Special Issue

Advances in Biomaterials for Oral Health: From Dental Restoration to Regenerative Therapies

Message from the Guest Editors

In recent years, advances in dental science have led to the emergence of innovative biomaterials that not only restore but also regenerate oral tissues, bridging the gap between restorative and regenerative dentistry.

Contemporary biomaterials in restorative dentistry adapt dynamically to mechanical stress, pH, and temperature changes, integrating both diagnostic and therapeutic functions into clinical applications. Examples include nanocomposites, hydrogels, bioactive agents, resin-based systems, ceramics, and intelligent carrier platforms.

Regenerative dentistry, on the other hand, substitutes physiologically functional tissues for damaged ones, such as the tooth structure, alveolar bone, periodontal ligament, and dental pulp. Biomaterials that support and direct tissue regeneration are becoming essential tools in clinical practice. Their biocompatibility and immunomodulatory properties are fundamental to the development of personalized, regenerative oral treatments.

This Special Issue brings together original research articles and comprehensive reviews that explore the latest developments in biomaterials applied to oral health.

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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