

Special Issue

The Synthesis of Antibacterial Nanomaterials and Their Biomedical Applications

Message from the Guest Editor

This Special Issue aims to provide a comprehensive exploration of the background and history of antibacterial nanomaterials, highlighting their evolution and impact on biomedical applications. Over the years, these nanomaterials have emerged as pivotal players in the fight against antibiotic-resistant bacteria, revolutionizing the landscape of infection control. This Special Issue seeks to elucidate the historical trajectory that has brought us to the forefront of antibacterial nanomaterial research. We are soliciting papers that not only demonstrate scientific rigor but also provide valuable insights into the potential of antibacterial nanomaterials to address critical challenges in healthcare. Manuscripts elucidating the biocompatibility, toxicity profiles, and long-term safety aspects of these nanomaterials are particularly encouraged. Moreover, papers exploring the integration of antibacterial nanomaterials in real-world applications, such as medical devices, drug delivery systems, and wound healing, will significantly contribute to the richness of this Special Issue.

Guest Editor

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano–alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

Editor-in-Chief

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