

Special Issue

Advances in the Decision-Making and Control of Autonomous Marine Vehicles

Message from the Guest Editors

Recently, autonomous marine vehicles (AMVs) have become key enablers in many maritime applications. Despite notable progress, numerous technical challenges remain. This Special Issue presents recent advances and pioneering research on the design, development, and implementation of decision-making, planning, and control systems for AMVs. The scope includes autonomous underwater vehicles (AUVs), autonomous surface vehicles (ASVs), and hybrid or multi-domain marine robots operating across surface, underwater, or aerial environments. We invite high-quality original research articles and review papers in, but not limited to, the following areas:

- Autonomous mission planning and dynamic replanning;
- Multi-vehicle task assignment and coordination;
- Guidance, path planning, and trajectory optimization;
- Motion planning and robust/adaptive control under uncertainty;
- AI/ML-based decision-making frameworks;
- Fault detection, resilience, and safe operation in harsh environments;
- Human-in-the-loop autonomy and shared control architectures;
- Real-time situational awareness and perception-driven control.

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About the Journal

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

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