

MASTER THESIS POSITIONS: Characterization of microbial communities in metal-rich industrial tailings



Metal-loving microorganisms live in extreme conditions and utilize energy from the sources that are inaccessible to other life forms, performing biotransformation of various metals. The capacity to mobilize heavy, toxic metals from metal-containing industrial waste products makes *metalophilic microorganisms* the prime candidates for ecologically friendly materials recycling and economically feasible recovery of metals. The current research focuses on the characterization of microbial communities in industrial metal-rich tailings (metal-containing waste products) in order to reveal metal-extracting indigenous microbiota.

Aim of the study:

The master thesis targets at **16S rRNA-based metagenomic analysis of microbial communities** inhabiting industrial metal-rich tailings (metal-containing waste products) with the future aim to explore bioprocessing of multimetallic waste products on industrial scale.

We offer:

Extensive supervision by experienced researchers of state-of-the-art approaches for fermentative cultivation and physiological characterization of metalophilic microorganisms, participation in a continuously evolving project, biochemistry of extremophiles, molecular techniques, electron microscopy and analytical spectroscopy techniques.

The candidate will be integrated into an interactive and international lab environment with a broad scientific experience in biochemistry, microbiology, molecular biology, biophysics, physiology, astrobiology as well as microbial biotechnology.

Thesis duration: 6-12 months; salary: 440EUR per month. Beginning: immediately.

Prerequisites:

Highly motivated, enthusiastic students preferentially with genomic/bioinformatic technics background/experience, a strong interest in Biotechnology/Biochemistry/Microbiology/Analytical Chemistry, and with a passion for science and research are encouraged to apply. Previous experience in **16S-gene-based characterization of microbial communities/bioinformatics** would be an asset.

If you are interested, please send your applications including CV, a letter of motivation and references to Tetyana Milojevic:

tetyana.milojevic@univie.ac.at

For more information please visit our website at <https://www.bpc.univie.ac.at/ueber-uns/mitarbeiter/tetyana-milojevic/>