

Special Issue

Advanced Computational Intelligence and Machine Learning Methods in Marine Renewable Energy

Message from the Guest Editors

The integration of **computational intelligence** and **machine learning (ML)** is transforming **marine renewable energy (MRE)** by enhancing forecasting, optimization, and decision-making. This Special Issue highlights innovative research using advanced algorithms to address challenges in wave, tidal, and offshore wind energy systems. We invite high-quality contributions on novel applications, methodologies, and frameworks. Topics include, but are not limited to:

- **Energy Forecasting Models** for wave, tidal, and offshore wind resources using ML techniques.
- **Optimization Algorithms** for layout design, maintenance scheduling, and energy conversion efficiency.
- **Fault Detection and Condition Monitoring** using intelligent data-driven systems.
- **Autonomous Control Systems** for marine energy converters powered by deep learning.
- **Environmental Impact Assessment** using predictive analytics and AI-based modeling.
- **Hybrid Modeling Approaches** combining physics-based and data-driven techniques.
- **Big Data Analytics and Edge Computing** for real-time marine energy system management.

Guest Editors

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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.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi

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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).