Special Issue

Exploring Recent Biotechnological Advances for Improved Phytoremediation of Soil Contaminants

Message from the Guest Editors

Phytoremediation is an eco-friendly, sustainable, cost-effective management strategy for environmental clean-up. However, it has the disadvantage that plants may be affected by the toxicity of the contaminants when concentrations exceed the threshold level. To overcome these shortcomings, current advances in various biological sciences such as metabolomics, transcriptomics, proteomics, etc., can aid in the characterization of metabolites, transcription factors, and stress-inducible proteins involved in heavy metal tolerance, which in turn can be used for developing heavy metal-tolerant crops. Other approaches include the utilization of beneficial microorganisms, biocompatible growth stimulants, and chelating agents to intensify and accelerate the phytoremediation rate. Therefore, this Special Issue aims to understand how these recent scientific advancements can increase plant tolerance and modify the nature of the contaminants in the rhizosphere to favor enhanced extraction and transport in the roots and facilitate their translocation towards the aerial parts of the plant.

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Deadline for manuscript submissions

closed (30 September 2024)

Plants

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/175973

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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.

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