Special Issue

Advanced Studies in Ship Fluid Mechanics

Message from the Guest Editor

The field of ship fluid mechanics is advancing rapidly with transformative technologies that are reshaping hydrodynamic analysis and ship design. High-fidelity CFD, including hybrid RANS-LES, high-order methods, and lattice Boltzmann approaches, offers the precise modeling of turbulent and multiphase flows. Adjoint solvers and multidisciplinary design optimization (MDO) frameworks have enabled the holistic optimization of hydrodynamic performance, structural integrity, and sustainability. Artificial intelligence (AI) and machine learning are revolutionizing the field with predictive modeling, real-time simulations, and surrogate models, significantly reducing computational costs. This Special Issue aims to serve as a platform for showcasing innovative research and advancements in fluid dynamics and its diverse applications. It emphasizes recent progress in both fundamental fluid dynamics and their practical implementations across various domains of naval architecture, ocean, and marine engineering. The focus is on the latest theoretical, computational, and experimental contributions to all facets of marine hydrodynamics.

Guest Editor

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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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