

# Harnessing Halophilic Fungi for Sustainable Removal and Disposal of Heavy Metals and Radionuclides: A Promising Solution

Imran Ali

Southwest University of Science and Technology, China

\*E-mail: kashif.ali@szabist.edu.pk

## ABSTRACT

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Heavy metals and radionuclides, pivotal components in various industrial processes, are contributing to the escalating pollution levels in the environment. Numerous physical and chemical methods have been employed to mitigate their environmental impact, yet their efficacy often falls short in providing comprehensive solutions for disposal. Microorganisms have emerged as sustainable alternatives for the removal of heavy metals and radionuclides. However, a significant challenge has been the limited tolerance of bacteria to high concentrations of these pollutants. Recent reports and studies have unveiled a groundbreaking solution in the form of halophilic fungi. These remarkable organisms not only demonstrate resilience in the face of elevated concentrations of heavy metals and radionuclides but also exhibit remarkable biosorption capabilities. This discovery heralds a cost-effective and sustainable approach for the efficient removal and environmentally responsible disposal of these contaminants. This international conference seeks to foster collaborative research efforts and partnerships in exploring the potential of halophilic fungi in addressing the pressing issue of heavy metal and radionuclide pollution. Researchers from Southwest University of Science and Technology are eager to contribute to this vital field of study, recognizing its significance in safeguarding our environment and future generations. Join us in this endeavor to harness the power of halophilic fungi and pave the way for a cleaner, more sustainable world.

**Keywords:** Extremophilic Microbes, Halophilic Fungi, Radionuclides, Biosorption.

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