



Synthesis and Application of Antimicrobial Nanomaterials

Guest Editor:

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Message from the Guest Editor

In recent years, diverse antimicrobial nanomaterials (AMI NMs) have been explored, and they have received a great deal of attention because of their high effectiveness. One of the largest groups of AMI NMs is comprised of those able to produce reactive oxygen species (ROS). ROS produced by photoinduced processes (photocatalysis) or indirectly even without the application of light (e.g., Ag, MgO NMs) are effective tools in the inactivation of pathogens. In this Special Issue, we look forward to receiving the submission of high-quality and original research works which focus on advanced ROS-based antimicrobial nanomaterials against both human and plant pathogens. The scope includes, but is not limited to: Chemical, physical, and “green” synthesis of AMI NMs; Reactive oxygen species generation by AMI NMs; Photocatalytically active metal-oxide-based AMI NMs; Noble-metal-based AMI NMs; Antimicrobial nanopowders, thin films, and coatings; Nanocomposites and surface-functionalized AMI NMs; Application of AMI NMs against human pathogens or phytopathogenic microbes; Efficacy comparisons of potential AMI NMs.





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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.

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