

## Special Issue

# Heavy Metal Accumulation and Detoxification in Plants

### Message from the Guest Editors

Heavy metals (HMs, element with a density higher than 5g/cm<sup>3</sup>) are widely present in rock formations and can be released via anthropical intervention. HM pollution is a major environmental stress affecting plant growth and development. Indeed, HMs inhibit various physiological processes in plants, including plant growth, photosynthesis, and antioxidation. As sessile organisms, plants counteract HM stresses through morphological and physiological adaptations, which are imparted by well-coordinated molecular mechanisms. Although such intricate mechanisms and the underlying genetics have been extensively studied, more detailed information is still unknown. Recently, new approaches, including transcriptomics, genomics, proteomics, and metabolomics analyses, have shed light on the molecular mechanisms involved in plants' adaptive responses to HM stress. Understanding the mechanisms of HM detoxification and heavy metal uptake, transport, sequestration, and accumulation in plants is of great importance for avoiding human health risks. Thus, this Special Issue aims to stimulate comprehensive research on the detoxification, uptake, transport, sequestration, and accumulation of HMs.

---

### Guest Editors

Prof. Dr. Gangrong Shi  
College of Life Sciences, Huaibei Normal University, Huaibei 235000,  
China.

Prof. Dr. Giovanni DalCorso  
Department of Biotechnology, University of Verona, 37134 Verona, Italy

---

### Deadline for manuscript submissions

closed (31 July 2023)



## Plants

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.1  
CiteScore 7.6  
Indexed in PubMed



[mdpi.com/si/158060](https://mdpi.com/si/158060)

*Plants*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[plants@mdpi.com](mailto: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, 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)