



Role of Algae in Bioremediation of Heavy Metals

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Message from the Guest Editors

One of the biggest challenges in the mining industry worldwide is the management of the risk associated with heavy metal contamination. The oxidation and reduction reactions that sulfides undergo are the main cause of mining drainage and will cause mine runoff to have harmful and toxic heavy metals such as arsenic, copper, iron, sulfur, nickel and zinc in solution. Mining drainage that has water with an acidic pH and contains heavy metals poses a threat to the balance of the ecosystem and leads to concerns related to human and animal health.

Algae have a considerable capacity to absorb heavy metals from wastewater and have an ability to grow well in extreme environments. Thus, recent research works have sought to test different species of microalgae that possess the ability to remove heavy metals and toxic pollutants from mining drainage. Algae biomass-based biofuels are a promising alternative to fossil fuels and can lead to a circular bioeconomy. This study serves to review and analyze microalgae-based bioremediation systems with application to acid mining drainage.

Reviews, original research, and communications are welcome.

