

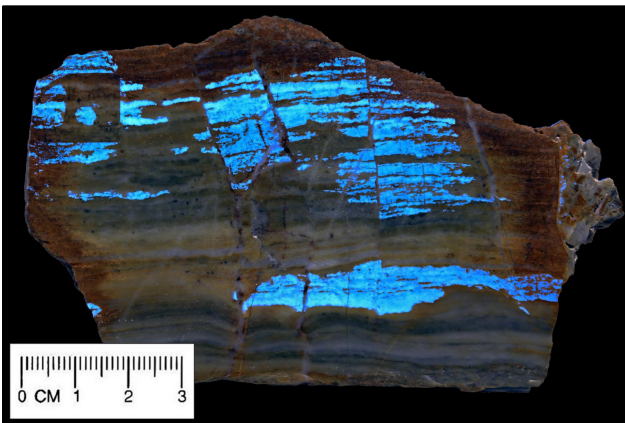
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Minerals, rocks and fluids

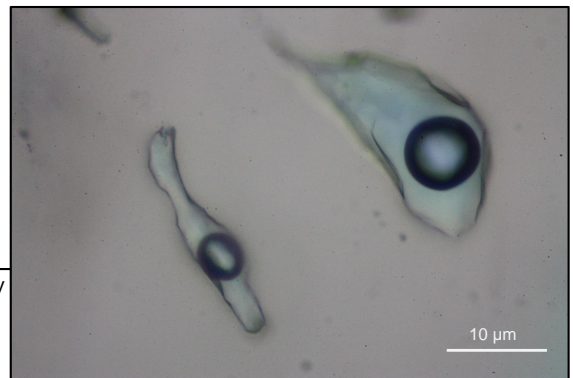
The fundamental and unifying role of mineralogy at MUL

Research at the Chair of Resource Mineralogy focuses on mineral raw materials, ore deposits and fluids. The topics range from the mineralogical and mineral-chemical characterization of primary and secondary raw materials to the investigation of formation processes of various mineral deposits and experimental studies of fluids in the Earth's crust. Current projects are also dealing with H₂ storage and CO₂ sequestration.

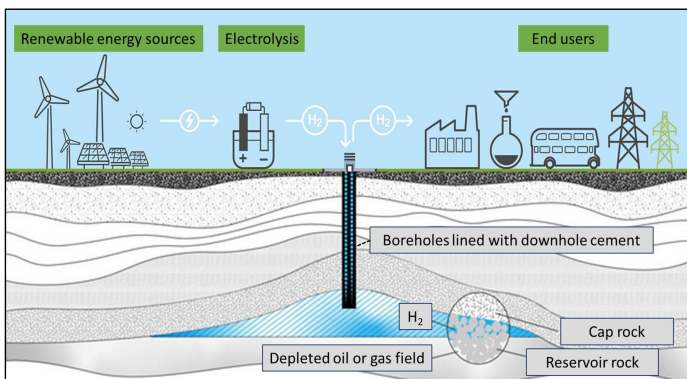


Tungsten (W) is a critical raw material needed in many high-technology applications. One of the most important W mineral, **scheelite (Ca[WO₄])**, is mined at Felbertal.

Florian Altenberger studies scheelite from various W occurrences in the Eastern Alps. The focus is on in-situ trace element analyses of scheelite aiming to develop deposit-specific "fingerprints" for exploration.

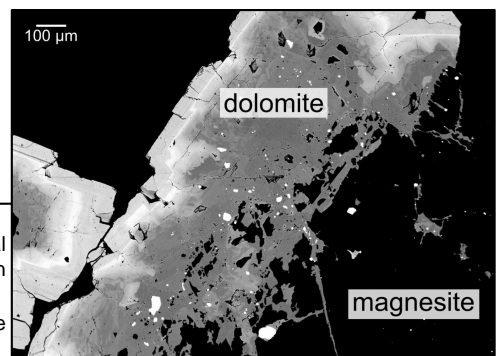


Investigations of **fluid inclusions** allow to decipher the mineralization history of ore deposits; e.g., in Zn-Pb-Cu-Ag skarn deposits from Rudnik/Serbia. **Ronald Bakker** has developed a software package for complex fluid systems to calculate fluid properties.



Depleted natural gas or oil fields promise great potential for underground **hydrogen (H₂) storage**. For storing H₂ safely and efficiently more research is needed on the interaction of H₂ with the cement material.

Thomas Sammer works on fundamental questions regarding the mechanical and chemical **integrity of downhole cements** when exposed to H₂.



Magnesite (MgCO₃) is an essential raw material for the refractory industry. Magnesite deposits at Hochfilzen and Breitenau are studied with modern geochemical and mineralogical methods to establish a genetic model, quality criteria for production and a calibration/interpretation of airborne spectral measurements.

Ferdinand Hampf, Veronika Gartner and **Monika Feichter** are involved in the magnesite research.



Team of the Chair of Resource Mineralogy

