

Jiaxi Zheng

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1. RESEARCH INTERESTS

1. Bio-Inspired Design and Control for Marine and Underwater Robots ;
2. Self-powered Sensing System and Control ;
3. Flow-Mechanic-Electric Multi-field Coupling Interaction ;

2. ACADEMIC QUALIFICATIONS

Dalian Maritime University, Dalian, China

BS in civil engineering

2023.06

3. HONORS AND AWARDS

China robot competition (ROBOCUP) - Second Award	2020
Transportation technology competition -Top Award	2021
Computer design competition - Third Award	2020
Electronic design competition -Top Award	2020
Marine intelligent equipment innovation competition - Top Award	2020
'Internet+' innovation and entrepreneurship competition - Bronze Award	2020
Innovation and entrepreneurship training program - Top Award	2020
Innovation and entrepreneurship training program - Top Award	2019
Smart car competition - Recognition Award	2020

4. PUBLICATIONS

1. Xu P., **Jiaxi Z.**, Tao J., Xie G., Xu M. " Development of AUV Mechatronics Integration for Underwater Intervention Tasks ". (*CACRE 2021*) .
2. Xu P¹., Wang X¹., Wang S ., Tianyu Chen , Jianhua Liu , **Jiaxi Z .**, Xu M., Tao J., Xie G.,2021." A Triboelectric-Based Artificial Whisker for Reactive Obstacle Avoidance and Local Mapping". (*Research*) .
3. Wang X ., Xu P. , **Jiaxi Z .**, Xu M., Tao J., "Semi-flexible Triboelectric Bionic Whisker sensor based on triboelectric nanogenerators". (*AIEA 2021*) .
4. Xu P¹., **Jiaxi Z**¹. " Design and implementation of lightweight AUV with Multi-sensors aided for underwater intervention tasks ". (*under review*) .
5. Wang X ., Xu P., Liu J., **Jiaxi Z .**, Xu M., Tao J.,"Multifunctional Bio-Coral Triboelectric Nanogenerator for Flow-energy Harvesting and Marine Noise Monitoring". (*under review*) .

6. Liu J., Xu P., **Jiaxi Z** " Development of a triboelectric palm-like sensor aiming at underwater perceptual construction". (*under review*) .

5. PATENTS

1. " An underwater hull cleaning robot with dual cleaning functions ", 2020,CHN ,**No.20202213595 4.7.**
2. " Untethered Amphibious Bionic Sea Urchin Robot for Underwater Tasks ", 2021, CHN.
(*substantive examination*)
3. " Semi-flexible Bionic Whisker Sensor ", 2021, CHN. (*substantive examination*)
4. " An adsorption and driving device of underwater hull cleaning robot and its working method ", 2020, CHN. (*substantive examination*)
5. " A cleaning device and its working method of underwater hull cleaning robot ", 2020, CHN.
(*substantive examination*)
6. " A control system and its working method of underwater hull cleaning robot ", 2020, CHN.
(*substantive examination*)

6. PROJECTS INVOLVEMENT

1. Research on autonomous mission planning technology of underwater vehicle (ROS + GAZEBO + YOLO + OPENCV + STM32)
2. Research on Key Technology of Intelligent Perception for Underwater Operational Robots (GAZEBO + ROS + MATLAB)
3. Flow-mechanic- electric multi-field coupling for ocean energy Based on Triboelectric Nanogenerators (MATLAB)
4. China robot competition (ROBOCUP) - Autonomous underwater group
Research and development of control system (ROS + YOLO + OPENCV + STM32)
5. Research and development of ROV interactive system (ROS + QT)
6. Research on marine environment simulation system of underwater vehicle (GAZEBO + ROS)
7. R&D on Autonomous Deployment and Recovery System of Autonomous Underwater Vehicle (ArduSub + QGC)
8. R&D on Underwater Inspection Robots for Outer Plate of Ships (ArduSub + QGC)
9. Research on the mechanism of ocean energy conversion Based on flexible Triboelectric