

Impact of coal mining on water sources – A case study on singer collaries UGC minor Project- Amount – Completed.

Project Summary:

- 1) The project was formulated with an objective that seepage water generated in open cast mining is discharged directly or indirectly into surface water bodies and surface water bodies gets deteriorated water quality gets changed. In order to have complete picture of existence status of water quality in Godavari river and ground waters of surrounding areas of singereni colories the water samples were collected. A field survey on coal mining area to study the impact of open cast mining was carried. The field observations indicated two important points
1) huge deposits of coal particles were observed in and around coal mines on roads as well as trees. They find their way to drains and finally to rivers in rainy seasons
2) Secondly the roads were unpaved and they should be paved. The analysis of Godavari water near the open cast mining areas were analyzed and ground waters were also analyzed. It was found that heavy metals Arsenic, Chromium are higher than standard values and Fluoride was also high. The heavy metals were removed by using adsorbents like Miltani mitti, mixed algae and sillica coated nanoparticle prepared by using egg-white. Similarly the excess nitrates were removed by Miltani mitti.

- 2) Genetic analysis of inflammatory cytokine genes in chronic obstructive pulmonary disease (COPD) in south India Population –Asim

This study provided a strong evidence for oxidant - antioxidant imbalance in the pathogenesis of COPD. The study indicated that in sufficient levels of enzymes combined with increased Ros production may be correlated to severity and progression of COPD. The Study indicates a high GST and GPX enzyme activity correlation between FEV and antioxidant enzyme activities among different COPD stages.

- 3) A new replication strategy for hadoop distributed file system- Mr. Talluri Lakshmi Siva Rama Krishna. (Report details)
- 4) A smart Heuristic scanner for an intrusion detection system using two stage machine learning techniques.

A prototype of smart heuristic scan net (pocket scanner) and IDS (Intrusion detection system) were developed and two papers were published from this project.

- 5) Rashid sir -MRP (title + Report)
- 6) Analysis of Arsenic in ground water samples of industrial areas of Hyderabad and controlling Arsenic by bio coagulants. Funded by GSF for 8.04 lakhs in 2014.

The analysis of Arsenic in ground water samples of two industrial areas Patancheru and Katedhan industrial areas were carried out and it was found that Arsenic levels have crossed the standard levels. Some bio coagulants were tested for removal of Arsenic and a controlling technology was developed. Depending on the results, a low cost water filter was developed.

7) DBT -Fold Scope Project:

Qualitative and quantitative analysis of culture pond (aqua culture pond) by Fold scope- Funded by DBT principal investigator- Dr. D. Sirisha, Head, CECC, 8.00 Lakhs , is an ongoing project 2017-2018.