

Special Issue

Mechanics of Advanced Composite Structures

Message from the Guest Editors

This Special Issue highlights pioneering advancements and transformative engineering applications of composite materials across aerospace, aeronautics, and maritime industries. It delves into the optimization of fabrication and processing methodologies for high-performance composites, revolutionary developments in multi-scale manufacturing techniques, and the mechanical resilience and performance evolution of lightweight structures subjected to extreme operational conditions, including high mechanical loads, corrosive environments, and thermal cycling. The scope encompasses the design, characterization, and deployment of fiber-reinforced polymers, ceramic matrix composites, and adaptive material systems, with emphasis on resolving fundamental challenges such as microstructural tailoring, interfacial engineering, and multifunctional hybridization.

- composite mechanics;
- lightweight structural design;
- advanced material applications;
- failure mode analysis;
- material–structure–function

Guest Editors

Dr. Ke-Chun Shen

School of Marine Science and Technology, Northwestern Polytechnical University, Xi'an 710072, China

Dr. Yihua Huang

Shanghai Institute of Ceramics Chinese Academy of Sciences, Shanghai 201800, China

Deadline for manuscript submissions

20 November 2025



Applied Sciences

an Open Access Journal
by MDPI

Impact Factor 2.5
CiteScore 5.5



mdpi.com/si/241691

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

mdpi.com/journal/

[applsci](https://doi.org/10.3390/applsci)





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)