

Masters's thesis

Starting at the next possible date, we are looking for a master student to conduct following master's thesis:

Bioleaching of polymetallic sedimentary ore

Working environment and field of action

At the Helmholtz -Zentrum Dresden Rossendorf (HZDR) special effects of bioleaching in polymetallic sedimentary deposits with different mineral structure will be investigated in the framework of an industrial research project. In a first stage, the microbial population in the original formation should be determined. The microorganisms in samples of both ore and formation water are identified by DNA isolation and 16S rDNA sequencing. Bioinformatics enable to conclude from the sequencing results to potential enzymes, in particular, oxidoreductases for the catalysis of oxidative leaching effects

Leaching experiment for simulating the in-situ recovery of metals result in samples of the (metal-bearing) leach solution and of the remaining ore. These samples will be systematically investigated by the use of DNA fingerprint techniques and 16S rDNA sequencing to identify changes caused by bioleaching.

Detailed work tasks include:

- DNA isolation
- DNA fingerprints
- 16S rDNA sequencing

Requirements:

- Master program of biology or similar
- Pleasure to work in a microbial laboratory
- Knowledge of English is requested
- Willingness to work with samples with weak natural radioactivity

Contact

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