

## Yan Wang

PhD. Marine Engineering College, Dalian Maritime University  
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### SUMMARY OF QUALIFICATIONS

- Strong background in Fluid Mechanics, Material Science and Electronics
- Four years of experience in Experimental Fluid Mechanics, Triboelectric Nanogenerator, Self-powered System and Renewable Energy Harvesting
- Experimental and numerical research experience in fluid mechanics, triboelectric nanogenerator, self-powered system and renewable energy harvester design
- Excellent skills in wind energy, wave energy and marine current energy harvesting devices fabrication
- Skillful in Solidworks, Labview, Origin and Comsol Multiphysics software
- Creative, hardworking, logical, self-motivated, excellent multi-tasking

### EDUCATION

- **Joint training PhD. student**, NUS Lab of Sensors, MEMS and NEMS for Internet of Things (IoT) Applications, National University of Singapore (05/2021-present)
- **Master and PhD.**, Marine Engineering, Dalian Maritime University, Dalian, China (09/2016- present)
- **B. SC**, Marine Engineering, Dalian Maritime University, Dalian, China (09/2007-07/2011)

### WORK EXPERIENCE

- **Work**  
**Assistant engineer and 4<sup>th</sup> engineer**, Chinese-Polish Joint Stock Shipping Company (08/2011-08/2013)  
**Teaching assistant**, Dalian Shipping College (09/2013-08/2016)
- **Research**  
**Project Topics**  
(a) Investigation on highly efficient wave energy conversion mechanism based on triboelectric nanogenerator. National Natural Science Foundation of China Surface Project (51979045), 01/2019-12/2022, **main participant**.  
(b) Investigation on energy conversion mechanism of flexible triboelectric nanogenerator for harvesting ocean current energy. National Natural Science Foundation of China Surface Project (51879022), 01/2020-12/2023, **main participant**.  
(c) Investigation on the key technology of the marine intelligent buoy. Projects for Dalian Youth Star of Science and Technology (2018RQ12), 01/2018-12/2020, **main participant**.

### AWARDS

- **Third Prize**, Target Crawl Group-Target Recognition, International Underwater Robot Competition, 2018
- **Third Prize**, Autonomous Vision Group-Target Tracing, International Underwater Robot Competition, 2018
- **Outstanding Postgraduate Cadre**, Dalian Maritime University, 2019
- **Excellent Paper**, China Institute of Navigation, 2019
- **Grand Prize**, 2020 China Marine Intelligent Equipment Innovation Competition, 2020
- **Excellent Paper**, Postgraduate Forum on South China Sea New Energy and Technology 2020

## PUBLICATIONS

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Published and submitted 10 journal articles, 7 Q1 papers, 2 Q2 papers, 1 EI paper, 6 papers with first author, the cumulative impact factor exceeds 100.

1. **Yan Wang**, Xianyu Liu, Tianyu Chen, Hao Wang, Chuanqing Zhu, Hongyong Yu, Liguang Song, Xinxiang Pan, Jianchun Mi\*, Chengkuo Lee\*, Minyi Xu\*, “An Underwater Flag-like Triboelectric Nanogenerator for Ocean Current Energy Harvesting under Extremely Low Velocity Condition”, *Nano Energy*, Submitted.
2. **Yan Wang**, Xianyu Liu, Yawei Wang, Hao Wang, He Wang, Steven L. Zhang, Tiancong Zhao, Minyi Xu\*, Zhonglin Wang\*, “Flexible and Adaptive Wave Energy Converter Based on Seaweed-like Triboelectric Nanogenerator for Marine Based Internet of Things”, *ACS Nano*, under review **IF=15.881**
3. Hao Wang, Zhongqi Fan, Tiancong Zhao, Jiale Dong, Siyuan Wang, **Yan Wang**, Xiu Xiao, Changxin Liu, Xinxiang Pan, Yunpeng Zhao\*, Minyi Xu\*, “Sandwich-like Triboelectric Nanogenerators Integrated Self-Powered Buoy for Navigation Safety”, *Nano Energy*, 84, 105920 (2021) **IF=17.881**
4. Changxin Liu, Cong Zhao, Jianhao Liu, Jianye Wang, **Yan Wang**, Yuhang Fan, Kaiyuan Zhao, Baichuan Shan, Zhiyu Qu, Kefei Ma, Minyi Xu\*, Xinxiang Pan, “Design and study of a combining energy harvesting system based on thermoelectric and flapping triboelectric nanogenerator”, *International Journal of Green Energy*, Published online, (2021), **IF=2.459**
5. **Yan Wang**, Dehua Liu, Zhiyuan Hu, Tianyu Chen, Ziyi Zhang, Hao Wang, Taili Du, Steven L. Zhang, Zhiqiang Zhao, Tongming Zhou, Minyi Xu\*, “A Triboelectric Nanogenerator based Gas-solid Two-phase Flow Sensor for Pneumatic Conveying System Detecting”, *Advanced Materials Technologies*, 6(5), 2001270 (2021), **IF=7.848**
6. En Yang, **Yan Wang**, Jianye Wang, Chuan Wang, Changxin Liu, Mengwei Wu, Jianchun Mi, Minyi Xu\*, “Research on Film-Flapping Triboelectric Nanogenerator for Wind Energy Harvesting”, *SCIENTIA SINICA Technologica* 51(6), 684-698 (2021) **EI**
7. Song Wang, **Yan Wang**, Dehua Liu, Ziyi Zhang, Wenxiang Li, Changxin Liu, Taili Du, Xiu Xiao, Liguang Song, Hongchen Pang, Minyi Xu\*, “A Robust and Self-powered Tilt Sensor Based on Annular Liquid-solid Interfacing Triboelectric

