**Bioremediation of thermal power plant effluents with chitosan and chitosan nano particles**

Bellamkonda V.[1]; Chalamcherla V.[2*]

1-Department of Biotechnology, Vikrama Simhapuri University, Nellore, A.P. India-524320
2- Department of Marine Biology, Vikrama Simhapuri University, Nellore, A.P. India-524320
*Corresponding author's email: vijayalch@gmail.com

**ABSTRACT**
Water pollution caused by thermal power plant effluent discharges has become a worrisome phenomenon due to its impact on environmental health and safety. Many treatment processes that have been used to remove heavy metals from wastewater are suffer from high cost. Chitosan is a low cost adsorbent which is biodegradable and biocompatible polymer obtained from shrimp biowaste. In the present study, both chitosan and chitosan TPP nano particles showed ability to remove the two important heavy metals like lead and Iron from thermal effluents. Chitosan TPP nano particles showed high efficiency in the adsorption of heavy metals when compare to chitosan alone. Our results showed that the adsorption process is concentration driven with high capacity of chitosan and chitosan TPP nanoparticles for the adsorption of these metal ions.

**Keywords**: Waste water treatment, Biopolymers, Chitosan, Heavy metals