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Education: cand. scient. (mineralogy and petrology) 1999

Research areas:

My research focuses on the geology and geochemistry of limestones. I'm currently working on a project called "Impurities in carbonates" were the aim is to understand the distribution and nature of impurities in carbonate rocks and minerals. My focus in this aspect is limestone (rock) and calcite (mineral). With respect to limestones, the study focuses on understanding the nature and distribution of impurities (mineralogy and geochemistry) and how these behave and affect the limestone during contact metamorphism of the system. Special emphasize is given to the process of thermally induced grain coarsening. Analytical techniques applied to this study are X-Ray Fluorescence (XRF), Scanning Electron Microscopy (SEM), Carbon and Oxygen isotopes and Image analysis.

The calcite crystal studies focuses on the role of impurities in processes connected to crystal growth and dissolution. Does the presence of geochemical impurities in calcite affect the morphology and colour of the crystals? Does the presence of impurities affect the dissolution behaviour of calcite? Analytical techniques applied to these studies are AAS (Atomic Absorption), ICP-MS (Inductively Coupled Plasma Mass Spectroscopy), Carbon and Oxygen isotopes, SEM, Cathodoluminescence (CL) and Atomic Force Microscopy (AFM).

Complex calcite crystal growth

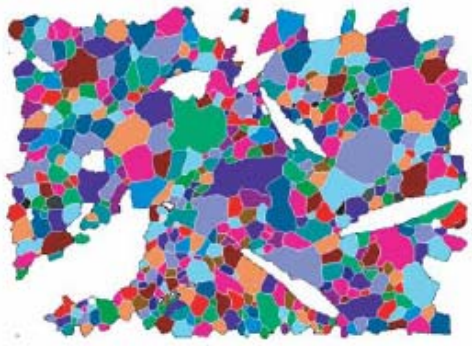
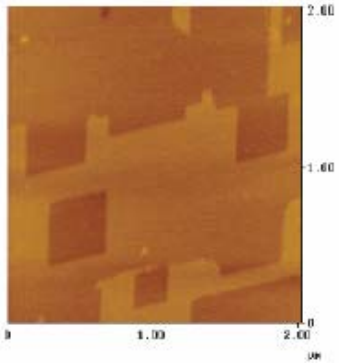


Image processed calcite grain texture



Etch-pit on the (10-14) cleavage surface of calcite
