Special Issue

From Nano to Bio-Based Solutions for Preserving Soil Health in Agroecosystems

Message from the Guest Editors

Healthy soils are vital to global food security, yet human activities and unsustainable practices threaten soil quality. With 95% of food production depending on soils and the global population projected to reach 10.4 billion, balancing agricultural intensification with ecological preservation is essential. This Special Issue explores innovative strategies, including nano-agrochemicals and bio-based solutions, that enhance productivity and food quality while minimizing soil degradation and restoring soil health, indirectly benefiting human health. We welcome studies evaluating the effectiveness and safety of agriproducts in soil ecosystems—such as nano/bio-fertilizers, nano/bio-pesticides, biocontrol agents, organic amendments, and biostimulants-that improve plant nutrient efficiency, protect against pests, induce stress tolerance, and reduce chemical input reliance. Interdisciplinary research bridging agronomy, ecotoxicology, microbiology, chemistry, and soil science is encouraged.

Guest Editors

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Deadline for manuscript submissions

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