Center for Microscopy and Microanalysis JEOL 8900 Superprobe



Select examples of projects that have used the probe





VERSITA

Secondary electron image of an altered tremolite grain as part of a study of sulfate-acidity in geothermal systems. Fibrous tale and small noulles of K-feldspar have nucleated on large tremolite, although some tremolite is unaltered (study by M. Hall).



Plot of Sr/Ca (a proxy for salinity) versus age in otoliths (fish ear-stones). Determination of this variable allows for interpretations of migratory behavior of anadramous fishes. This technique has been successfully applied by D. Secor and his research team at the Center for Environmental Science-Chesapeake Biological Laboratory (Solomons, MD).



The purchase of this instrument was made possible through grants from The National Science Foundation and the Department of the Army, and through support from the University of Maryland Graduate School, the Colleges of Computer, Mathematical and Physical Sciences, and Engineering, and the Departments of Geology, and Materials and Nuclear Engineering.



Photograph of a 300-200 B.C. faience from Egypt. A series of 21 specimens were analyzed for trace elements in order to characterize glazes. The results from this study demonstrate that the Ptolemaic faience is the carliest known example of intentional lead-alkaline glaze used in antiquity (Y. Mao, The Walters Art Gallery).



Backscatter electron image of a zircon from the Lyon Mountain Granitic Gneiss, Adirondacks. The image reveals three distinct regions, which have ben found to be of three distinct ages consistent with the presence of a high-U core, and hydrothermal rim (J. Hanchar, George Washington University).