

Special Issue

Molecular Mechanism of Plant Growth, Development and Secondary Metabolism

Message from the Guest Editor

Understanding the molecular mechanisms underlying plant growth, development, and secondary metabolism remains a critical research frontier. Although the genetic basis of plant development is relatively well characterized, our comprehension of how gene activity translates into organ shapes is limited. Recent advances in growth imaging, quantification, genetics have significantly increased our understanding of how cell- and tissue-level regulation controls plant organogenesis. Additionally, secondary metabolites play crucial roles in influencing plant defense, signaling, and adaptation mechanisms. The intricate interplay between primary metabolic pathways and secondary metabolism is vital for optimizing plant growth. Future research must delve deeper into the molecular, cellular, and biomechanical control of plant growth and secondary metabolism. By integrating interdisciplinary approaches, we aim to elucidate how cellular growth, proliferation, and differentiation produce consistent organ shapes and how these processes, coupled with secondary metabolic pathways, can be modulated to allow diversity during evolution.

Guest Editor

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