Special Issue

Molecular Mechanisms Involved in Somatic Embryogenesis and Organogenesis of Plants

Message from the Guest Editor

The natural ability of plants to regenerate has been the fundamental basis for several agricultural and biotechnological approaches. Biotechnologists extended this ability using plant growth regulators (auxin and cytokinins) coupled with plant tissue culture media and stress signaling (light, osmotic, saline, heavy metal and temperature stress). This has promoted the manipulation of many plant species that regenerate by somatic embryogenesis and organogenesis processes. However, many important species exhibit recalcitrance, meaning that the current protocols are unsuccessful for them; this is one of the major bottlenecks facing the pharmacology industry, micropropagation and plant genetic engineering. In the genomic era, the application of omic technologies (transcriptomic, proteomic and metabolomic) will help us to elucidate the fundamental processes of growth and development. This Special Issue will cover various topics, with the aim of contributing to current knowledge on plant regeneration mediated by somatic embryogenesis and organogenesis.

Guest Editor

Dr. Cabrera-Ponce José Luis
CINVESTAV-IPN, Departamento de Ingenieria Genetica, Unidad Irapuato, Irapuato, Mexico

Deadline for manuscript submissions

closed (31 May 2025)

Plants

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/192872

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

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

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, 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)

MDPI