

Special Issue

Power Systems of Polar Ship and Adaptability to Polar Environments

Message from the Guest Editor

With the progressively prominent strategic position of the Arctic and the growing exploitation of its resources, polar ships have become an issue of rising significance. Due to the complex sea conditions of polar shipping and impending stricter emission regulations, polar ships must exhibit high adaptability to polar environments. The design of ship power systems for polar ships must ensure safety, energy efficiency, and low emissions. Depending on the operating conditions of polar vessels, special considerations are required, such as dynamic performance under fluctuation loads, reliable fuel supply in harsh environments, significant reduction in CO₂ emissions, and specialized designs for cold and ice prevention. This Special Issue welcomes submissions of research whose scope includes, but is not limited to, the following topics:

- Power system design and computing;
- Dynamic response analysis;
- Engine performance and emissions;
- Power system implementation;
- Risk- and reliability-based approaches;
- Fuel supply issues for polar ships;
- Cold and ice prevention.

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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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).