Boddula Swathi et al., Hydrol Current Res 2014, 5:4
http://dx.doi.org/10.4172/2157-7587.S1.013

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference on
Hydrology & Meteorology
September 15-16, 2014 Hyderabad International Convention Centre, India

Groundwater pollution management using simulation-optimization models

Boddula Swathi and Eldho T I
IIT Bombay, India

In view of the increasing population and uncontrolled pollution worldwide, there is an urgent need to manage and protect the shrinking groundwater resources efficiently to ensure its sustainable utilization. The occurrences of groundwater contamination and quality of groundwater have become major issues since the discovery of numerous hazardous waste sites. The objectives of any groundwater pollution management system are to determine the presence and extent of dissolved or free-phase contaminants, as well as likely rate and direction of contaminant migration within the groundwater flow system through simulation models and to remediate the polluted sites with preventive measures with the help of optimization models. For these studies numerical modeling plays a pivotal role which helps end users/government in evolving useful guidelines for future planning. This paper gives the bird view of state of art available currently in the field of simulation-optimization modeling being applied in groundwater pollution management system including different in-situ and onsite remediation techniques. Special focus is laid upon the application of bioremediation technology. A case study with coupled simulation-optimization model is also presented depicting the methodology to be applied for a typical problem.

Biography

Boddula Swathi is currently pursuing PhD in the field of Numerical Simulation of Groundwater systems from Indian Institute of Technology, Bombay. She did her Masters from Indian Institute of Technology, Bombay and Bachelors from University College of Engineering, Osmania University.

boddulaswathi@gmail.com