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, Hongkong, China

Visiting student in Zi Lab (In preparation) 2022.07~2022.09

Westlake University, Hangzhou, China

Visiting student in i^4- FSI Lab 2022.05~2022.07

Dalian Maritime University, Dalian, China

Member in Marine Self-Powered System Lab 2019.09~2023.06

BS in civil engineering

3. HONORS AND AWARDS

China Robotic Competition (AUV group) - Champion	2022
China Robotic Competition (AUV group) - Second Award	2020
Transportation Technology Competition - Top Award	2021
Computer design competition - Second Award	2021
Technology Activities Scholarship	2021
Embedded Design Competition - Second Award	2021
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
Innovation and entrepreneurship training program - Top Award	2020
Innovation and entrepreneurship training program - Top Award	2019

4. 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***., 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.
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". submitted to (***Nano Energy***) .
4. **JX Zheng**., P Xu., M Li., ZC Meng., JH Liu., SY Wang ., J Tao., G Xie., MY Xu. " State Estimation for Tensegrity Structure Mounted on AUV Using Transformer Network". submitted to (***IEEE IROS2022***) .
5. 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". submitted to (***IEEE Transactions on Circuits and Systems***) .
6. 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***) .
7. 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***) .
8. 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***) .
9. 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***) .
10. 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***) .
11. 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***) .
12. 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***) .
13. 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)

5. PATENTS

1. " An underwater hull cleaning robot with dual cleaning functions ", 2020,CHN ,**No.2020 2 2135954.7.**
2. " An adsorption and driving device of underwater hull cleaning robot and its working method ", 2020, CHN，**No.ZL 2020 1 1027003.6**
3. " Untethered Amphibious Bionic Sea Urchin Robot for Underwater Tasks ", 2021, CHN. (***substantive examination***)
4. " Semi-flexible Bionic Whisker Sensor ", 2021, CHN. (***substantive examination***)

5. " A cleaning device and its working method of underwater hull cleaning robot ", 2021, CHN. (***substantive examination***)
6. " A control system and its working method of underwater hull cleaning robot ", 2021, CHN. (***substantive examination***)

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)