Special Issue

Application of Finite Element Analysis in Fracture Mechanics

Message from the Guest Editors

Predicting the catastrophic failure of engineering components due to crack initiation or propagation has long been an active research topic. For real-life components, analytical methods for estimating the conditions for fracture initiation (critical load and crack orientation) are generally insufficient. As a result, numerical methods such as the finite element method are commonly used. This Special Issue is dedicated to studies that utilize the finite element method to study the failure initiation and propagation stages. Manuscripts describing failure modeling due to cracking in all structural materials, including metallic, polymer, composites, ceramics, and glasses, are welcome. Studies focusing on new failure criteria or providing insights on classical failure criteria are especially encouraged. Studies should generally include verification and validation of numerical models. Studies which only report on experimental results will not be considered.

Guest Editors

Dr. Elad Priel
Dr. Brigit Mittelman
Dr. Alberto Campagnolo

Deadline for manuscript submissions

31 May 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/229092

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, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

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