

Ji Zhang 張繼

Postdoctoral Scholar

E-mail : jizhang@um.edu.mo; zhangji@ouc.edu.cn

Education

- PhD of Port, Coastal and Offshore Engineering
Ocean University of China, China 2017.09 – 2020.12
- Joint PhD of Offshore Engineering
University of Western Australia, Australia 2018.09 – 2020.10

Publications

1. **Ji Zhang**, Jing Yuan, Han Yuan. Numerical and experimental investigation of phase change characteristics and desalination effect of seawater freezing desalination in narrow channels. *Desalination*, 2022, 544: 116145. (SCI, TOP)
2. **Ji Zhang**, Xiaomeng Zhang, Zhixiang Zhang, Peilin Zhou, Yan Zhang, Han Yuan. Performance improvement of ocean thermal energy conversion organic Rankine cycle under temperature glide effect. *Energy*, 246, 2022, 123440 (SCI, TOP)
3. **Ji Zhang**, Han Yuan, Ning Mei, Zhe Yan. Estimation of solid concentration in solid-liquid two-phase flow in horizontal pipeline using inverse problem approach. *Particuology*. 62(2022), 1-13 (SCI)
4. **Ji Zhang**, Han Yuan, Liang Cheng, Ning Mei. Inverse estimation of the sand concentration for sand-oil flow in a horizontal pipeline based on the Eulerian–Eulerian model. *Journal of Petroleum Science and Engineering*. 195, 2020, 107877. (SCI, TOP)
5. **Ji Zhang**, Liang Cheng, Han Yuan, Ning Mei, Zhe Yan, Identification of viscosity and solid fraction in slurry pipeline transportation based on the inverse heat transfer theory, *Applied Thermal Engineering* 163, 2019, 114328. (SCI, TOP)
6. **Ji Zhang**, Han Yuan, Ning Mei, et al. An in-situ method of identifying ingredients of zeotropic refrigerants by inversion problem technique. *International Journal of*

Green Energy, 2019, 16(4): 269-276. (SCI)

7. **Ji Zhang**, Han Yuan, Liang Cheng, Ning Mei, Zhe Yan, Inverse identification of viscosity coefficient for Newtonian and non-Newtonian slurries during the turbulent pipeline transportation, *Asia-Pacific Journal of Chemical Engineering*. 2019, e2368 (SCI)
8. **Ji Zhang**, Han Yuan, Jian Zhao, Ning Mei, "Viscosity estimation and component identification for an oil-water emulsion with the inversion method" . *Applied Thermal Engineering*. Volume 111, 25 January 2017, 759–767. (SCI, TOP)
9. **Ji Zhang**, Han Yuan, Jian Zhao, Ning Mei, "Theoretical and experimental investigations of identifying the ingredients of an oil-water liquid mixture based on a characteristic fluid inverse problem" . *International Journal of Thermophysics*. 2016, 37(12):128 (SCI)
10. Han Yuan, **Ji Zhang**, Xiankun Huang, Ning Mei "Experimental investigation on binary ammonia–water and ternary ammonia–water–lithium bromide mixture-based absorption refrigeration systems for fishing ships." *Energy Conversion and Management* 2018, 166, 13–22. (SCI, TOP)
11. Zhihao Zhang, **Ji Zhang***, Han Yuan, Xu Zheng, Ning Mei, Design and experimental analysis of energy-saving and heat storage of a hot water tank based on the source-sink matching principle. *Case Studies in Thermal Engineering* 2022, 102672. (SCI, Q1, 通訊)
12. Zhihao Zhang, **Ji Zhang***, Han Yuan, Ge Chen, Ning Mei, Performance improvement of the electric water heater by a waste heat recovery method with the thermoelectric effect. *Applied Thermal Engineering*, 2022, 119914. (SCI, TOP, 通訊)
13. **Ji Zhang**, Ning Mei, Yan Li, et al. Estimation of Viscosity and Phase Inversion Point for Oil-Water Mixture *Energy Procedia* 153 (2018): 180-185. (EI)
14. Lin Yang, **Ji Zhang**, Han Yuan, Ning Mei. Analysis of the motion of small-scale ellipsoidal particles in a horizontal laminar flow field. *Particuology*. 2018.40. 10. 1016. (SCI)
15. Sheng Li, Han Yuan, **Ji Zhang**, Yan Li, Investigation on the dispersion mass transfer

in the interface between silicone oil and water. *International Journal of Heat and Mass Transfer* 141 ,2019, 222-232. (**SCI, TOP**)

