

## Special Issue

# Mesoporous Nanomaterials for Bone Tissue Engineering

### Message from the Guest Editors

Mesoporous nanomaterials have emerged as promising candidates for bone tissue engineering due to their unique properties, such as a high surface area, tunable pore size, and biocompatibility.

Recent studies have focused on improving the properties of these materials for better tissue regeneration. Different synthesis methods, such as sol-gel and template methods have been explored to achieve a more uniform pore size distribution. In addition, these materials need to have appropriate mechanical properties to support bone regeneration. Researchers have incorporated various reinforcement materials, such as graphene, into mesoporous nanomaterials in order to enhance their mechanical strength. Furthermore, the use of mesoporous nanomaterials for drug delivery has also been explored. Researchers have incorporated drugs such as antibiotics and growth factors into the pores of these materials to provide localized and sustained release for better tissue regeneration.

The Special Issue aims to present various aspects of mesoporous nanomaterials, from physicochemical evaluations to biological in vitro and in vivo assessments to even clinical uses for improving tissue regeneration.

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### Guest Editors

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### Deadline for manuscript submissions

closed (31 March 2025)



## Journal of Functional Biomaterials

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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.

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### Editor-in-Chief

Prof. Dr. Pankaj Vadgama

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