



Nanoparticles as Antibacterial/Antibiofilm Agents

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Deadline for manuscript submissions:

closed (28 February 2026)

Message from the Guest Editor

Dear Colleagues,

Emerging antimicrobial resistance is becoming one of the greatest threats to global human health. The current process for antimicrobial drug discovery is narrow in scope, slow, inefficient, expensive, and shows diminishing returns. Nanotechnology represents an exciting a new path to successfully manipulating the chemistry and structure of materials to modify bacterial growth and behavior. While multiple mechanisms of action of nanoparticles against pathogens have been described, the fundamental physics and chemistry linking various geometrical, chemical, and other nanoparticle-related features that cannot be observed in small molecules to specific actions is lacking. we consider nanoparticles to be active agents rather than a carrier or delivery system. For this Special Issue, we seek papers describing the development of novel antibacterial or antibiofilm nanoparticles, including detailed descriptions of the nanoparticles as well as the chemistry and physics that link their features to their function.

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Message from the Editor-in-Chief

There are very few fields that attract as much attention as scientific endeavor related to antibiotic discovery, use and preservation. The public, patients, scientists, clinicians, policy-makers, NGOs, governments, and supra-governmental organizations are all focusing intensively on it: all are concerned that we use our existing agents more effectively, and develop and evaluate new interventions in time to face emerging challenges for the benefit of present and future generations. We need every discipline to contribute and collaborate: molecular, microbiological, clinical, epidemiological, geographic, economic, social scientific and policy disciples are all key. *Antibiotics* is a nimble, inclusive and rigorous indexed journal as an enabling platform for all who can contribute to solving the greatest broad concerns of the modern world.

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