

investigating crustal seismic anisotropy in southern California, supported by NSF's Geophysics Program. In addition we are also working on continuing NSF projects in New Zealand, British Columbia, and the western U.S. along a transect extending from Wyoming to New Mexico.

This fall I taught Geology 100 and a graduate seminar on seismic anisotropy. I am looking forward to working with Brad Singer next fall in offering a new course "Physics and Chemistry of the Earth's Interior," which will be part of our new undergraduate curriculum.

In addition to research and teaching, I have been busy working on many committees and continuing as associate editor of the *Journal of Geophysical Research*. Travel this past year included presenting invited papers at a lithoprobe workshop in Banff and an International Symposium on Deep Seismic Profiling of the Continents in Ulvik, Norway.

David Hart joined our research group last summer as a post-doctoral research assistant. He received his PhD under Herb Wang in spring 2000. Dave has been selected to participate in Ocean Drilling Program Leg 195 as a physical properties specialist. This Leg will investigate serpentine mud volcanoes on the forearc of the Mariana subduction system. Matt Salisbury, one of my former students, will be co-chief scientist on the Leg, which occurs March and April, 2001.

#### ❖ Chuck DeMets

My research program had a great start to the new millennium, with notable progress in the three field areas where I am now working (Jamaica, Honduras and Jalisco) and initial planning for new field areas in Oaxaca, Mexico and southern California. The goal in each of these areas is to study zones of active faulting, with a goal of better understanding the mechanics and kinematics of active crustal deformation. My first PhD student Wallis Hutton completed her dissertation in mid-June and has moved on to a post-doctoral position in Mexico, where her dissertation work was focused. Recent UW PhD Tim Masterlark is now working as my post-doctoral researcher modeling post-seismic poroelastic and viscoelastic deformation in western Mexico. I also spent three months with my family doing sabbatical research in the French Riviera, including no small measure of fine wine and cheese. This was a very welcome break from the professional demands at UW, which often leave me feeling spread as thin as plastic wrap. I can only hope that 2001 is as good as was 2000.

#### ❖ John Fournelle

We formally dedicated the Eugene N. Cameron Electron Microprobe Laboratory on September 21, 2000. (*See a lab dedication article on page 32.*) This coincided (with an open house formally introducing the new Rare Gas Geochronology Lab and the expansion of the Radiogenic Isotope Lab. Gene's former grad student Harry Abendroth (MA '53) unveiled the new plaque gracing the door of Room 306.

In 2000, 15 people from Geology and Geophysics and 15 from Materials Science and Engineering, as well as researchers from Dairy Science and Chemistry utilized the SX51 microprobe in their research (that white stuff on your cheese may be apatite crystals). With the assistance of Bill Barker (now L&S Assistant Dean Barker), we switched our scheduling system to an on-line calendar, which is very useful.

During the year I was busy on a variety of fronts. In January I interviewed Emeritus Professor Bob Gates as part of a department oral history project. The three-hour interview has been also added to the university's oral history collection (#541). ([www.library.wisc.edu/libraries/Archives/oral/oral.htm](http://www.library.wisc.edu/libraries/Archives/oral/oral.htm)). (*See story on page 43.*) In March I began collaborating with Ilya Bindeman and John Valley on a study of  $\delta^{18}\text{O}$  of samples from Fisher Caldera, the largest caldera in the Aleutian Islands. Samples I had collected there in 1989 as well as ones collected earlier on the slopes of adjacent Shishaldin Volcano, and samples Tina Dochat, Eric Carson and I had collected on the lower Alaskan Peninsula between 1995-97, showed that the magma erupted in the ~9100 y BP climactic eruption was depleted in  $\delta^{18}\text{O}$ . The suggested model is that the meteoric water input into the magma came about in stages, with an earlier unrecognized caldera event providing the fracturing of country rock that could undergo oxygen exchange by hydrothermal circulation prior to magmatic assimilation.

I also was busy showing it is feasible to do x-ray mapping of trace elements (e.g. Y, U, Th, REE) in mineral separates mounted in epoxy with the electron microprobe at high beam currents ("polygonal" mapping software); results of mapping Yellowstone zircons (from the study of Bindeman and Valley) were presented at the AGU meeting in early June. In July, my family and I flew to Hawaii where we vacationed briefly on Maui before attending an international microscopy and microanalysis conference in Kona. There I presented the results of several years collaboration with MS&E Professor John Perepezko, showing that it is possible to accurately and precisely analyze boron in Mo-Si-B compositions (something never done before). The day before the conference, I joined 20 other adventuresome microscopists and microprobers