Special Issue

The Control and Navigation of Autonomous Surface Vehicles

Message from the Guest Editors

With the rapid advancement of modern control and navigation technologies, autonomous surface vehicles (USVs) are evolving into more integrated, interoperable, efficient and adaptive systems, suitable for executing a wide range of complex ocean tasks. The goal of this Special Issue is to enhance the reliability, robustness and accuracy of control and navigation, endowing USVs with autonomous perception, adaptive intelligent decision-making and control capabilities and further facilitating their applications. We invite researchers from both academia and industry to submit original articles in the following areas:

- Advanced sensing technology;
- Multi-source data fusion;
- Autonomous positioning and navigation;
- Obstacle avoidance and path planning in dynamic ocean environments:
- Application of artificial intelligence in USVs;
- Intelligent decision-making framework design in complex ocean environments;
- Adaptive methods and high-precision control in USVs;
- Self-organizing network technology in USVs;
- Heterogeneous USV collaborative control;
- Simulation and modeling of USVs.

Guest Editors

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Dr. Zhiming Yuan

Dr. Haitong Xu

Deadline for manuscript submissions

5 October 2025



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Message from the Editor-in-Chief

The Journal of Marine Science and Engineering (JMSE, ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi School of Engineering, The UWA Oceans Institute, The University of Western Australia, Perth, WA 6009, Australia

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