Special Issue

Molecular Mechanism and Breeding of Abiotic and Biotic Stress Tolerance in Crops

Message from the Guest Editor

Crop production is significantly affected by both abiotic and biotic stresses, resulting in crop losses that affect global food security. The development of novel crop varieties that enable growers and farmers to mitigate the negative effects of abiotic factors, including drought, heat, salinity, and other factors, is required. In addition, harnessing the tolerance of crops to biotic stress, including diseases, pests, and pathogens, is crucial in enhancing crop production. A better understanding of the genetic mechanism that underlies the tolerance of crops to abiotic and biotic stress is required to accelerate the development of new crop varieties. The genetic mechanisms utilized to respond to these stresses can be employed to develop molecular markers that accelerate the breeding and improvement of existing germplasm and to create novel varieties.

Guest Editor

Dr. Waltram Ravelombola

Department of Soil and Crop Sciences, Texas A&M AgriLife Research & Extension, 11708 Hwy 70 S, Vernon, TX 76384, USA

Deadline for manuscript submissions

30 September 2025



International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed



mdpi.com/si/234021

International Journal of Molecular Sciences Editorial Office MDPI, Grosspeteranlage 5 4052 Basel, Switzerland Tel: +41 61 683 77 34 ijms@mdpi.com

mdpi.com/journal/ ijms





International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed





Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences, Sez-Biochimica, Faculty of Medicine, Università Politecnica delle Marche, Via Ranieri 65, 60100 Ancona, Italy

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, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Organic Chemistry)

