Jiaxi Zheng

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1. RESEARCH INTERESTS

1. Underwater Robotics
2. Bio-Inspired Robotics
3. Nano Sensor

2. ACADEMIC QUALIFICATIONS

The Chinese University of Hong Kong, Hong Kong

Intern in Department of Mechanical and Automation Engineering 2022.07~2022.09

Westlake University, Hangzhou, China

Intern in Department of Engineering 2022.05~Now

Dalian Maritime University, Dalian, China

Member in Marine Self-Powered System Lab 2019.09~2023.06

BS in Marine Engineering College and Transportation Engineering College

3. PUBLICATIONS

1. **JX Zheng**., P Xu., ZC Meng., JH Liu., SY Wang ., J Tao., G Xie., MY Xu. " Design, Fabrication, and Characterization of A Hybrid Bionic Spherical Robotics with Multilegged Feedback Mechanism". ***IEEE Robotics and Automation Letter with IROS2022***.
2. P Xu*., **JX Zheng***., XY Wang., JH Liu., SY Wang., MY Xu "Design and implementation of lightweight AUV with Multi-sensors aided for underwater intervention tasks". ***IEEE Transactions on Circuits and Systems***.
3. JH Liu*., P Xu*., **JX Zheng***., SY Wang ., J Tao., G Xie., MY Xu. "Whisker-Inspired and Self-Powered Triboelectric Sensor for Underwater Obstacle Detection and Collision Avoidance". ***Nano Energy***.
4. P Xu*., **JX Zheng***., JH Liu*., SY Wang ., J Tao., G Xie., MY Xu. "Soft triboelectric nanogenerator based compliant tensegrity assisted by deep learning for underwater robot tactile perception". Submitted.
5. SY Wang., P Xu., XY Wang., **JX Zheng**., XY Liu., J Tao., G Xie., MY Xu. " Underwater Bionic Whisker Sensor Based on Triboelectric Nanogenerator for Passive Vortex Perception ". ***Nano Energy***.
6. P Xu., JH Liu., XY Liu., XY Wang., **JX Zheng**., SY Wang., J Tao., G Xie., MY Xu. " A bio-inspired and self-powered triboelectric tactile sensor for underwater vehicle perception ". ***npj Flexible Electronics***.
7. JH Liu*., **JX Zheng***., P Xu., XY Wang ., J Tao., G Xie., MY Xu. "Development of AUV Mechatronics Integration for Underwater Intervention Tasks". ***IEEE CACRE 2021***.
8. P Xu [1]., XY Wang [1]., SY Wang., TY Chen., JH Liu., **JX Zheng**., MY Xu., J Tao., G Xie., "A Triboelectric-Based Artificial Whisker for Reactive Obstacle Avoidance and Local Mapping". ***Research***.

9. XY Wang., SY Wang., JH Liu., **JX Zheng**., P Xu., MY Xu "A Self-powered Triboelectric Coral-like Sensor Integrated Buoy for Irregular and Ultralow Frequency Ocean Wave Monitoring" . ***Advanced Materials Technologies***.
10. XY Wang., P Xu., JH Liu., …,**JX Zheng**., MY Xu., Tao J., "Bio-inspired Coral-like Sensor Aiming at Ocean Wave Monitoring" . ***IEEE CAC-2021***.
11. JH Liu., P Xu., XY Wang., **JX Zheng**., MY Xu "Development of a Triboelectric Palm-like Sensor Aiming at Underwater Perceptual Construction" . ***IEEE CAC-2021***.
12. TY Wang., JH Liu., P Xu., **JX Zheng**., MY Xu "Design of structure and control system of an underwater vehicle for marine environment perception". ***IAMU AGA-2021***.

(*Contributed Equally)

4. HONORS AND AWARDS

(Captain)China Robotic Competition (AUV group) - Champion	2022
(Captain)China Robotic Competition (AUV group) - Second Award	2020
(Captain)China Robotic Competition (ROV group) - Top Award	2022
Transportation Technology Competition - Top Award	2021
(Captain)Digital Industrial Design Competition - Top Award	2022
(Captain)Transportation Technology Competition - Second Award	2022
(Captain)Computer design competition - Second Award	2021
Technology Activities Scholarship	2021
(Captain)Embedded Design Competition - Second Award	2021
(Captain)RoboCom robot competition - Provincial Third Award	2021
Computer design competition - Third Award	2020
Electronic design competition - Provincial Top Award	2020
Marine intelligent equipment innovation competition - Top Award	2020

5. PATENTS

1. " An underwater hull cleaning robot with dual cleaning functions ", 2020, CH, **No.2020 2 2135954.7.**
2. " An adsorption and driving device of underwater hull cleaning robot and its working method ", 2020, CH, **No.ZL 2020 1 1027003.6**
3. " Design and implementation of lightweight AUV ", 2022, CHN, **No. 202220689117.5**

6. REFERENCES

Dr. Minyi Xu (Professor of Hydrodynamics, Dalian Maritime University)

Dr. Guangming Xie (Professor of Systems and Control Theory, Intelligent Biomimetic Robot, Peking University)

Dr. Jin Tao (Associate Professor of Systems and Control Theory, Nankai University)

Dr. Dixia Fan (Principal Investigator of Vortical Flow Sensing and Control, Westlake University)