

Special Issue

Molecular Genetics and Genomics of Plant-Pathogen Interactions

Message from the Guest Editors

Plants lack an adaptive immune system; therefore, they rely solely on their innate immunity to fend off potential pathogens. Cell surface receptors are plasma membrane-resident pattern recognition receptors (PRRs) that detect conserved molecular signatures of potential pathogens called pathogen-associated molecular patterns (PAMPs) through direct binding. The detection of PAMPs by PRRs triggers PAMP-triggered immunity (PTI), which is very effective against the vast majority of potential pathogens roaming in the environment. The pathogens do it by subduing PTI using their effectors, which are small proteins secreted by the pathogens into the host cell cytoplasm. This dynamic interaction between effectors and plant immune network determines the outcome of plant-pathogen interactions, i.e., susceptibility or resistance. The special issue aims to provide selected contributions to this complex interplay between plants and their pathogens with genomics and genetics perspectives. In addition, the special issue also welcomes articles pertaining to pathogenomics, fungal virulence/pathogenicity, and genomes of emerging fungal pathogens of plants.

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