16. Song Jiatong, Zhang Da, Yuan Han, **Zhang Ji**, Zhou Peilin, Li Yan, Wang Kunwei, Mei Ning. Sea water frozen crystallisation impacted by flow and heterogeneous nucleation: PFM-LBM coupled modeling, simulation and experiments. *Desalination*. 2022. 524. 115484. (**SCI, TOP**)
17. Wang Kunwei, Zhang Da, Mei Ning, **Zhang Ji**, Li Yan, Si Hongyu, Yuan Han. Inhibition effect of adsorption on brine pockets formation during seawater freeze desalination. *Desalination*. 2022. 526. 115507. (**SCI, TOP**).
18. Yi Suyun, Zhang Zhixiang, Peng Wenyi, **Zhang Ji**, Yuan Han. Pre-expansion ejector absorption power cycle for ocean thermal energy conversion. *Energy Conversion and Management*. 2022. 269. 116151. (**SCI, TOP**).
19. Han Yuan, Kunyuan Sun, Kunwei Wang, **Ji Zhang**, Zhixiang Zhang, Li Zhang, Sheng Li, Yan Li, Ice crystal growth in the freezing desalination process of binary water-NaCl system, *Desalination*, 2020, 496. (**SCI, TOP**).
20. Han Yuan, Pengyuan Sun, **Ji Zhang**, Kunyuan Sun, Ning Mei, Peilin Zhou, Theoretical and experimental investigation of an absorption refrigeration and pre-desalination system for marine engine exhaust gas heat recovery, *Applied Thermal Engineering*, 2019, 150 : 224-236. SCI. (**SCI, TOP**).
21. **Ji Zhang**, Investigation of the online detection for working medium composition in OTEC cycle based on the inversion method. *Program of international platform on ocean energy for young researcher 2016*. (2016.03, Saga, Japan. oral report)
22. Zhao Jian, **Zhang Ji**, Mei Ning, Zhang Wen, A temperature collecting device for drivepipes with changing flow state from turbulence to laminar flow. CN105673626A [P]. 2016.

•

Research Interests

- Smart energy in intelligent heating/cooling system
- Comprehensive utilization of ocean thermal energy

- Energy saving and energy storage

Projects

- 1. Construction and development of intelligent heating technology, Project Leader, ¥1,626,000
- 2. National Science Foundation of China (51276174), Theoretical Study on Mass Diffusion of Micro Plankton in Boundary layer of Sea bed, 01/01/2016-12/30/2020, Project Participant
- 3. National Natural Science Foundation of China (51706214), The microscopic mechanism of freezing desalination and particle migration in sea ice thermal storage and desalination, 2018/01-2020/12, Project Participant
- 4. Shandong Natural Science Foundation of China, Based on the inverse problem of back pressure balance, the deep sea transcritical power cycle theory research, 2017/07-2019/07, Project Participant
- 5. National Natural Science Foundation of China (51276174), The mass transfer mechanism of small marine plankton in the wall boundary layer in marine fluid environment, 2013/01-2016/12, Project Participant

Selected Awards & Honors

- 2020 Shandong Province "Excellent Student"
- 2019 China Ministry of Education "National Scholarship"
- 2018 China Scholarship Council Scholarship
- 2018 Shandong Province "Excellent Master Thesis"
- 2017 Shandong Province "Outstanding Graduate"
- 2016 China Ministry of Education "National Scholarship"

Academic Services

- Peer reviewer of *Energy, Energy conversion and management, Applied thermal engineering* and other high-reputed journals.
- Member of International Ocean Thermal Energy Association (OTEA); IMarEST (UK)