

Special Issue

Advanced Bioglasses, Bioceramics and Their Composites: State of the Art and Applications

Message from the Guest Editor

Advanced bioglasses, bioceramics, and composites represent a significant evolution in biomaterials for tissue engineering and regenerative medicine. Bioglasses, primarily composed of silica-based networks, exhibit excellent bioactivity, forming strong bonds with bone through hydroxyapatite layer formation. Meanwhile, bioceramics such as hydroxyapatite, tricalcium phosphate, and zirconia offer high biocompatibility, mechanical stability, and osteoconductivity. However, their brittleness often limits their application in load-bearing environments. Composite materials combining bioglasses and bioceramics with polymers, metals, or other bioactive elements have been developed to address these limitations. This Special Issue aims to collect the latest developments in bioglasses, bioceramics, and composites, focusing on their composition, bioactivity, mechanical performance, and biomedical applications. Integrating these materials presents a promising avenue for next-generation implants, scaffolds, and drug delivery systems, paving the way for improved patient outcomes in orthopedics and tissue regeneration.

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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