Special Issue

Biomaterials and Biotechnologies in Oral–Maxillofacial Surgery

Message from the Guest Editors

Biomaterials and biotechnologies play a pivotal role in advancing oral and maxillofacial surgery, addressing complex reconstructive and regenerative challenges. Biomaterials, including bioactive ceramics, polymers, and composites, are engineered to mimic the physical, chemical, and biological properties of native tissues. They support cellular adhesion, proliferation, and differentiation, crucial in bone regeneration, soft tissue repair, and implantology. Recent advancements have focused on designing biomaterials with controlled porosity, mechanical strength, and surface bioactivity to optimize osseointegration and reduce inflammation. Additionally, 3D printing and bioprinting technologies have enabled the precise fabrication of patient-specific scaffolds with complex geometries, enhancing functional outcomes. Moreover, the integration of biotechnologies, such as stem cell therapies, growth factors, and extracellular vesicles, has revolutionized tissue engineering by promoting targeted tissue regeneration. Biomarkers, including molecular signals of osteogenesis and angiogenesis, are increasingly used to monitor the effectiveness of these therapies.

Guest Editors

Dr. Żaneta Anna Mierzejewska
Dr. Michał Krasowski
Dr. Leszek Szalewski

Deadline for manuscript submissions

20 August 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/243788

Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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