Special Issue

Application of Nanomaterials in Drug Delivery and Drug Release

Message from the Guest Editor

The application of nanomaterials in drug delivery and drug release has garnered significant attention due to their potential to revolutionize pharmaceutical treatments. Nanomaterials, such as nanoparticles, liposomes, and dendrimers, offer unique properties such as enhanced bioavailability, controlled release, and targeted delivery, which are critical for improving the efficacy and reducing the side-effects of drugs. Current research focuses on optimizing the design and functionalization of nanomaterials to enhance their stability, biocompatibility, and specificity to target tissues or cells.

Recent studies have highlighted the challenges in scaling up nanomaterial-based drug delivery systems, including issues related to toxicity, immune response, and the complexity of production methods. Advances in nanomaterial engineering, including the incorporation of stimuli-responsive mechanisms, are pushing the boundaries of controlled and sustained drug release.

This topic invites contributions that explore novel nanomaterial-based strategies for drug delivery, innovations in targeted therapies, and the challenges in translating these technologies to clinical applications.

Guest Editor

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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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