Special Issue

Mechanical Properties and Numerical Analysis of Metal and Composite Materials

Message from the Guest Editors

Materials science and engineering play a crucial role in the development of innovative solutions for various industrial applications. In this context, understanding the mechanical properties of metals and composite materials is essential for optimizing their performance under different loading conditions. Numerical analysis has become an indispensable tool for predicting material behavior, enabling researchers to design and improve materials efficiently. This Special Issue will collect original research and review articles focusing on the mechanical characterization and numerical modeling of metallic and composite materials. Topics of interest include, but are not limited to, the following:

- Experimental investigation of mechanical properties (tensile, compression, fatigue, impact, and fracture behavior);
- Advanced numerical methods for modeling material behavior (FEM, XFEM, multiscale modeling, etc.);
- Damage mechanisms and failure analysis;
- Effects of processing techniques on mechanical performance;
- Hybrid and functionally graded materials;
- Applications of AI and machine learning in material modeling.

Guest Editors

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Deadline for manuscript submissions

20 September 2025

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/232559

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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

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