

Special Issue

Molecular Biology of Plant Genomics and Genetics

Message from the Guest Editor

The relationship between genotype and phenotype is essential in precision breeding. Therefore, it is crucial to understand how the genome regulates plant development, growth, and environmental adaptation, with a particular focus on the epigenetic mechanisms that shape agronomic traits. Advancements in high-throughput sequencing technology have revolutionized plant research, making genomics, transcriptomics, proteomics, and metabolomics central areas of study. Epigenomics has also emerged as a key field, elucidating the changes in gene activity and expression that are regulated by epigenetic modifications, such as DNA methylation and histone modification. These insights are vital to our understanding of complex plant traits. The integration of multi-omics data provides a comprehensive foundation for studying plant genome structure and function, gene localization, and genetic improvement. Bioinformatics and its associated databases play a crucial role in maximizing the potential of genomic resources. This Special Issue aims to showcase cutting-edge applications in plant research, leveraging advanced technologies, such as molecular biology, gene editing, and multi-omics.

Guest Editor

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