

Biosorption Kinetics, Isotherms, and Thermodynamic Studies of Copper (II) on *Spirogyra* sp.

Authors : Diwan Singh

Abstract : The ability of non-living *Spirogyra* sp. biomass for biosorption of copper(II) ions from aqueous solutions was explored. The effect of contact time, pH, initial copper ion concentration, biosorbent dosage and temperature were investigated in batch experiments. Both the Freundlich and Langmuir Isotherms were found applicable on the experimental data ($R^2 > 0.98$). Q_{max} obtained from the Langmuir Isotherms was found to be 28.7 mg/g of biomass. The values of Gibbs free energy (ΔG°) and enthalpy change (ΔH°) suggest that the sorption is spontaneous and endothermic at 20°C-40°C.

Keywords : biosorption, *Spirogyra* sp., contact time, pH, dose

Conference Title : ICEBESE 2014 : International Conference on Environmental, Biological, Ecological Sciences and Engineering

Conference Location : London, United Kingdom

Conference Dates : December 22-23, 2014