

“Strategic Metal Recovery”

11th – 22nd September at TU Bergakademie Freiberg

The Technical Chemistry, Inorganic Chemistry, and Environmental Microbiology Institutes at the TU Bergakademie Freiberg, are offering a multidisciplinary workshop covering all aspects of the process chain for the recovery of indium from bioleaching solutions.

The workshop entails both practical lab-based work as well as detailed lectures and seminars. Students will begin with an excursion to the mine *Reiche Zeche* where they will collect samples for the bioreactor leaching experiments. A variety of analytical investigations to characterise resulting leachates will cumulate in the extraction and purification of indium.

Date	Time	Meeting point	Department	Teaching Content
Monday 11.09.17	9:40- 12:00	Clemens-Winkler building (CWB) Leipziger Str. 29 (main entrance)	Environmental Microbiology	Field trip to the underground mine Reiche Zeche Freiberg
				Visit of the in-situ leaching site and sampling
	12:00 - 13:30	Lunch		
	13:30 - 15:00	Room 18 CWB		Seminar bioleaching: mechanisms and microbes
	15:00 - 17:00	Lab R155 first floor CWB		Set-up of bioreactor experiment and sampling

Tuesday 12.09.17	09:30 – 11:30	Lab R155 first floor CWB		Preparation of media and substrates
	11:30 - 13:00	Lunch		Sterilization
	13:00- 16:00	Lab R155 first floor CWB		Set-up of small scale bioleaching experiment and sampling

Wednesday 13.09.17	9:30- 10:30	Room 18 CWB	Chemical Technology	Seminar rectification
	10:30- 11:00	Lab E.104 first floor CWB		Set-up of rectification
	11:00 - 12:30	Lunch		
	12:30- 17:00	Lab E.104 first floor CWB		Rectification practical

Thursday 14.09.17	9:30 – 11:00	R18 CWB	Inorganic Chemistry	Seminar Geochemical modelling
	11:00 - 12:30	Lunch		
	12:30 – 16:30	R18 CWB		PHREEQC geochemical modelling workshop (laptops required)
Friday 15.09.17	9:30 – 11:00	R18 CWB	Inorganic Chemistry	Seminar Electrochemistry
	11:00 - 12:30	Lunch		
	12:30 – 16:30	Lab 104 second floor CWB		Electrochemical analysis practical
Monday 18.09.17	9:00 – 11:00	R18 CWB	Chemical Technology	Seminar Solvent Extraction
	11:00 - 12:30	Lunch		
	12:30 – 17:00	Lab E.114 first floor CWB		Isotherm determination Reextraction behaviour
Tuesday 19.09.17	9:00 – 11:00	R E.104 first floor CWB	Chemical Technology	Extraction in Mixer-Settler Analysis of Results
	11:00 - 12:30	Lunch		
	12:30 – 17:00	Lab E.114 first floor CWB		Setup of Electrowinning Experiment
Wednesday 20.09.17	9:30 – 10:00	Room 18 CWB	Chemical Technology	Seminar Precipitation
	10:00 – 12:00	Lab E.114 first floor CWB		Selective precipitation of indium hydroxide
	12:00 - 13:30	Lunch		
	13:30 – 16:30	Lab E.114 first floor CWB		Filtration of precipitate, Assessment of Electrowinning experiment
Thursday 21.09.17	9:30 – 11:00	Lab R155 first floor CWB	Environmental Microbiology	Sample preparation for ICP/IC analysis
	11:00 - 12:30	Lunch		
	12:30 – 14:30	R18 CWB		Seminar Ion chromatography
Friday 22.09.17	8:30 – 12:30	R18 Lab E.104 first floor CWB	Inorganic Chemistry	Data analysis workshop Electrochemical techniques and IC data (laptops required)