

# Jiaxi Zheng

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## 1. RESEARCH INTERESTS

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

## 2. ACADEMIC QUALIFICATIONS

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Dalian Maritime University, Dalian, China

BS in civil engineering

2019.09~2023.06

## 3. HONORS AND AWARDS

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China robot competition - 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
' Internet+ ' innovation and entrepreneurship competition - Provincial Third Award	2020
Innovation and entrepreneurship training program - Top Award	2020
Innovation and entrepreneurship training program - Top Award	2019

## 4. PUBLICATIONS

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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". submitted to *IEEE Robotics and Automation Letter with IROS2022 (under review)* .
2. **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 *IROS2022 (under review)* .

3. 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 (under review)* .
4. 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*) .
5. 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*) .
6. 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*) .
7. P Xu <sup>1</sup>., XY Wang <sup>1</sup>., 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*) .
8. 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*) .
9. XY Wang., P Xu., JH Liu., ...,**JX Zheng.**, MY Xu., Tao J., "Bio-inspired Coral-like Sensor Aiming at Ocean Wave Monitoring" . (*CAC-2021*) .
10. JH Liu., P Xu., XY Wang., **JX Zheng.**, MY Xu "Development of a Triboelectric Palm-like Sensor Aiming at Underwater Perceptual Construction" . (*CAC-2021*) .
11. 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*).

## 5. PATENTS

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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

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**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)