- Nanogenerator for Ship Attitude Sensing”, *Sensors and Actuators A: Physical*, 317, 112459 (2020) (**co-first author**), **IF=3.407**
8. **Yan Wang**, En Yang, Tianyu Chen, Jianye Wang, Zhiyuan Hu, Jianchun Mi, Xinxiang Pan, Minyi Xu\*, “A Novel Humidity Resisting and Wind Direction Adapting Flag-type Triboelectric Nanogenerator for Wind Energy Harvesting and Speed Sensing”, *Nano Energy*, 78, 105279 (2020), **IF=17.881**
  9. **Yan Wang**, Jianye Wang, Xiu Xiao, Siyuan Wang, Phan Trung Kien, Jiale Dong, Jianchun Mi, Xinxiang Pan, Hanfeng Wang\*, Minyi Xu\*, “Multi-functional Wind Barrier Based on Triboelectric Nanogenerator for Power Generation, Self-powered Wind Speed Sensing and Highly Efficient Windshield”, *Nano Energy*, 73, 104736 (2020), **IF=17.881**
  10. Trung Kien Phan, Song Wang, **Yan Wang**, He Wang, Xiu Xiao, Xinxiang Pan, Minyi Xu\* and Jianchun Mi\*, “A Self-Powered and Low Pressure Loss Gas Flowmeter Based on Fluid-Elastic Flutter Driven Triboelectric Nanogenerator”, *Sensors*, 20 (3), 729 (2020), **IF=3.576**

## CONFERENCE PAPERS

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1. The study on fluid energy harvesting based on flow-induced vibration type triboelectric nanogenerator, The Chinese Congress of Theoretical and Applied Mechanics (CCATM 2021)
2. Triboelectric Nanogenerator for Wind Energy Harvesting and Speed Sensing, 16<sup>th</sup> International Conference on Nano/Micro Engineered & Molecular Systems (IEEE-NEMS 2021)
3. Fluid energy harvesting based on the flutter-type triboelectric nanogenerator, Postgraduate Forum on South China Sea New Energy and Technology 2020
4. The study on the performance of fluttering membrane triboelectric nanogenerator, The Chinese Congress of Theoretical and Applied Mechanics (CCATM 2019)
5. A self-powered Tilt Sensor based on Triboelectric Nanogenerator, Asia Navigation 2019

## PATENT

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- 1 Minyi Xu, Jianye Wang, **Yan Wang**, Hanfeng Wang “A power generation wind barrier based on the triboelectric nanogenerator” Apply No. CN201911261369.7; Public No. CN110932593A

## REFERENCES

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- **Professor Minyi Xu** (Supervisor)  
Marine Engineering College, Dalian Maritime University, No.1 Linghai Road, Ganjingzi District, Dalian, Liaoning, China  
Tel: +86-18941134769  
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No.1 Haida Road, Mazhang District, Zhanjiang, Guangdong, China

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- **Professor Chengkuo Lee** (Foreign supervisor)

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Singapore, Singapore

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