Special Issue

Molecular Communication between Plants and Plant Growth Promoting Microorganisms for Stress Tolerance

Message from the Guest Editor

Plant growth promoting microorganism are beneficial microbes that reside in the rhizosphere and roots of plants and direct their developmental process and induce systemic resistance. Plants select beneficial bacteria and help in their colonization through secretion of root exudates. An exchange of chemical signals started between microbes and plants to establish a positive or inhibitory interaction. Molecular communication was built up by encompassing chemical signals from microbes to microbes, plants to microbes or microbes to plants that resulted into cellular response and altered gene expression. Microorganisms are also known for their role in altering the metabolomics expression of host plants and inducing their systematic resistance by increasing the expression of stress responsive secondary metabolites. Plant growth promoting microorganisms can enhance tolerance of crops to various environmental stresses by improving the level of cellular metabolites, which suggests a novel role of microorganisms to interact with plant metabolome as well as to influence the plant microbiome.

Guest Editor

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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