Special Issue

Advanced Biomaterials for Bone Tissue Engineering

Message from the Guest Editor

The musculoskeletal system is vital for the movement of the human body. Osteoporosis further increases the risk of fracture in older populations. Non-union fractures and segmental bone defects significantly affect patients' quality of life and can even cause disability. Significant advancements have been achieved over the last two decades in using biomaterials to deliver stem cells, gene vectors, and functional molecules, including proteins and small molecules, for bone regeneration; however, few of these techniques have translated into new therapies in clinical practice for non-union fractures or segmental bone defects.

Therefore, the goal of this Special Issue is to unite multidisciplinary research scholars and publish research and review articles that demonstrate the recent advances in biomaterials and bone tissue engineering and repair. These include the use of biomaterials to deliver functional molecules, stem cells, exosomes, and gene expression vectors, including mRNA and 3D-printing technology, to promote bone repair. The ultimate goal is to promote new research and develop new therapies for treating bone defects.

Guest Editor

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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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