

Special Issue

Design, Synthesis, Detection, Diagnosis and Therapeutic Applications of Bioactive Materials

Message from the Guest Editors

This Special Issue highlights cutting-edge advances in bioactive materials, covering their design, synthesis, detection, diagnosis, and therapeutic applications. Key material types include hydrogels (for drug delivery and tissue engineering), nanozymes (nanoparticles with enzyme-mimetic catalytic activities for tumor therapy and biosensing), biodegradable polymers (e.g., PLA/PGA for implants), stimuli-responsive materials (pH/temperature-sensitive systems for targeted release), antimicrobial coatings (silver/copper nanoparticles for infection control), 3D-printed bioinks (cell-laden scaffolds for regenerative medicine), and so on. These materials drive innovation in precision medicine, enabling smarter diagnostics, controlled therapies, and enhanced tissue regeneration.

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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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