

## Special Issue

# Orthodontic Materials: Properties and Effectiveness of Use

### Message from the Guest Editors

The use of materials in orthodontic research and clinical applications has shifted focus from traditional metal-based appliances towards laser-sintered metallic devices, polymeric foils, and printable plastics, e.g., for use in aligners. To date, questions about sustainability and environmental footprints need to be considered and addressed scientifically, together with equally important aspects of patients' benefits, comfort, and possible side effects. This Special Issue collects research papers discussing new developments in orthodontic material science and their application in treatment systems. This comprises papers that discuss mechanical properties and the simulation of forces and moments in clinical application and in vivo studies. In addition to material science, papers that detail environmental aspects and sustainability are also invited.

---

### Guest Editors

**Dr. Matthias Mertmann**

Department of Orthodontics and Dentofacial Orthopedics, LMU University Hospital, LMU, 80336 Munich, Germany

**Prof. Dr. Andrea Wichelhaus**

Department of Orthodontics and Dentofacial Orthopedics, LMU University Hospital, LMU, 80336 Munich, Germany

---

### Deadline for manuscript submissions

10 November 2025



## Materials

---

an Open Access Journal  
by MDPI

---

**Impact Factor 3.2**  
**CiteScore 6.4**  
**Indexed in PubMed**



[mdpi.com/si/197468](https://mdpi.com/si/197468)

*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://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)