



Metabolites

an Open Access Journal by MDPI

CiteScore: 6.9

Indexed in PubMed

Impact Factor: 3.7

Special Issue Reprint

## Interactions Between Exercise Physiology and Metabolism

**Edited by: Lijing Gong and Enming Zhang**

Physical inactivity, excessive caloric intake, and unfavorable environmental factors have contributed to a worldwide epidemic of metabolic and non-communicable diseases, characterized by unhealthy fat accumulation, systemic metabolic dysregulation, and a high burden of chronic conditions such as cardiovascular disease. Exercise, as a non-pharmacological and cost-effective therapeutic strategy, elicits profound systemic adaptations by upregulating a wide array of bioactive molecules. These molecules participate in inter-organ communication, regulate key signaling pathways, improve physical health, prevent chronic diseases, and facilitate recovery. This Special Issue Reprint is dedicated to the intersection of exercise physiology and metabolism. The topics covered include, but are not limited to, the impact of physical activity on metabolic health, the role of exercise in preventing and managing chronic diseases, and the molecular mechanisms underlying exercise-induced metabolic changes. Leveraging cutting-edge approaches such as metabolomics, microbiomics, epigenomics, and large-scale calorimetry, the studies in this issue explore how exercise modulates host metabolism, the gut microbiome, and the epigenome. Furthermore, this collection addresses the development of non-pharmacological interventions for enhancing metabolic functions and overall health, the identification of biomarkers for exercise capacity and metabolic flexibility, and the role of nutrient metabolism in improving athletic performance and clinical outcomes. Collectively, these contributions lay a scientific foundation for precision exercise medicine.



<https://www.mdpi.com/books/reprint/12915>