

## Special Issue

# Recent Advances on Safe Maritime Operations under Extreme Conditions

### Message from the Guest Editors

The increased activity in the Arctic involves hazards such as a harsh environment, especially the ice cover and cold temperature among others. This effect on Arctic operations is a complicated task to solve. The focus of this Special Issue will be research related to the recommended practice on scenario-based risk management for Polar shipping and risk-based guidelines considering holistically the impact of risks on ice infested waters. These can include: (a) Definition of ice conditions, (b) ship-ice contact, (c) numerical models/idealizations, (d) definition of limit states for ice-strengthened structures, and (e) holistic risk-reward analysis for Polar navigation. Articles submitted to this Special Issue can also deal with the most significant recent developments in the abovementioned areas. We invite researchers to contribute original research articles as well as review articles that will stimulate the continuing research effort on the future needs to guarantee safe shipping in ice waters.

Dr. Osiris Valdez Banda

---

### Guest Editors

Prof. Dr. Pentti Kujala

Prof. Dr. Spyros Hirdaris

Dr. Martin Bergström

---

### Deadline for manuscript submissions

closed (10 April 2021)



## Applied Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.5



[mdpi.com/si/26063](https://mdpi.com/si/26063)

*Applied Sciences*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[appls@mdpi.com](mailto:appls@mdpi.com)

[mdpi.com/journal/  
appls](https://mdpi.com/journal/appls)





# Applied Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.5  
CiteScore 5.5



[mdpi.com/journal/  
applsci](https://mdpi.com/journal/applsci)



## About the Journal

### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

---

### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32,  
20133 Milano, Italy

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

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

#### Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering )