

Special Issue

Optimization and Control of Marine Renewable Energy Systems

Message from the Guest Editor

Marine energy systems (tidal, wave, and ocean thermal energy conversion) present significant potential for sustainable power generation. However, the operational efficiency and reliability of these energy systems depend on optimal performance and appropriate control strategies. Optimization techniques are typically employed to enhance energy capture, minimize operating costs, and ensure system stability under varying conditions. Control strategies, such as model predictive control (MPC) and adaptive control, are often critical in regulating power output and improving system responsiveness to dynamic environments. These strategies aim to maximize energy extraction while mitigating the effects of turbulence, wave irregularities, and mechanical wear. Furthermore, optimization algorithms are used to design efficient energy converters, manage grid integration, and address challenges related to long-term reliability. This Special Issue (SI) will focus on all aspects of optimization and control for marine energy systems, with a view towards building a more renewable-rich grid and a decarbonized global energy sector.

Guest Editor

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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

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