

Special Issue

Symbiotic Frontiers: Microbial Innovations Shaping Sustainable and Resilient Agriculture

Message from the Guest Editor

Intensive agriculture presents significant challenges and adverse environmental consequences. Contamination of groundwater and watercourses, soil pollution, and greenhouse gas emissions are just a few of the problems associated with conventional agriculture practices. These negative impacts highlight the urgent need to explore methods that can sustain agricultural productivity without compromising environmental health and food security. Microorganisms play essential roles in the functioning of agricultural systems, from promoting soil health and increasing plant resilience to improving nutritional efficiency and reducing reliance on harmful chemical inputs. The development of next-generation biofertilizers, advanced seed inoculation techniques, and management practices that maximize biodiversity and ecological function of the soil are some of the emerging advancements essential for reshaping agriculture in a sustainable and resilient manner. This Special Issue focuses on soil microbiology as a promising source of innovative solutions, offering new perspectives to tackle agricultural challenges in an ecologically responsible and sustainable way.

Guest Editor

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