

# Innovative Strategies for Microbiome Study and Modulation including Next-Generation Probiotic Candidates or Emergent Prebiotics

## Guest Editors:



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## Special Issue Introduction:

Human microbiome research has provided a large body of evidence supporting the importance of microorganisms in human health and disease, and therefore, its study has attracted increasing scientific attention. The microbial communities inhabiting the human body evolve and interact intimately with their human host, dynamically fluctuating under various lifestyle and environmental factors throughout life. Besides, these microbial communities are acknowledged to provide protection against, or contribute to, a range of human disorders including gastrointestinal, inflammatory, metabolic, neurological, and even some forms of cancer, among others. Thus, the human microbiota has turned into an innovative source of biomarkers of disease and therapeutic targets for intervention. However, the large complexity of its composition and organization, which generally involves large numbers of microorganisms including a significant proportion of some not-yet cultured organisms, and that establish strong interdependence relationships, has hampered establishing solid mechanistic evidence of their organization and contribution to human health. Regardless of these limitations, remarkable advances in culturomics, single-cell, real-time, culture-independent studies, and artificial intelligence modeling are enabling significant progress in the field. Besides, these advances are inevitable, leading to an evolution of the potential applications and possibilities to intervene in human microbiomes as a means to improve human health.

The aim of this special issue is to highlight innovative and emerging technologies and applications in the frame of microbiome research, giving opportunity to discuss the latest microbiome advancements and applications in the field.

We welcome original or review manuscripts, perspectives, opinions, and commentary on different aspects to this special issue, including but not limited to:

### ***Innovative approaches to study microbiomes:***

- High-resolution culture-dependent & culture-independent
- Novel models to study microbe-microbe and microbe-host interactions
- Mechanistic microbiome studies
- Single-cell analysis, real-time, and in-situ microbiome studies
- Meta-omics data integration, artificial intelligence and novel simulation models in microbiome research tools
- Research and tools to advance the knowledge of unculturable organisms and the dark matter of the gut microbiomes

### ***Innovative approaches to modulate microbiomes:***

- Next-generation probiotics
- Emergent prebiotics
- Smart and precision probiotics/prebiotics

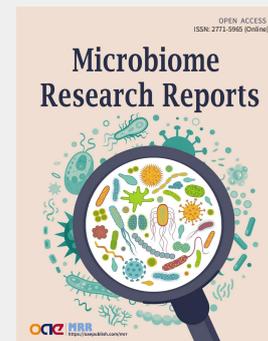
**Submission Deadline: 31 May 2023**

## Benefits to Authors:

- The APCs (\$600) will be WAIVED;
- Enjoy faster publication than regular submissions;
- Authors will be invited as Guest Speakers to our journal webinars. The webinar will be held via Zoom and it will also be broadcast live on Youtube and the Chinese WeChat Official Account, Video Account, Bilibili;
- A special interview will be provided to authors and will be promoted on the journal homepage and all media promotion platforms of both via the journal and publisher.

## Journal Introduction:

*Microbiome Research Reports (MRR)* is an international peer-reviewed, open access journal. The overall aim of *MRR* is to publish high quality researches from scientists with a common interest in microbiome/microbiota research in all its multidisciplinary aspects. The journal is founded by OAE Publishing Inc., under the guidance of our Editor-in-Chief Professor Marco Ventura (University of Parma, Italy). *MRR* was officially launched on July 26 2021. Looking forward to your attention and cooperation! Welcome to contact the editorial office for details, [editorialoffice@mrrjournal.net](mailto:editorialoffice@mrrjournal.net).



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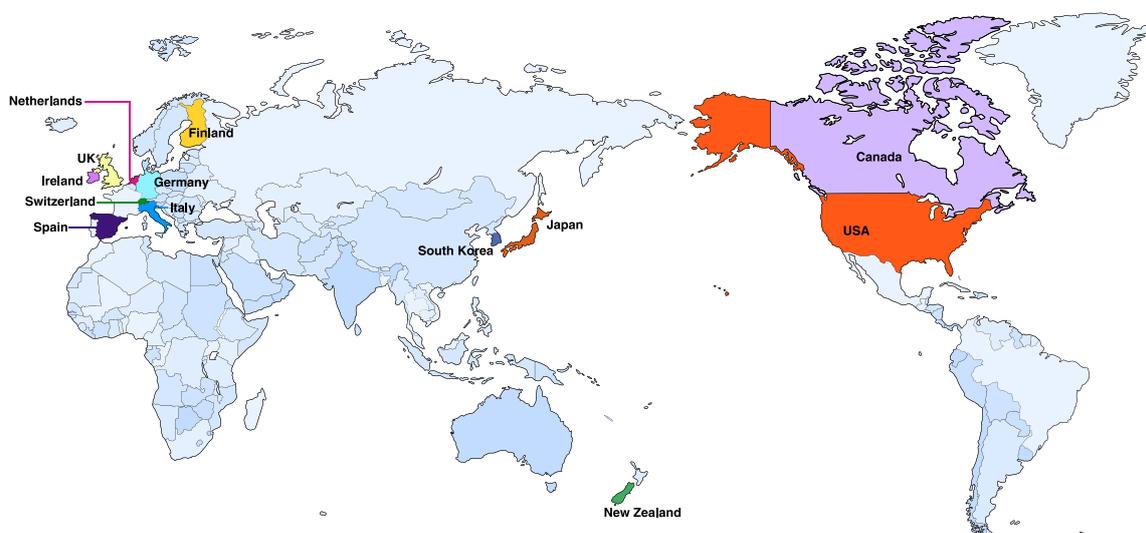
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