# Special Issue

## Advanced Nanomaterials: Design, Synthesis, and Antibacterial Applications

### Message from the Guest Editor

In the context of the escalating global challenge of antimicrobial resistance (AMR), the research and development of advanced antibacterial nanomaterials hold significant scientific value in frontier areas such as biomedicine, environmental science, and plant protection. This Special Issue focuses on the design, controlled fabrication, and innovative applications of nanomaterials in the field of antibacterial research, covering, but not limited to, the following areas:

- Structural design and functionalization strategies of nanomaterials;
- Novel nanomaterials and new processes;
- Mechanisms of action and biocompatibility of antibacterial nanomaterials;
- Antibacterial applications of nanomaterials in fields such as medicine, food packaging, and plant protection;
- Applications of computational simulations and artificial intelligence in the research and development of antibacterial nanomaterials.

We look forward to receiving your manuscripts and collaborating with you on an impactful Special Issue.

### Guest Editor

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### Deadline for manuscript submissions

31 March 2026

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# About the Journal

## 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.

## Editor-in-Chief

Prof. Dr. Nicholas Dixon
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