Special Issue

Molecular Advances in Antimicrobial Nanoparticles

Message from the Guest Editors

The global rise in antimicrobial resistance represents one of the most critical public health challenges of our time. Traditional antibiotics are increasingly ineffective against multidrug-resistant bacteria, viruses, and fungi, driving the urgent need for alternative strategies. This Special Issue will focus on recent advances in the design, synthesis, and application of AMNPs aimed at preventing and treating infections caused by resistant pathogens. We welcome contributions related to nanoparticle systems that enhance antimicrobial efficacy, reduce toxicity, and overcome resistance mechanisms. Emphasis will be placed on innovations such as stimuli-responsive nanoparticles, bio-inspired nanomaterials, and surface-functionalized platforms capable of selective targeting or sustained release. Submissions exploring the integration of AMNPs in medical devices, wound care, coatings, or food packaging are also encouraged. This Special Issue aims to gather the latest research in this fast-evolving and interdisciplinary field, offering insights into how nanotechnology is transforming antimicrobial strategies for clinical and industrial applications.

Guest Editors

Dr. Lide Arana

Applied Chemistry Department, University of the Basque Country, UPV EHU, Manuel Lardizabal, 3, 20018 Donostia, Spain

Dr. Janire Mate

Microbiology, Immunology and Parasitology Department, University of the Basque Country, UPV/EHU, Barrio Sarriena s/n, 48940 Leioa, Spain

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Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences, Sez-Biochimica, Faculty of Medicine, Università Politecnica delle Marche, Via Ranieri 65, 60100 Ancona, Italy

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