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

15 November 2025

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

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.

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