Special Issue

Nanomaterials and Low-Dimensional Materials for Antibacterial Applications

Message from the Guest Editor

The widespread use of antibiotics has led to the escalation of bacterial resistance, therefore, new and effective treatment options are required urgently. Advanced nanomaterials are particularly promising due to their drug loading/releasing capabilities and potential photodynamic/photothermal therapeutic properties. The dimensional differences in the materials lead to different antibacterial mechanisms. For example, 0-D nanomaterials can be used both as metal ion-releasing therapeutics and as carriers for antibiotic delivery. The 1-D rod-like nanomaterials are similar to 0-D in terms of properties and applications, while 1-D ribbon nanomaterials are more similar to 2-D. The 2-D nanomaterials have been used to load therapeutic agents due to their large surface area.

This Special Issue focuses on the latest studies and practical applications of 0-D, 1-D, and 2-D nanomaterials for antibacterial applications. It aims to publish original research papers and comprehensive reviews concerning the fabrication, characterization, advanced properties investigations, and potential applications of antibacterial nanomaterials.

Guest Editor

Dr. Wei Shao

College of Chemical Engineering, Nanjing Forestry University, Nanjing, China

Deadline for manuscript submissions

closed (20 April 2024)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/143241

Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

mdpi.com/journal/nanomaterials

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

About the Journal

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
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)