Special Issue

Physiological and Molecular Mechanisms of Plant Stress Response

Message from the Guest Editor

Plants encounter diverse environmental stresses like drought, salinity, extreme temperatures, and pathogen attacks, which hamper their growth and productivity. Understanding the mechanisms of plant stress responses is crucial for improving crop resilience and agricultural sustainability.

This special issue explores how plants perceive, transduce, and respond to environmental stresses at physiological, biochemical, and molecular levels. Key topics include:

- Stress Perception and Signal Transduction: Mechanisms of stress sensing, calcium signaling, and hormonal regulation.
- Gene Expression and Regulatory Networks: Roles of transcription factors, non-coding RNAs, and epigenetic modifications in stress responses.
- Antioxidant Systems and Metabolic Adjustments: Strategies for scavenging reactive oxygen species and maintaining cellular homeostasis.
- Molecular Tools and Genetic Engineering: Advances in CRISPR/Cas9, gene editing, and omics technologies for improving stress tolerance.

We invite original research articles, reviews, and perspectives that contribute novel insights into plant stress biology.

Guest Editor

Dr. Yakupjan Haxim

State Key Laboratory of Desert and Oasis Ecology, Xinjiang Institute of Geography and Ecology, Chinese Academy of Sciences, Urumqi 830011, China

Deadline for manuscript submissions

25 September 2026

GCAT
TACG
GCAT

Genes

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed

mdpi.com/si/239710

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

mdpi.com/journal/genes

MDPI

GCAT
TACG
GCAT

Genes

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed

mdpi.com/journal/genes

MDPI

About the Journal

Message from the Editor-in-Chief

Genes is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised. Why not consider *Genes* for your next genetics paper?

Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan
Experimental Cancer Therapeutics, The University of Alabama at Birmingham, 1825 University Blvd., SHEL 814, Birmingham, AL 35294-2182, USA

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, MEDLINE, PMC, Embase, PubAg, and other databases.

Journal Rank:

JCR - Q2 (Genetics and Heredity) / CiteScore - Q2 (Genetics (clinical))