Special Issue

Recent Advances in Understanding and Modelling of Ship-Ice Interaction

Message from the Guest Editors

Ship performance in level ice has been traditionally applied as a design point when a newbuilding is designed. However, due to global warming, the thickness of sea ice cover has been reducing. As a result, the extent of level ice cover is diminishing, and the extent of floe ice is increasing. This applies to multiyear ice at the polar regions but also to the sea areas where only first-year ice appears, as the winters are milder. Simultaneously, ships operate more extensively in open water conditions that favor hull optimization for open water conditions resulting in non-conventional icebreaking hull form designs. As the traditionally considered interaction process is changed due to the ice conditions and hull form, new aspects in modelling the ship-ice interaction process and new knowledge on the interaction are required. The purpose of this Special Issue is to publish the most exciting research with respect to the above subjects and to provide a rapid turnaround time regarding reviewing and publishing, disseminating the articles freely for research, teaching, and reference purposes.

Guest Editors

Dr. Mikko Suominen

Department of Mechanical Engineering, Aalto University, 02150 Espoo, Finland

Dr. Fang Li

Department of Mechanical Engineering, Aalto University, 02150 Espoo, Finland

Deadline for manuscript submissions

closed (25 December 2021)



Journal of Marine Science and Engineering

an Open Access Journal by MDPI

Impact Factor 2.8 CiteScore 5.0



mdpi.com/si/88095

Journal of Marine Science and Engineering Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 jmse@mdpi.com

mdpi.com/journal/ jmse





Journal of Marine Science and Engineering

an Open Access Journal by MDPI

Impact Factor 2.8 CiteScore 5.0





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.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi School of Engineering, The UWA Oceans Institute, The University of Western Australia, Perth, WA 6009, Australia

Author Benefits

High Visibility:

indexed with Scopus, SCIE (Web of Science), Ei Compendex, GeoRef, Inspec, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Marine) / CiteScore - Q2 (Ocean Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.6 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).

