Special Issue

Statistical Advances in Molecular Plant Breeding

Message from the Guest Editors

This Special Issue aims to highlight cutting-edge statistical methodologies and their applications in the field of molecular plant breeding. As plant breeding increasingly incorporates molecular data, advanced statistical tools are essential for making sense of the vast and complex datasets generated through techniques such as genomics, transcriptomics, and phenomics. We welcome submissions that demonstrate novel statistical methods, related (but not limited) to genome-wide association studies (GWAS), genomic selection, machine learning algorithms, causal discovery, and high-dimensional data analysis. Papers that explore innovative approaches for integrating multi-omics data, modeling genotype–environment interactions, and improving the accuracy and efficiency of breeding programs are of particular interest. This Special Issue seeks to bring together statisticians, plant breeders, and molecular biologists to foster interdisciplinary collaboration and to promote advancements that will drive the next generation of plant breeding technologies.

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