Special Issue

Abiotic Stress Influences on Plant-Associated Microbial Communities: Molecular Genetic and Metabolic Responses

Message from the Guest Editors

Plant-associated microorganisms can enhance plant resistance to unfavorable environmental conditions, such as boosting plant response through the production of growth-promoting molecules, triggering the activation of specific metabolic pathways and metabolizing hazardous molecules. The continuous aggravation of the global climatic scenario has raised concerns surrounding worldwide ecosystem functionality alterations and biodiversity loss. The increasing accessibility of multiomics techniques offers the possibility to accumulate data at an unprecedented pace and precision. However, a stronger integration of plant-associated microbiome data accompanied by plant physiological and biochemical processes, as well as soil biogeochemical cycles. This Special Issue aims to collect research on, but not limited to, plant–microbe interactions under extreme climatic events or environmental pollution, endophytic community composition and functional diversity in the soil–plant–atmosphere continuum, its role in abiotic stress mitigation, the effect of microbiome engineering on plant resistance, associations between microbial strains and plant defense mechanisms.

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