

## Special Issue

# Advances in New Alloys, Polymers and Composites for Biomedical Applications

### Message from the Guest Editors

The development of new alloys and composites is of utmost importance in medical sciences and specifically in dental sciences. Its relevance is related to its new clinical possibilities. However, the main concern in dentistry and specifically in orthodontics regarding these materials is the possible alteration of their mechanical behavior in the oral environment due to microbial contamination. The main purpose of this Special Issue is to go deeper into the relationship of oral biofilm and the behavior of new metallic alloys and the composite resins. The main topics related to this objective are as follows: The need to enhance the resilience of materials under the masticatory loads. To know the biocompatibility of metallic and composite resins that are commonly used in dentistry. To find materials that can be used as brackets, arches, and polyurethanes, with an antimicrobial effect under contaminated environments. To determine how the oral biofilm contaminations alter the mechanical properties of composite resins and metallic alloys. To determine the degree of released products from the wear of the metallic alloys and the degradation of the polyurethane of the composite aligners.

### Guest Editors

Prof. Dr. Javier Gil

Dr. Marta Pegueroles

Prof. Dr. Andreu Puigdollers

Prof. Dr. Alberto Caprioglio

### Deadline for manuscript submissions

20 August 2025



## Materials

---

an Open Access Journal  
by MDPI

---

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



[mdpi.com/si/207148](https://mdpi.com/si/207148)

*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)