

Special Issue

The Recent Advances in the Application and Influence of Nanomaterials/Nanotechnology in Plant–Soil Systems

Message from the Guest Editors

The Special Issue titled “The Recent Advances in the Application and Influence of Nanomaterials/Nanotechnology in Plant–Soil Systems” focuses on exploring the latest innovations and impacts of nanotechnology on the intricate relationship between plants and soil. Nanomaterials have emerged as powerful tools in agriculture, offering novel solutions for enhancing soil fertility, improving nutrient uptake efficiency, mitigating environmental stresses, and promoting sustainable farming practices. This issue will delve into various facets such as the synthesis and characterization of nanomaterials tailored for agricultural use, their mechanisms of interaction with plants and soil microbiota, and their effects on crop growth, productivity, and quality. Moreover, it will address concerns regarding nanotoxicity, environmental fate, and regulatory considerations to ensure safe and responsible deployment in agricultural settings. By examining recent advancements and potential challenges, this Special Issue aims to provide valuable insights into how nanotechnology can revolutionize agricultural practices and contribute to global food security in a sustainable manner.

Guest Editors

Dr. Xunfeng Chen

Dr. Juncai Wang

Prof. Dr. Jianxiong Jiang

Deadline for manuscript submissions

31 August 2025



Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



mdpi.com/si/213043

Plants
Editorial Office
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 4.1
CiteScore 7.6
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, 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)