

Special Issue

Molecular Microbiology in the Omics Era: Genomics, Metagenomics and Computational Insights

Message from the Guest Editor

This Special Issue highlights transformative advances in molecular microbiology driven by omics technologies and computational biology. We welcome studies leveraging genomics, metagenomics, transcriptomics, and bioinformatics to unravel microbial diversity, evolution, host–microbe interactions, and functional mechanisms at the molecular level. Topics include, but are not limited to, the following:

- High-throughput sequencing approaches for pathogen surveillance or microbiome analysis;
- Computational tools for genome annotation, comparative genomics, or metagenomic assembly;
- Molecular mechanisms of antimicrobial resistance (AMR) and virulence;
- Integrative multi-omics strategies to study microbial communities;
- AI and machine learning applications in microbial data analysis.

By bridging wet-lab experiments with in silico analyses, this Special Issue aims to showcase how omics-driven approaches are redefining microbiology research in the post-genomic era.

Guest Editor

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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.

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