Special Issue

Rhizosphere Effectors in Plant–Microbe Interactions

Message from the Guest Editor

Rhizosphere effectors encompass a diverse array of bioactive molecules secreted by soil microbes (bacteria, fungi, archaea), root-exudated metabolites from plants, and artificially amended compounds that mediate dynamic interactions between plant roots and rhizospheric microorganisms. Recent advances have elucidated compositional shifts in rhizosphere microbiomes under host plant selection pressure, with predictive models identifying key taxa responsive to plant genotype, edaphic factors, climate variability, pathogen challenges, and agricultural management. However, critical knowledge gaps persist in elucidating the precise mechanisms through which microbial effectors orchestrate symbiotic, pathogenic, or competitive interactions with host plants. Systematic investigation of rhizosphere effector systems promises to decode the molecular "language" underlying plant–microbe recognition and functional coordination. This Special Issue of Microorganisms seeks to advance our understanding of rhizosphere effectors through multidisciplinary perspectives spanning molecular biology, microbial ecology, and plant physiology.

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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