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Applications of Advanced Genomic and Phenomic Technologies for Plant Improvement II

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Deadline for manuscript submissions:
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Message from the Guest Editor

Dear Colleagues,

Global agriculture is facing three colossal challenges: an increasing world population, the adverse effects of climate change, and the diminishing genetic resources for cultivated species. Thus, there is an urgent need to find innovative solutions to rise agricultural production and maintain food security.

Plant breeding has always been the only resource of suitable plant types for cultivation. Conventional breeding has been an art and science performed over the last century by specialists and trained scientists reliant on plant phenotype to select the best individuals for cultivar improvement.

Genomic tools based on next-generation sequencing (NGS) technologies. Genomics and phenomics, with the support of powerful bioinformatic and image analysis software, can revolutionize crop improvement by identifying the genetic basis of agriculturally important traits and increase the genetic gain by direct genotypic selection of high-breeding-value individuals in a plant breeding population. The topics of interest include but are not limited to:

plant breeding

genomics

transcriptomics

genomic selection

applied sciences

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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