

Special Issue

The Impact of Nanomaterials on Plant Growth, Development and Metabolism, Third Edition

Message from the Guest Editor

Nanotechnology involves the study and manipulation of materials at length scales below 100 nm. Nanomaterials (NMs) are widely used in the agricultural, biomedical, and industrial fields due to their unique physicochemical properties. We are in the midst of an uncontrollable nano-boom that has produced a wealth of positive changes. However, this technology generates a persistent form of pollution that is too small to detect or contain easily. NMs can enter the environment via the air, soil, and water. The external environment often influences the development of plants, as NMs in the natural environment may enter plant tissues and affect plant growth. The interactions between NMs and plants are yet to be fully understood. Thus, it is essential that we develop an understanding of the physiological, biochemical, and molecular mechanisms of NMs in plants. This Special Issue welcomes original research or review articles focused on the impacts of NMs on seed germination, plant biomass, genetic modification, protection and yield, and the production of bioactive compounds.

Guest Editor

Dr. Iyakkannu Sivanesan

Department of Bioresources and Food Science, Institute of Natural Science and Agriculture, Konkuk University, 1 Hwayang-dong, Gwangjin-gu, Seoul 05029, Republic of Korea

Deadline for manuscript submissions

31 March 2025



Plants

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 6.5
Indexed in PubMed



mdpi.com/si/210929

Plants

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 4.0
CiteScore 6.5
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)