Special Issue

Advanced Nanomaterials for Bacterial Detection and Antibacterial Applications

Message from the Guest Editors

The purpose of the present Special Issue is to elucidate the state-of-the-art innovations of this growing research field from a fundamental and application perspective. The key issues on monitoring and combating pathogenic bacteria utilizing nanomaterials should be given attention in view of their design, modification, mechanism, and application. Research papers dealing with experimental studies as well as simulation and modeling for the fabrication and study of the properties of nanomaterials for bacterial detection and antibacterial applications are welcomed. We welcome the submission of full papers, communications, and reviews. Potential topics include, but are not limited to, the following:

- Antibacterial nanomaterials such as quantum dots, two-dimensional materials, MOFs, single-atom nanomaterials, polymer nanocomposites, and nanozymes;
- Experimental studies as well as simulation for the design, modification, mechanisms, and application of antibacterial nanomaterials;
- Nanomaterials in bacteria monitoring including electrochemical sensing, optical sensing, fluorescence imaging, nucleic acid-based detection, serological analysis, etc.

Guest Editors

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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.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
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