Special Issue

Plant–Fungal Interactions in Biocontrol of Plant Diseases

Message from the Guest Editor

Fungi, as natural inhabitants of diverse ecosystems, play a crucial role in plant health by forming beneficial interactions with plants and other microorganisms. Beneficial fungal genera have been extensively studied for their ability to suppress plant diseases while promoting plant growth and resilience to abiotic stresses. Endophytic fungi establish mutualistic relationships within plant tissues, offering protection against pathogens by producing bioactive secondary metabolites and triggering induced systemic resistance (ISR). Similarly, arbuscular mycorrhizal fungi (AMF) and other symbiotic fungi enhance nutrient uptake, modulate plant immune responses, and improve soil health, thereby contributing to a holistic biocontrol strategy. Advances in molecular biology, genomics, and microbiome research have further unraveled the intricate plant–fungal–pathogen interactions. This Special Issue aims to explore the diverse roles of fungi in biocontrol and their interaction mechanisms in plants for mitigating plant diseases. We invite original research articles, reviews, and perspectives on plant–fungal interactions contributing to sustainable disease management.

Guest Editor

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Message from the Editor-in-Chief

"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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