Special Issue

3D Bioprinting Materials for Bone Tissue Engineering

Message from the Guest Editors

This Special Issue explores innovative biomaterials, bioinks, and fabrication techniques to create functional, patient-specific bone constructs. We welcome original research and review articles that cover, but are not limited to, the following topics:

- Biomaterials for Bone Bioprinting: Discussion of natural and synthetic polymers (e.g., alginate, gelatin, PCL), ceramics (e.g., hydroxyapatite, tricalcium phosphate), and composite materials that mimic bone's mechanical and biological properties.
- Bioink Development: Design of cell-laden bioinks with optimal printability, biocompatibility, and mechanical strength. Use of growth factors, nanoparticles, and stem cells to promote osteogenesis.
- Advanced Bioprinting Techniques: Applications of extrusion-based, inkjet, and laser-assisted bioprinting for precise bone scaffold fabrication.

This Special Issue highlights the interdisciplinary progress in 3D bioprinting for bone tissue engineering, showcasing how advanced materials and biomanufacturing techniques can revolutionize bone regeneration and bone repair. We look forward to your valuable contributions to this exciting Special Issue.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

The biomaterials field is one of the largest and fastest growing research areas both in the scientific community and in the industrial one. Biomaterials are the result of collaborations between different disciplines: chemistry, medicine, pharmacology, engineering and biology. The objective of this collaboration is to lead to the implementation of new devices to restore form and human body functions. The mission of the *Journal of Functional Biomaterials* (*JFB*) is to focus attention on physico-chemical characteristics and their importance in the interactions between biomaterials and living tissues. *JFB* seeks to publish studies on the preparation, performance and use of biomaterials in biomedical devices, as well as regarding their behavior in physiological environments. We are pleased to welcome you as our authors.

Editor-in-Chief

Prof. Dr. Pankaj Vadgama
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