In the spring I was appointed to serve on a multi-departmental search committee to hire professors in the new field of Science Studies, the investigation of how science itself is conducted. The field is mostly the province of sociologists, historians, philosophers, anthropologists, and journalists. As the only natural scientist on the committee, I got a quick and fascinating education in how our humanities colleagues view us (they agonize over theories of knowledge that we don't even know exist) and in what constitutes meritorious work in various disciplines. In the end the committee picked three new profs, who will be the nucleation point for science studies on the Madison campus.

On the research front, I'm back in the bone business, with two students working on dinosaurs. Chris Ott is conducting a Master's thesis on taphonomy of dino bone beds in the Interior Cretaceous. Lisa Buckley is studying theropod tooth structure, again from Cretaceous rocks. Lisa is a senior; she won a Hilldale Fellowship in the spring to support her research. I am also continuing our Ordovician stratigraphic project. Norlene Emerson's PhD project (principal advisor Toni Simo) has demonstrated a new sequence stratigraphic interpretation for the well-known carbonate-to-shale facies transition in the Decorah Formation.

At home, Becky and I are continually amazed at the size, growth rate, and food-consumption ability of the kids. We live in a maelstrom of sports, pizza, loud TV, video games, and thug-like adolescent apparitions. And nobody is even in high school yet. Now I know what the Romans felt like when the Huns appeared at the gates.

❖ Alan Carroll

Jeff Pietras and **Meredith Rhodes** completed most of their fieldwork on the Green River Formation, based out of scenic Rock Springs and assisted by undergraduates **Reuben Johnson** and **Jana Van Alstine**. They are completing the first detailed basin-scale stratigraphic cross-sections of the Green River Formation, as part of a project to document the relationship between nonmarine sedimentation and Laramide tectonics (supported by Conoco and Texaco). They also continued working in the Radiogenic Isotopes Laboratory with **Clark Johnson** and **Brian Beard**, and have recognized systematic trends in $^{87}Sr/^{86}Sr$ ratios in lacustrine carbonate facies that are related to weathering and drainage patterns in the area surrounding Eocene Lake Gosiute. **Mike Smith** and **Brad Singer** also joined us in the field to sample tuffs for and NSF-supported project to establish a high-resolution radioisotopic geochronology of the Green River Formation. Mike and his undergraduate field assistant, **Nick Delebo**, took an early break from fieldwork to drive their $400 Subaru to Seattle to hear a concert that Mike thought was scheduled for June 31 (*Mike: "30 days have September…"*). They returned several days later, wiser for the experience.

Colin Walling achieved a major milestone by completing his MS thesis on the Permian Phosphoria Formation, and began his PhD on the same subject. Colin is looking at the origin of windblown dust (silt) deposited in offshore areas of the Phosphoria sea, and is getting some very interesting oxygen isotopic results in collaboration with **John Valley** and **Mike Spicuzza**. A new PhD student, **Martin Shields**, joined our group with plans to work on an extensive subsurface data set from the Java basin. Martin spent approximately 18 years in industry and has expertise in 3-D seismic interpretation and structural geology. He is currently helping us to get our Sedimentary Basin Visualization Laboratory up and running (with assistance from ExxonMobil and BP-Amoco).

Perhaps the highlight of last summer was two weeks of reconnaissance-level fieldwork in southern Alaska with **Marwan Wartes**, who was investigating possible PhD projects involving the Neogene uplift of the Chugach-St. Elias range and derivative deep marine sedimentary units. This was primarily a feasibility study, during which we learned several things: 1) there are plenty of really spectacular exposures that are virtually impossible to reach, 2) it is possible to walk hundreds of yards through dense alder without ever actually touching the ground, and 3) it rains a lot in southern Alaska. The low point came when our food box became contaminated with Coleman fuel, forcing us to beg at a nearby logging camp. We had briefly considered turning our 357-magnums on the local shore birds, but thought better of it. Fortunately, Marwan was able to develop an alternate project on the Fortress Mountain Formation in the much drier northern Brooks Range, to be supported in full by Anadarko Petroleum.

❖ Nik Christensen

This past year I began work on a new five-year NSF Continental Dynamics sponsored interdisciplinary study of an exposed crustal section of an early Jurassic island arc in South Central Alaska. The Talkeetna arc is one of only a few examples of exposed arc crustal sections. In the same way that ophiolite studies have provided an ideal counterpoint to both marine geophysics and analysis of mid-ocean ridge rocks in developing a complete picture of crustal accretion at oceanic spreading ridges, this geochemical and geophysical study of the Talkeetna arc will provide critical information on arc magmatism and crustal genesis.

I'm also involved in a new research program

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). (*See story on page 43*.) In March I began collaborating with Ilya Bindeman and John Valley on a study of $\delta^{18}O$ 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 $\delta^{18}O$. 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