



*Introduction to the laboratory facilities
at the Department of Geoscience.*

OVERVIEW

More info online:

<https://geo.au.dk/en/research/faciliteter/> (English)

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Charlotte Rasmussen
Head of Geoscience labora-
tories and safety manager at
the department

Analyses on sediment and rock components

- X-ray diffraction (XRD) of clay and bulk minerals
- Particle size distribution (PSD): Sieving, sedimentation, laser diffraction
- Particle shape information (imaging)
- “Ring shear” apparatus (simulating sediment deformation by glacier stress)
- Fine gravel petrology (sorting within 12 categories in the range 2-4 mm)
- XRF on cores, along with magnetic susceptibility, X-ray and RGB images
- Various high-performance microscopes for petrographic and facies analyses of sedimentary rocks and thin sections



Soil and water analyses

- C-N-S analyser
- pH measurements etc.
- Alkalinity
- Loss on ignition (LOI)
- Preparation for C-14 measurement
- Differential thermal analyses (DTA/TG)



Paleontology analyses

- Foraminifers
- Diatoms, coccoliths & dinoflagellates
- Biomarkers (GC-MS)
- Pollen
- Soluble Si (UV/VIS spectrophotometer)





Geophysics and basin analyses

- Retrieval of seismic data on land or sea
- Thermal properties: Needle probe, divided bar methods



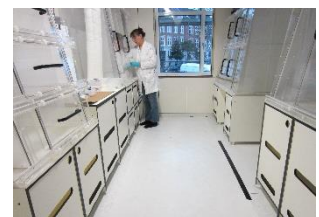
Cosmo-lab

- Chemical prep-work for determination of cosmogenic isotopes (Be-10 and Al-26)
- Magnetic separation, floatation etc.



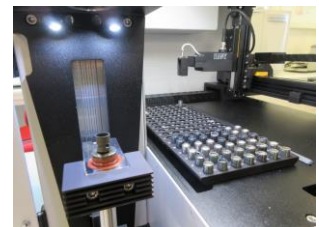
Isotope lab

- Class 100 metal-free clean lab for ultra clean sample preparation
- Laser Ablation with Multi Collector- and Quadrupole-Inductively Coupled Plasma Mass Spectrometers (ICPMS)
- High precision concentration and isotopic ratio measurements of the periodic elements



Petrology experiments

- Hawk pyrolysis and oxidation: S1, S2, S3, S4, T_{max}, TOC, CC, kinetics
- GC-MS +pyrolysis
- Fluid inclusion micro thermometry
- μ -XRF for powders and thin sections
- Portable μ -XRF for elemental screening
- Scanning electron microscope (SEM) with Oxford EDS for elements



Contact head of the Geoscience laboratories:

Charlotte Rasmussen: charlotte.rasmussen@geo.au.dk