Special Issue

Molecular Mechanisms of Plant Tolerance to Environmental Cues

Message from the Guest Editor

Plants constantly encounter complex environmental challenges that activate sophisticated signaling networks involving phytohormones (e.g., abscisic acid, salicylic acid, and jasmonic acid), transcription factors, reactive oxygen and nitrogen species (ROS and RNS), and calcium signaling pathways. These molecular signals coordinate gene expression, protein modifications, and metabolic alteration essential for stress perception and adaptation. Understanding how plants integrate and regulate these responses, including the crosstalk between biotic and abiotic stress pathways and epigenetic modifications, is critical for developing resilient crops capable of withstanding multifactorial stresses under changing climate conditions. Contributions exploring regulatory gene networks, post-translational modifications, stress-responsive proteins, and innovative biotechnological approaches to enhance plant stress tolerance are highly encouraged. This Special Issue aims to compile advanced research elucidating the molecular mechanisms underlying plant tolerance to environmental cues, including both abiotic stresses and biotic stresses caused by pathogens, pests, and herbivores.

Guest Editor

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Deadline for manuscript submissions

30 June 2026

Plants

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/246457

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Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

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