

## 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.

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### Guest Editor

Dr. Yakupjan Haxim

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### Deadline for manuscript submissions

20 October 2025

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## Genes

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### 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?

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### Editor-in-Chief

Prof. Dr. Selvarangan Ponnazhagan  
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