

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

Dr. Muhammad Ali

College of Forestry and Biotechnology, Zhejiang A&F University, Hangzhou, China

Deadline for manuscript submissions

30 June 2027



Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



mdpi.com/si/246457

Plants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
plants@mdpi.com

[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)





Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)



About the Journal

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, and 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

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB
R3T 2N2, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)