



Workshop “Strategic Metal Recovery”

11th – 22nd September

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	9:15	Clemens-Winkler building (CWB) Leipziger Str. 29; main entrance	Environmental Microbiology	Field trip to the underground mine Reiche Zeche Freiberg. Visit to the in-situ leaching site for sampling
	12:30 – 14:00	Lunch		
	14:00 -15:30	WIN 0208 CWB		Lecture Bioleaching: mechanisms and microbes (Prof. Michael Schlömann)

Tuesday 12.09.17	9:00 -11:00	Lab R155 first floor CWB	Environmental Microbiology	Preparation of medium and substrate Set-up of bioreactor experiment
	11.00 – 12.30	Lunch		
	12:30 -16:00	Lab R155 first floor CWB		Set-up of small - scale bioleaching experiment and sampling
	18.00	Restaurant “Stadtwirtschaft” Burgstraße 18, Freiberg		Get TUgether

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		

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	9:00 – 11.00	Lab R155 first floor CWB	Environmental Microbiology	Sample preparation for ICP/IC analysis
	11:00 - 12:30	Lunch		
	12:30-17:00	Lab E.104 first floor CWB	Chemical Technology	Rectification practical

Friday 22.09.17	9:30 – 11:00	R18 CWB	Inorganic Chemistry	Seminar Ion chromatography
	11:00 - 12:30	Lunch		
	12:30 – 16:00	R18 Lab E.104 first floor CWB		Data analysis workshop Electrochemical techniques and IC data (laptops required)