

## Special Issue

# Finite Element Analysis of Mechanical Behaviors and Properties of Engineering Materials and Structures

### Message from the Guest Editors

The finite element method, as a computational tool, has a firm and unquestionable position in all aspects of modern engineering. Its omnipresent use at nearly every stage of engineering design, as well as in research and scientific activities, confirms its strength and power. As a research tool, the finite element method is very often used in order to characterize mechanical properties of materials or structures during the pre-design stage. Subsequently, this greatly helps to lower their manufacturing costs, increases cost effectiveness and additionally offers straightforward design optimization. As a scientific tool, the finite element method also provides great insight into various processes or phenomena that are difficult to monitor in reality, or processes or phenomena that are not thoroughly examined or fully understood. For more information, please click the following link:

[https://www.mdpi.com/journal/materials/special\\_issues/finite\\_element\\_anlysis\\_engineering\\_materials](https://www.mdpi.com/journal/materials/special_issues/finite_element_anlysis_engineering_materials)

---

### Guest Editors

Prof. Dr. Arkadiusz Żak

Faculty of Electrical and Control Engineering, Gdansk University of Technology, Narutowicza 11/12, 80-233 Gdansk, Poland

Prof. Jacob Bortman

Department of Mechanical Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel

---

### Deadline for manuscript submissions

closed (20 March 2023)



## Materials

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 6.4  
Indexed in PubMed



[mdpi.com/si/58157](https://www.mdpi.com/si/58157)

*Materials*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[materials@mdpi.com](mailto:materials@mdpi.com)

[mdpi.com/journal/  
materials](https://www.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](https://mdpi.com/journal/materials)



## 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)