Special Issue

Dynamic Mechanical Behavior and Damage and Fracture Mechanisms of Geotechnical Engineering Materials

Message from the Guest Editors

Investigating the dynamic mechanical behavior, as well as the damage and fracture mechanisms of geotechnical engineering materials, holds multi-faceted significance. Theoretically, such research can bridge the knowledge void in the dynamic domain of contemporary geotechnical mechanics, refine the theoretical framework of material mechanical properties, and lay a solid theoretical foundation for future research endeavors. From an engineering practice perspective, a precise comprehension of these mechanisms is instrumental in optimizing geotechnical engineering designs. This, in turn, enhances the stability and safety of engineering structures, mitigates the risk of engineering failures, and curtails the need for costly maintenance and reconstruction efforts. Moreover, the research outcomes can serve as a guiding light for the development of novel geotechnical materials, propelling the geotechnical engineering field to progress in a more efficient and secure direction.

This Special Issue aims to cover recent progress and new developments related to the dynamic mechanical behavior and damage and fracture mechanisms of geotechnical engineering materials.

Guest Editors

Dr. Xin Cai

Dr. Jianning Liu

Dr. Xueming Du

Dr. Yichao Rui

Deadline for manuscript submissions

20 September 2025

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/229700

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

MDPI

About the Journal

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)