

the locations of dozens of earthquake clusters associated with the 1995-96 eruption, showing an intense concentration of earthquake activity within a very small volume (less than 1 cubic km). Similar studies are underway for Redoubt volcano, Alaska, Mauna Loa volcano, Hawaii, and the Hengill area, Iceland. Former post-doc Charlotte Rowe and post-doc Shirley Baher worked on this project. I also obtained a new NSF grant to work on high-precision earthquake location in the New Zealand and Japan subduction zones. Post-doc Wayne Du and grad students **Xiaowei Yan** and **Haijiang Zhang** are working on this project. I continued my heavy involvement in managing the IRIS Consortium, including my final year of membership on the Executive Committee, Chair of the Nominating Committee, and as a regular member of the IRIS Board of Directors. I also finished my fourth year as an Associate Editor for JGR-Solid Earth. All this resulted in quite a bit of travel for me again this year, including three IRIS Executive Committee meetings and the annual IRIS workshop (for which I was the meeting co-organizer), two Department of Defense nuclear monitoring meetings, one trip to Parkfield, and a trip to the fall AGU meeting where my research group had six presentations.

### **Basil Tikoff**

It is only when you look back, do you realize how crazy one really is. Let's see, what happened in 2002? Well, two theses, six classes, and fieldwork on four continents later, I seem to still be standing. Barely.

Major achievements include the successful defenses of **Eric Horsman** and **Sarah Titus**, who both now have Master's degrees. Eric worked on the internal fabrics of sills in the Henry Mountains of Utah. Sarah did a combined geological and geophysical study of the Johnson Granite porphyry, in the geological center of the universe—the Sierra Nevada mountains. **Karoun Charkoudian** and **Selena Mederos** (co-advised by **Alan Carroll**) continued working on their Masters dissertations, combining gravity data and geological mapping. **Cheryl Waters** continued to work on her study of deformation of mafic granulites in the lower crust, exposed in central Australia. She saw the first publication from this work come out and presented the work at the Geological Society of America and a special meeting of the Geological Society of London. Closer to home, **Scott Giorgis** continues to work in the Salmon River suture zone of western Idaho. Lately, he showed that one of my ideas about the regional tectonics was completely wrong (paleomagnetism is an incredibly useful technique—thanks to Paul Kelso of Lake Superior State University for working with us), which I thought was great. **Stephanie Maes** has started a PhD on layered mafic intrusions in South Africa, co-advised by **Phil Brown** and myself. The two post-doctoral fellows—**Eric Ferre** and **Sarah Tindall**—both landed tenure track jobs and have moved on (to Southern Illinois University and Kutztown University, respectively).

The year did take me to South Africa, for a great fieldtrip co-lead by **Phil Brown** (see report elsewhere). The fieldtrip consisted of both undergraduates and, mostly, graduate students. There is an unbelievable amount of incredible geology in South Africa, and in a relatively small area. I also attended a Penrose conference in Switzerland in August and then visited **Tom Lapen's** field area in Italy (with **Clark Johnson**, his advisor). I was interested to see this area because Clark informed me the area was beautiful, the geology was fascinating, and there were espresso huts everywhere. Well, I'll have to take Clark's word for it, because it decided to rain and snow for the entire week (In August! In Italy!). So despite the fact that we worked there anyway, I didn't get to see the southern Alps in their

full glory. The last major boondoggle was going to New Caledonia over the winter break, getting Sarah Titus set up to do her PhD work on the ultramafic rocks there.

In terms of teaching, I had a great, but busy, year. With a little arm twisting, I convinced **Bob Dott** to give a series of guest lectures for History of Geological Thought. In fact, Bob called me his TA, which was pretty appropriate and there is no one I would have rather been the TA for (having said that, I forgot how much work being the TA is). It was definitely a highlight of my fall. I co-taught a class with **David Alumbaugh** on Potential Field methods which was, well, a learning experience for all involved. Still, I enjoyed teaching with Dave, who is masquerading in the Civil Engineering department, although we know he really is a geophysicist. In addition, I co-taught our new Introduction to Geological Structures course with **Toni Simo**. This class includes the becoming-legendary fall trip to the Black Hills. I am still amazed how much students learn in one weekend in the field (with some topography); and if the teaching evaluations are correct, the students are also impressed. Although teaching last fall was a little too much overall, it did make me realize something: I really like the University of Wisconsin undergraduates. What a bunch of smart and interesting young people. They are not whiners (with a few notable exceptions) and they almost invariably rise to the occasion. In fact, I can't really imagine any other group of students I'd rather teach.

### **John Valley**

Last year, I was heavily involved with a campus-wide effort to acquire an ion microprobe for the University of Wisconsin to be housed in Weeks Hall (see article elsewhere in the *Outcrop*). Our use of this instrument has continued to grow, both for stable isotope studies and geochronology.

Last summer, **Aaron Cavosie** and I traveled to Beijing to use the new Chinese ion microprobe. In the past two years, my students and I have also traveled to UCLA, Stanford, Ottawa and Edinburgh for beam time. In Beijing, Aaron and I dated detrital zircons from Western Australia, continuing work started with **William Peck** (PhD 2000). We found one crystal with a 4.33 Ga core, the third oldest known from Earth. After completing 125 hours of analysis, we traveled with Chinese and Australian colleagues to Inner Mongolia to collect granites from a poorly known



*Geology 916 students prepare to descend into the Yellowstone Mine, near Red Lodge Montana. From left to right: Cory Clechenko, Jade Star Lackey, Prof. CS Wei (University of Science and Technology, Hefei, China), unidentified platinum miner, Joyashish Thakurta, Aaron Cavosie, Melissa Harper, and Beth Valaas. (photo by John Valley)*