floating photovoltaic plants, HK, China.
- 2022 Numerical assessment of tsunami impact on SMP, Haiti.
- 2022 Development of North Sea metocean database, NL
- 2022 Numerical assessment of Black Sea tsunami on submarine pipeline, Turkey
- 2022 Metocean and hydrodynamics study of Celtic Sea floating wind farm, UK.
- 2021 Metocean and hydrodynamics study of Clogherhead wind farm, Ireland.
- 2021 Van Oord Pontoon Motion Study at Nigg Bay, UK.
- 2021 Metocean data extraction along 26 vessel routes, GTT.
- 2021 Design current of Blyth offshore wind farm, Northumberland, UK.
- 2020 Investigation of a ship accident at Suez Canal using CFD model.
- 2020 R&D project: downtimes computation using deep neural network.
- 2020 Metocean and mooring analysis study for Lekki port in Nigeria.
- 2020 Metocean and mooring analysis study for Chancay terminal in Peru.
- 2020 Global metocean hindcast of major LNG shipping routes, GTT.

- 2020 Metocean time series near Hadera, Israel.
- 2019 R&D project: development of CFD tool for wind flow over complex terrain.
- 2019 广州地址调查大队码头系泊分析.
- 2012 岱山跨海大桥海域海床演变研究, 项目负责人.
- 2012 岱山跨海大桥海域水下地形调查, 项目负责人.
- 2011 舟山火力电站海域水下地形调查, 项目负责人.
- 2011 温州瓯江口输气管道路由海底地形及地球物理调查.
- 2011 浙江省海岛基础调查.
- 2010 福州(福建)——淡水(台湾)海底光缆路由调查.
- 2010 岱山输水管道路由海底地形及地球物理调查
- 2010 响水二期离岸风电场海底地形及地球物理调查.
- 2009 杭州湾海底地形调查.
- 2009 导沙底墙水动力模拟研究.
- 2008 亚太海底光缆路由调查
- 2007 中美二号海底光缆路由调查