

TECO Mobility grant

Decontamination of SHOS Raša coal and soil polluted by Raša coal using bacterial biomass: a case study of coal and soil from the Labin city area (North Adriatic, Croatia)

Beneficiary of the grant – Prof. Dr. Gordana Medunić

Home Institution/Company (EU) - University of Zagreb, Faculty of Science, Department of Geology, Zagreb, Croatia

Host Institution/Company (INDIA) - Banaras Hindu University, Varanasi, UP, India (Department of Geology: Prof. Dr. Prakash K. Singh, and Department of Botany: Prof. Dr. Asha Lata Singh)

Period of the stay in India - 31 Oct-30 Nov 2017



TECO Project

Technological ECO-innovations for the quality control and the decontamination of polluted waters and soils

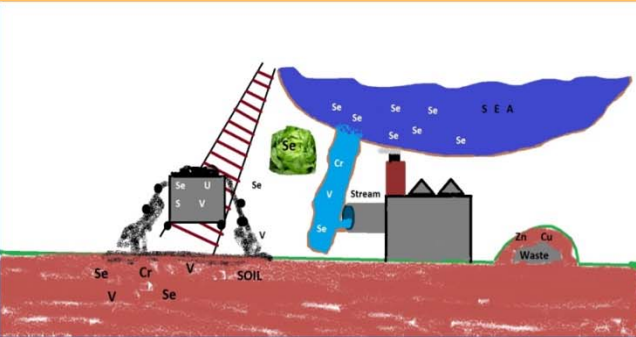
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Objective of the project

- Bioremediation is low-cost, yet highly efficient technique in environmental quality studies.
- Knowledge of levels of selected potentially toxic trace elements and sulfur prior and following the treatment of soil and coal samples with bacterial biomass.
- Examination of the scale and nature of changes in chemical composition of soil and coal particles taking place in experimental conditions.



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Activities carried out during the period of the grant

- Presenting the latest Croatian research on coastal environmental pollution issues having resulted from the historical coal-based industries (scientific and academic institutions in Delhi, Jorhat, Varanasi, and Allahabad).
- Discussing with Indian colleagues at BHU (Departments of Geology and Botany) further steps of joint study as well as modalities of implementation of new collaboration initiatives.
- Training in initial steps of laboratory work on preparing the bacterial cultures (BHU, Department of Botany).



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Main outcomes

- Experience of an analytical work in a different ambient (a geologist in a biology laboratory).
- Interaction with colleagues and students from BHU related to the joint Croatian-Indian bioremediation study on the soil and coal samples from Croatia.
- Invitation from Professors Dr. Prakash K. Singh, Dr. Asha Lata Singh, and Dr. N.V. Chalapathi Rao to visit them at BHU again to continue on work with them on analysis of my environmental samples using their newly purchased, modern instrumental facilities (CHNS analyzer, EPMA, ICP, SEM, etc.).



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