

## 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.

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### Guest Editors

Prof. Dr. Javier Gil

Dr. Marta Pegueroles

Prof. Dr. Andreu Puigdollers

Prof. Dr. Alberto Caprioglio

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### Deadline for manuscript submissions

closed (20 August 2025)



## Materials

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## About the Journal

### Message from the Editorial Board

*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.

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