

Special Issue

Molecular and Omics Insights into Microbiome–Host Interactions in Health and Disease

Message from the Guest Editor

The microbiome plays a fundamental role in shaping host physiology, metabolism, immunity, and disease susceptibility. Recent advances in molecular biology and omics technologies have greatly enhanced our understanding of microbiome–host interactions, uncovering complex bidirectional communication at genetic, transcriptomic, proteomic, and metabolomic levels. This Special Issue focuses on molecular and omics-based insights into how microbial communities interact with their hosts in health and disease. Topics of interest include functional microbiome profiling, host–microbe metabolic crosstalk, tissue- or niche-specific microbiomes, and molecular mechanisms underlying nutrition, development, and pathology. Studies employing integrative multi-omics approaches, innovative experimental models, and advanced bioinformatic analyses are particularly encouraged. By bringing together research across species and methodological platforms, this Special Issue aims to provide a mechanistic perspective on microbiome–host interactions and highlight emerging concepts with translational relevance.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Current Issues in Molecular Biology (CIMB, ISSN 1467-3045) is an international, peer-reviewed, open access journal established in 1999 and published monthly online by MDPI (from Volume 43 Issue 1-2021). CIMB publishes original research articles and comprehensive reviews on emerging and significant topics in molecular biology, covering all aspects of molecular biology and related interdisciplinary fields. We invite you to read recent articles published in CIMB and consider submitting your next research to the journal, particularly studies exploring mechanistic insights, translational applications, and interdisciplinary approaches across molecular biology.

Editor-in-Chief

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