Special Issue

Nanoparticles and Nanomaterials to Counteract Healthcare-Associated Infections

Message from the Guest Editors

Healthcare-associated infections (HAIs) are a significant global cause of morbidity and mortality, often driven by antimicrobial-resistant bacteria (ESKAPE), viruses, or fungi, making them challenging to eradicate. Effective containment requires a multifaceted approach, including traditional measures like hand hygiene, hospital sanitation, patient screening and cohorting, public health surveillance, antibiotic stewardship, and adherence to safety protocols. In addition to these classical practices, the idea of using innovative strategies, such as those involving the potential use of nanoparticles (NPs) and nanomaterials in healthcare, has gained momentum in recent years. From this perspective, various NPs (inorganic, carbon-based, and organic) and nanomaterials, due to their intrinsic anti-microbial and anti-biofilm properties and physicochemical characteristics, could be used as coatings for hospital surfaces, as well as for the production or coating of medical devices (urinary catheters, venous catheters, implantable prostheses). They could also be used to deliver molecules with antimicrobial activity, in order to produce synergistic effects.

Guest Editors

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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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