

Special Issue

Abiotic and Biotic Stress Responses in Tree Species—2nd Edition

Message from the Guest Editors

Tree species serve as foundational components of terrestrial ecosystems and play crucial roles in preserving biological diversity, regulating climate, conserving soil, protecting water sources, and maintaining ecological environments. Yet, trees also possess distinctive woody structures that necessitate the absorption of water and nutrients from the soil to support photosynthetic canopies that can reach heights of several tens of meters. The growth and development of trees is vulnerable to abiotic stress, including drought, soil salinity, heavy metal ion stress, and extreme temperatures. Furthermore, climate change, monocultures of forest trees, and anthropogenic activities have introduced risks to trees by exposing them to biotic stresses such as pests and diseases. This Special Issue aims to provide a comprehensive overview of the latest advancements in the research field of abiotic and biotic stress in tree species, and to present selected contributions focusing on advancements in stress sensing, signaling transduction, phytohormone regulation, the multilayered regulation of stress, multi-omics, and crosstalk regulation between abiotic and biotic stress.

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