Special Issue

Multi-omic Integration for Applied Prediction Breeding

Message from the Guest Editors

One of the primary goals of humanity is food security. However, environmental variations, limitations of arable land, reduced water availability, and the growing population require research to support plant breeding implementations. To achieve this goal, the integration of large multi-omics datasets could be seen as a good strategy to circumvent these challenges. New approaches based on artificial intelligence methods and traditional parametric models can help introduce quantitative genetic data and biostatistical concepts, among other layers of information, to explain trait performance. These new developments aim to find new ways to drive genetic improvement and gain biological insights by designing and optimizing selection methods for plant breeding. These methods leverage information from multiple facets of plant biology (genomics, transcriptomics, proteomics, metabolomics, genomics, and high-throughput phenotyping), providing novel solutions to unraveling the biological basis of complex traits for plant breeding programs. It will contain reviews, regular research papers, communications, and short notes, and there is no restriction on the maximum length of papers.

Guest Editors

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Deadline for manuscript submissions

closed (11 March 2025)

Agronomy

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 6.7

mdpi.com/si/195725

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