Special Issue

Dynamics, Control, and Design of Bionic Underwater Vehicles

Message from the Guest Editors

Bionic underwater vehicles (BUVs), which draw inspiration from the morphological, locomotion, and sensory adaptations of aquatic organisms, represent a significant development in marine robotics. Progress in this field necessitates advances in high-fidelity modeling, robust control architectures, and the holistic integration of design and autonomy.

This Special Issue aims to present a collection of research that addresses these critical issues. Topics of interest for this Special Issue include, but are not limited to, the following:

- Energy systems and harvesting technologies;
- Bio-inspired propulsion mechanism design and modeling;
- Novel actuation systems and smart material applications;
- Nonlinear dynamics and fluid–structure interaction analysis;
- Robust and adaptive control strategies;
- Bio-inspired control architectures and central pattern generators;
- Morphological design and multidisciplinary optimization;
- Biomimetic sensing and perception systems;
- Autonomous navigation and decision-making in uncertain environments;
- Multi-vehicle cooperation and swarm intelligence.

Guest Editors

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Prof. Dr. Fuwang Zhao

Prof. Dr. Denghui Qin

Deadline for manuscript submissions

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Message from the Editor-in-Chief

Journal of Marine Science and Engineering (*JMSE*, ISSN: 2077-1312) focuses on research in the fields of Ocean Engineering, Coastal Engineering, Physical Oceanography, Geological Oceanography, Marine Biology, and Marine Environmental Science. It publishes reviews, regular research papers, and short communications, as well as Special Issues on particular subjects. Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the maximum length of the papers.

Editor-in-Chief

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