

Special Issue on

Heavy Metals in Environmental Hazard Assessment and Detoxification

CALL FOR PAPERS

Heavy metals discharged into natural, wastewater, biological, industrial, and geological samples in complex mixtures are a challenging problem worldwide. The rapid development of electronic instrumentation has also tremendously increased; however, it creates erroneous effect due to the presence of matrix elements. This causes hazards to the life on land as well as in water. Globally, all the living systems are suffering from different health hazards due to the adverse effect of carcinogenic metal ions. Globally, several industries are typically associated with water pollution caused by the discharge of untreated effluent by the use of toxic chemicals during processing. Those carcinogenic chemicals evaporate into the air we breathe or are absorbed through our skins; they show up as allergic reactions and they may harm living systems even before their existence. Due to this chemical pollution, the functioning of cells is widely disturbed, leading to modification in the physiology and biochemical mechanisms of animals and resulting in adverse effects like respiration, osmoregulation, reproduction, and mortality. Heavy metals present in industry effluent accumulate in primary organs of the body and over time begin to fester, leading to various diseases. Thus, untreated or incompletely treated industrial effluent can be harmful to both aquatic and terrestrial life by adversely affecting the natural ecosystem and causing long-term health effects.

In the current scenario, the analyses of trace metals in natural and waste water are the challenging problems and the immediate requisite in analytical chemistry. Heavy metals do not degrade into harmless end products by metabolism; they accumulate in the food chain and therefore pose the greatest threat to living organisms. Wastewater containing heavy and toxic metals is generated, as untreated or partially treated by-products of various industries enter into public sewers, rivers, sea, and land. Heavy metals when present in water in concentrations exceeding the permitted limits are injurious to the health. Hence, it is very important to treat such waters to remove the metal ions present before they are supplied for any useful purpose. The production of nuclear weapons and e-wastes has also resulted in dangerous waste problems. Burning of coal in power station, industries, or other combustion units emits particulate matter that carries hazardous toxic metals.

The special issue covers a wide spectrum of significant topics of behavior and distribution of heavy metals which are relevant to public health protection. It affords ample and distinctive information with a universal readership. We welcome high quality papers where the research findings are clearly defined and measured related to biological, ecological, and human health effects.

Potential topics include but are not limited to the following:

- ▶ Metal environmental toxicology
- ▶ Metal compounds health risk assessment and management
- ▶ Metal biomonitoring and human health effects
- ▶ Environmental bioinorganic chemistry and mathematical modeling
- ▶ The bioinorganic chemistry of bioremediation towards e-wastes
- ▶ Environmental bioinorganic technologies and management

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/bca/ehad/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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