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Comparative Omics Analyses in Plant Evolution

Guest Editor:

Dr. Marek Mutwil

School of Biological Sciences, Nanyang Technological University, 60 Nanyang Drive, Singapore 637551, Singapore

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Message from the Guest Editor

Studying plant evolution can reveal principles of the emergence of novel traits, such as multicellularity, sexual reproduction, and hormone signaling. Typically, the evolution of these traits is studied through comparative genomic and phylogenomic analyses, which assume that the traits emerge and evolve as gene families. However, genes and gene families form higher-order functional units (gene modules), which employ multiple genes from different gene families. These gene modules can be identified by analyzing omics data, such as protein-protein interaction networks, and by identifying transcriptionally co-regulated (co-expressed) genes, among others. Therefore, a more rewarding approach to explain the evolution of new traits, adaptations, and gene functions should by necessity compare omics data across different experiments and species.

This Special Issue is poised to address the studies, approaches, and databases that compare omics data.









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Editor-in-Chief

Prof. Dr. Dilantha Fernando Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2. Canada

Message from the Editor-in-Chief

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Plants Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/plants plants@mdpi.com X@Plants_MDPl