

## Special Issue

# Explainable AI and Evaluation of Algorithms for Autonomous Marine Vehicles

### Message from the Guest Editor

Artificial intelligence (AI) is an enabling technology for autonomous marine vehicles, including autonomous surface vehicles (ASVs) and autonomous underwater vehicles (AUVs). Algorithms such as fast marching methods, evolutionary algorithms, artificial potential fields, neural networks, reinforcement learning, and many others are becoming increasingly popular for solving problems such as autonomous path planning and collision avoidance. However, there is currently no unified way to evaluate the performance of different algorithms, for example, with regard to safety or risk. In addition, the solutions produced by the algorithms must be understood by a human-in-the-loop and from a legal rights and regulatory perspective as well as by other autonomous marine vehicles. Hence, we invite papers relating to these challenges of algorithms for autonomous marine vehicles, which may include (but are not limited to) one or more of the following aspects:

- Explainable AI (XAI)
- Simulated environments and frameworks
- Scenario generation
- Human-in-the-loop and human factors
- Physical field testing

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### Guest Editor

Dr. Robin T. Bye

Cyber-Physical Systems Laboratory, Department of ICT and Natural Sciences, NTNU—Norwegian University of Science and Technology, NO-6025 Ålesund, Norway

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### Deadline for manuscript submissions

closed (1 March 2022)



## Journal of Marine Science and Engineering

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CiteScore 5.0



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*Journal of Marine Science and  
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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[jmse@mdpi.com](mailto:jmse@mdpi.com)

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## About the Journal

### 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.

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### 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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#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.5 days after submission; acceptance to publication is undertaken in 2.5 days (median values for papers published in this journal in the second half of 2025).