Special Issue

Simulation-Based Design Optimization in Ship and Offshore Hydrodynamics

Message from the Guest Editor

Advancements in computational modelling and optimization techniques have ushered in a new era in naval architecture and offshore engineering. We invite original research articles and reviews that address simulation-driven approaches to hydrodynamic design and analysis across a wide range of marine applications. 1. Resistance and propulsion optimization: CFD and algorithms to reduce drag, improve efficiency, and cut fuel use. 2. Wave–structure interaction modelling: Numerical methods for optimizing offshore structures in extreme seas. 3. Hydroelasticity and fluid–structure interactions: Simulating vibrations, slamming, and dynamic loads. 4. Design of high-performance marine vehicles: Hull optimization for ASVs, high-speed crafts, and energy-efficient ships. 5. Offshore floating systems: Mooring, positioning, and motion optimization for platforms & renewables. 6. Multi-objective and robust design frameworks: Uncertainty quantification, surrogate models, and data-driven approaches. 7. Hybrid methods and AI integration: Machine learning to accelerate simulations and optimize hydrodynamics.

Guest Editor

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Deadline for manuscript submissions

25 May 2026

Journal of Marine Science and Engineering

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.0

mdpi.com/si/243353

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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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