Special Issue

Mechanical Failure and Metal Degradation of Ships and Marine Structures

Message from the Guest Editors

Ships and marine structures are constructed by various metallic materials including high-strength steels, stainless steels, copper alloys, titanium alloys and so on. The damage and failure of these metal components directly threaten the safety of ships, ocean platforms, offshore wind power structures, subsea vehicles, subsea pipelines, risers and cross-sea bridges. Due to the wind, wave and current loads in the ocean, ships and marine structures can suffer from serious mechanical failure, including fatigue, fracture, creepage, erosion and buckling. On the other hand, the metal structures can lessen the risks of electrochemical corrosion in seawater. Furthermore, the synergy of the mechanical load and the corrosion (including but not limited to stress corrosion, erosion-corrosion, tribo-corrosion and corrosion fatigue) could lead to the quick failure of the ships and marine structures. As a result, detecting the metal damage and understanding the failure mechanism of metals caused by both mechanical load and electrochemical corrosion in complex marine environments are crucial for early warnings and the protection of ships and marine structures.

Guest Editors

Prof. Dr. Gang Liu

Dr. Yunze Xu

Dr. Da-Hai Xia

Prof. Dr. Jian Zhang

Deadline for manuscript submissions

closed (31 August 2022)

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/si/99532

Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

mdpi.com/journal/metals

Metals

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.3

mdpi.com/journal/metals

About the Journal

Message from the Editor-in-Chief

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

Editor-in-Chief

Prof. Dr. Yong Zhang
Beijing Advanced Innovation Center of Materials Genome Engineering, State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, 30 Xueyuan Road, Beijing 100083, China

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Metals and Alloys)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.7 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the second half of 2025).

MDPI