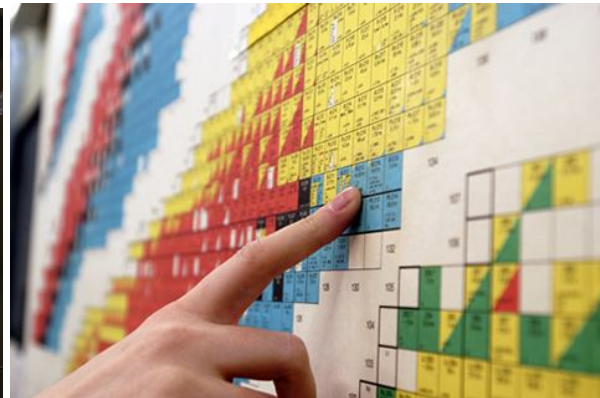
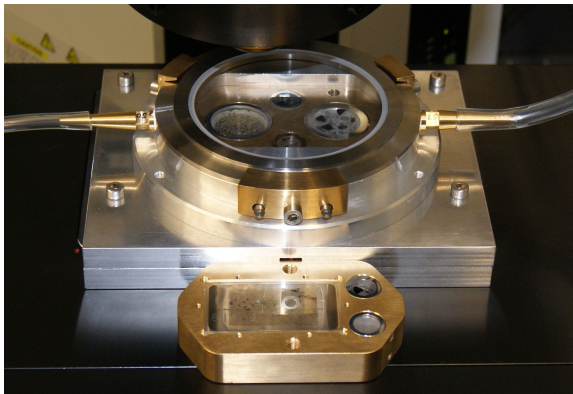




Short course at the IGSC
International Geosciences Student Conference in Berlin

Metal stable isotopes as fingerprints in the Earth and the environment

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GFZ Potsdam und FU Fachbereich Geowissenschaften



Short Course 2013

- Date:** 22.4. – 25.4.2013
Place: Section 3.4 „Earth Surface Geochemistry“, GFZ Potsdam
Registration: Until 15.3.2013 at our GFZ office: loch@gfz-potsdam.de
Participants: ca. 40
Course language: English
Credit Points: 3 LP
Financial Support: Student members of the German Mineralogical Society DMG from outside of Berlin / Potsdam can receive EUR 50 to support travel
FU students only: With your registration, please tell us if you plan to participate in the extended module GG 023 of the FU Berlin curriculum.

Course methods: Lectures and simple calculation practicals of isotope fractionation.

Prerequisites: BSc in Geosciences, Chemistry, or Physics. Basics in analytical chemistry, basics of stable isotopes geochemistry, good knowledge of fundamental math and physics.

Topics: We explore the so-called „non-traditional“ stable isotopes, of which the minor shifts by isotope fractionation have been made detectable only recently by multicollector ICP-mass spectrometry. These are for example the elements lithium, magnesium, silicon, calcium or iron. We will address the following topics:

- Why do isotopes shift their relative abundances? Principles of mass-dependent isotope fractionation. Isotope fractionation during precipitation, mineral dissolution, weathering, uptake by higher plants, biomedical applications, the hydrosphere, and formation of the planets. Basics of MC-ICP-mass spectrometry: sample preparation, ionisation, ion optics and mass separation, detection systems, data evaluation

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