Special Issue

Deformation and Fracture Behaviors of Materials

Message from the Guest Editors

The material deformation is categorized based on the time-independence of the elastic, plastic, and creep behavior. Deformations are not limited to the initial microstructure of the material, but change continuously with the processes, environments, and loads. Secondly, the material fracture is distinguished by the direction of loading into static and fatigue loading, involving mechanisms of crack inititation and propagation. A combination of ductile, brittle, and fatigue mechanisms may result from the material fracture depending on temperature variations, exposure environments, and load types. Therefore, an analysis of the deformation and fracture behaviors in various environments is essential for ensuring integrity. This Special Issue collects research aimed at understanding the deformation and fracture of various materials from fundamental and engineering perspectives. Contributions that enhance the understanding of the mechanics at micro-, meso-, and macroscopic scales from theoretical, experimental, and numerical viewpoints in various environments are encouraged.

Guest Editors

Dr. Jin Ha Hwang

Prof. Dr. Jun-Hyub Park

Prof. Dr. Nak-Kyun Cho

Deadline for manuscript submissions

closed (20 February 2025)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/209271

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

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

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)