

Special Issue

From Nature to Laboratory Advances in Bioinspired Antimicrobial Drug Discovery

Message from the Guest Editor

The growing emergence of multidrug-resistant pathogens underscores the urgent need for innovative antimicrobial strategies. Nature remains an exceptional source of inspiration for drug discovery, offering bioactive molecules with remarkable structural diversity and therapeutic potential. Recent advances in chemistry, biotechnology, and nanoscience now allow us to refine and translate these natural frameworks into modern, clinically relevant antimicrobial agents. This Special Issue, "From Nature to Laboratory Advances in Bioinspired Antimicrobial Drug Discovery," welcomes original research and review articles exploring natural and bioinspired compounds such as antimicrobial peptides, phytochemicals, peptidomimetics, alkaloids, lipopeptides, and hybrid conjugates. Contributions focusing on molecular design, mechanism of action, structure–activity relationships, and advanced formulation systems for controlled release are particularly encouraged. By integrating natural inspiration with innovative laboratory approaches, this Special Issue aims to highlight cutting-edge developments that pave the way toward next-generation antimicrobial therapeutics.

Guest Editor

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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 disciplines 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

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