

Editorial

# New Horizons in Health and Metabolism Research

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We are proud to present the inaugural issue of *Health and Metabolism (HM)*, signifying the commencement of an exciting journey into the intricate and essential relationships between health and metabolism. This journal aspires to serve as a leading platform for the dissemination of groundbreaking research while fostering collaboration among researchers, clinicians, and public health professionals. United by a shared objective, we seek to enhance global health outcomes through a comprehensive understanding of the metabolic processes that are fundamental to human health.

The relationship between health and metabolism is profoundly intertwined. Metabolic processes regulate nearly every aspect of health, from cellular function to overall systemic homeostasis. Dysregulation of these processes can result in various metabolic disorders, including metabolic syndrome, diabetes, obesity, cardiovascular disease, cancer. An in-depth understanding of the intricate interactions between health and metabolism is essential for developing targeted interventions to address the growing global epidemic of metabolic disease.

*HM* Journal is dedicated to publishing high-quality, peer-reviewed research that addresses the complex interactions between health and metabolism. Our scope encompasses the molecular, cellular, and systemic mechanisms that drive metabolic processes, shedding light on both physiological and pathological conditions that influence health outcomes. By fostering basic and clinical research, *HM* aims to expand the collective knowledge base and contribute to solutions for some of the most pressing health challenges, including metabolic syndrome, inter-organ communication, tissue-level interactions, and the complex interplays between genetic signals and metabolic pathways.

This journal reflects our dedication to exploring a broad and dynamic range of topics, including mechanisms of metabolic regulation, the molecular basis of cellular health, and cutting-edge innovations in synthetic biology and metabolic engineering. We also delve into advanced areas of metabolomics, such as single-cell metabolomics, spatial metabolomics, metabolic flux analysis, integration of metabolomics with other omics, and real-time metabolite detection in living cells. *HM* places a strong emphasis on understanding the cross-talk between organs and tissues – especially the interactions among the liver, muscle, adipose tissue, gut microbiota, and brain – which is all critical for maintaining metabolic balance. By elucidating these connections, we aim to deepen our understanding of disease mechanisms and pave the way for more effective therapeutic strategies.

Advances in metabolic research are firmly rooted in insights provided by molecular and structural biology. Understanding the complex molecular mechanisms underlying health and disease is essential for unraveling the complexity of metabolic pathways. In particular, structural biology provides valuable insights into how molecular interactions drive and regulate metabolic functions. These perspectives are critical to bridging the gap between basic research and clinical applications, facilitating the development of novel drugs and targeted therapeutic interventions. By exploring these fundamental areas, *HM* strives to spearhead the development of innovative solutions that tackle diseases at their core - whether by modulating metabolic pathways, optimizing organ communication, refining therapeutic targets, or discovering novel biomarkers.



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*HM* recognizes the critical role of exercise-induced metabolic changes. A growing body of evidence highlights the significant impact of physical activity in promoting metabolic health and preventing diseases such as obesity, diabetes, gout, sarcopenia, and cardiovascular disease. *HM* also recognizes the significance of understanding metabolic changes associated with aging and are committed to exploring how molecular insights into this process can guide therapeutic interventions to enhance longevity and healthspan.

Furthermore, the expanding field of immunometabolism highlights the critical role of inflammation in metabolic disorders, particularly in diseases such as diabetes, obesity, and cachexia. Unraveling the complex interplay between immune responses and metabolic regulation is crucial for the prevention and treatment of these diseases. *HM* is committed to advancing research in this area and promoting an in-depth understanding of how to improve metabolic health through targeted preventive and therapeutic strategies.

As the landscape of metabolic research continues to evolve rapidly, *HM* is committed to being at the forefront of the advances. We believe this journal will be pivotal in fostering interdisciplinary collaboration among researchers, clinicians, and public health professionals. Through such collaborative efforts, we aim to drive innovative solutions and uncover new pathways to enhance health outcomes at both individual and population levels.

*HM* will be published quarterly, ensuring a steady flow of high-quality, peer-reviewed articles contributing to the growing body of knowledge in metabolic and health research. Our goal is to establish *HM* as an indispensable resource for researchers and practitioners alike, and serve as a cornerstone for those committed to advancing the understanding and improvement of metabolic health.

We warmly invite researchers, clinicians, and public health professionals from around the world to join us on this journey. Your contributions will be instrumental in shaping the future of both health and metabolism science. Together, we can advance global health by deepening our understanding of the metabolic processes critical to human health.

We are excited to be on this journey with you and look forward to the valuable contributions you will make to *Health and Metabolism*.

**Conflicts of Interest:** The author declares no conflict of interest.