

Special Issue

Mathematical Modeling Applied to the Analysis of Marine Structures

Message from the Guest Editors

The rapid expansion of offshore engineering, driven by oil, gas, and offshore renewables, creates complex challenges for the analysis and design of marine structures. Mathematical modeling is key to improving prediction, reliability, and decision-making under uncertainty. This Special Issue invites high-quality original and review papers on advances in analytical, numerical, and data-driven methods for marine-structure analysis under realistic environmental and operational conditions. Topics include, but are not limited to: Statistical methods for response assessment of floating and slender offshore structures, including applications in oil & gas and offshore wind systems; Mathematical modeling of metocean data with emphasis on structural analysis; Numerical methods for global and local analysis of flexible pipes; Numerical methods for reliability analysis and design of risers and mooring lines; Numerical and analytical approaches for stochastic fatigue analysis; Mathematical and computational methods for digital twins of marine structures; Numerical approaches for structural life extension assessment; Artificial intelligence and data-driven models applied to marine structural analysis.

Guest Editors

Prof. Dr. José Renato Mendes De Sousa

Prof. Dr. Luis Volnei Sudati Sagrilo

Dr. Paulo Maurício Videiro

Deadline for manuscript submissions

31 March 2027



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/279964

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

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





Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



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



About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).