

## Special Issue

# Multi-Omics Insights into Stress-Induced Metabolism of Bioactive Plant Compounds

### Message from the Guest Editors

Plants are constantly exposed to biotic and abiotic stresses—including temperature extremes, drought, salinity, and pathogens—which reprogram their specialized metabolism and drive the accumulation of bioactive compounds. These changes not only aid plant adaptation but also shape the chemical profile and therapeutic potential of medicinal and functional plants. Advances in multi-omics integration (genomics, transcriptomics, proteomics, metabolomics, epigenomics) now enable systems-level dissection of stress-responsive metabolic networks, gene-metabolite associations, and regulatory mechanisms. This Special Issue focuses on stress-induced metabolism of bioactive plant compounds, especially through comparative metabolomics, multi-omics, and network-based analyses. We encourage studies on medicinal plants and functional crops that link stress-driven metabolic shifts to bioactivity and therapeutic relevance using network pharmacology and systems biology. Understanding these dynamics is essential for sustainable plant use, herbal medicine quality control, and developing stress-resilient varieties in a changing climate.

### Guest Editors

Dr. Dan Gao

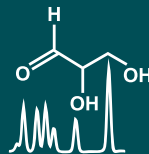
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### Deadline for manuscript submissions

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## Metabolites

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## About the Journal

### Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

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### Editor-in-Chief

Dr. Amedeo Lonardo  
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