Special Issue

Innovative Biomaterials and Advanced Techniques for Bone Regeneration Applications

Message from the Guest Editor

Bone regeneration is crucial in various surgical fields, such as neurosurgery, orthopaedics, traumatology, and orofacial surgery. Repairing critical-size bone defects poses a significant clinical challenge in implant surgery. The evolutionary path of skeletal bones' morphology and microstructure has been necessarily strongly driven by biomechanical and biochemical features. Physical factors, such as oxygen and nutrient concentration, as well as mechanical stimuli, are altered when using traditional monolithic implants. A more "biomimetic design" accounting for biomechanical as well mechanobiological needs is required. The potentialities of new additive manufacturing technologies using metallic, ceramic, and polymeric materials could foster innovative solutions for porous bone scaffolds and implants that are able to restore the correct biomechanics and local biological environment of skeletal bone. Contributions accounting for new materials, bone biomechanics and mechanobiology, new 3D-printed solutions, and clinical cases are welcomed to create a basis for new biomimetic approaches to implantology.

Guest Editor

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Deadline for manuscript submissions

30 November 2025

Biomedicines

an Open Access Journal by MDPI

Impact Factor 3.9
CiteScore 6.8
Indexed in PubMed

mdpi.com/si/224358

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Biomedicines (ISSN 2227-9059) is an open access journal devoted to all aspects of research on human health and disease, the discovery and characterization of new therapeutic targets, therapeutic strategies, and research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. Topics include pathogenesis mechanisms of diseases, translational medical research, biomaterial in biomedical research, natural bioactive molecules, biologics, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, and biosimilars. The journal is open for publication of studies conducted at the basic science and preclinical research levels. We invite you to consider submitting your work to Biomedicines, be it original research, review articles, or developing Special Issues of current key topics.

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