

## Special Issue

# Molecular Mechanisms of Interaction and Adaptation Between Non-Model Plants and the Environment

### Message from the Guest Editors

The dynamic interplay between plants and their environments represents a fundamental biological process that has been extensively investigated in model species. However, significant knowledge gaps persist regarding the molecular mechanisms underlying environmental adaptation in non-model plants. While substantial progress has been made in characterizing stress response pathways in *Arabidopsis* and other model systems, the unique evolutionary trajectories and ecological adaptations of non-model plants remain underexplored at the molecular level. This Special Issue will highlight methodological innovations and molecular mechanisms with common sense or species uniqueness in non-model plants in adaption, including but not limited to the following topics: Multi-omics integration strategies bridging transcriptomic, proteomic, and metabolomic analyses; Comparative studies identifying lineage-specific innovations versus conserved stress response modules; Functional validation approaches adapted for recalcitrant transformation systems; Complex response mechanisms of non-model plants in response to various stresses.

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### Guest Editors

Dr. Nan Chao

Dr. Li Liu

Prof. Dr. Ying Gai

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### Deadline for manuscript submissions

31 December 2025



## Plants

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### Message from the Editor-in-Chief

*Plants* is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

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### Editor-in-Chief

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