Special Issue

Computational Tools for Predicting Mechanical Properties of Materials

Message from the Guest Editors

- Parameter estimation is a necessary component of any modeling activity, but it is particularly critical in computational mechanics, wherein constitutive properties and force dictate behavior from the mesoscales up to the continuum. These parameters can be measured, empirically deduced, or inferred/calculated, and the latter method is the focus of this Special Issue.
- The broad scope of this Special Issue is designed to attract papers at the intersection between applied mathematics and computational mechanics. Topics of interest include data assimilation; inverse methods; optimization; verification, validation, and uncertainty quantification; design of experiments for large parametric sweeps; and numerical simulations conducted to infer material behavior.
- This Special Issue aims to present the latest advances in computational tools for predicting material properties. Articles may include original research, reviews, case studies, and analyses that highlight the practical value of computational tools in materials mechanics.

Guest Editors

Prof. Dr. Aida Nonn

Faculty of Mechanical Engineering, OTH Regensburg, Galgenbergstr. 30, 93053 Regensburg, Germany

Dr. Albert Cerrone

Department of Civil & Environmental Engineering and Earth Sciences, University of Notre Dame, Notre Dame, IN 46556, USA

Deadline for manuscript submissions

closed (20 July 2025)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/192433

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)