



*Kyle Roberts, Haijiang Zhang and Karl Rittger installing the last real-time telemetered seismic station for Cliff Thurber's seismic field project near Parkfield, CA. Photo by Neal Lord.*

with a study of the timescales of arg magmatic processes through a study focused on Puyehue volcano in the southern Andes of Chile. Finally, so that I can continue to maintain these diverse activities in the lab, **Kyle Min** (PhD UC-Berkeley) was offered the new Assistant Scientist position and will become the lab's manager in 2002.

#### ❖ Clifford Thurber

I had a busy and exciting year in 2001. Our seismic field project around Parkfield, CA continued and expanded this year. Over the summer, we enlarged our real-time telemetered seismic array from 15 to 59 stations, all within about 10 km of the San Andreas fault zone drilling site. Drilling for a 2-km pilot hole will begin in late spring 2002, to be followed by a series of active-source seismic experiments aimed at setting the stage for drilling the main fault-crossing hole ("SAFOD") as part of the Earthscope project. In the meantime, we are refining our 3-D model of the seismic velocity structure around the drill site, and are steadily improving the accuracy with which we can determine the location of a cluster of small earthquakes (magnitude about 2) that are a target of the SAFOD drilling. Lee Powell, grad student Kyle Roberts, and new post-doc Shirley Baher are participating in this project. In the fall, we wrapped up a three-year nuclear explosion monitoring (CTBT) project and immediately started in on a major new CTBT project, involving post-doc Charlotte Rowe, grad student Haijiang Zhang, and Assistant Scientist Bill Lutter. My volcano seismology research continued along two fronts. The initial phase of our study of the deep structure of Kilauea volcano's East Rift Zone is complete, with one paper published in GRL and an MS thesis completed by Megan Mandernach this year. Work on Kilauea velocity and attenuation tomography is being continued by grad student Samantha Hansen. The other volcano seismology project, on high-precision location of volcanic earthquakes, is being

led by Charlotte Rowe. She has produced dramatic improvements in the determination of the locations of numerous earthquake clusters, each with dozens to hundreds of similar events, at the Soufriere Hills volcano, Montserrat, and is completing similar work for Redoubt volcano, Alaska, and Mount Pinatubo, the Philippines. Charlotte and I also obtained a new NSF grant to work on high-precision earthquake location in the New Zealand and Japan subduction zones. I continued my heavy

involvement in managing the IRIS Consortium this year, including my membership on the executive committee, participation on the instrumentation subcommittee, and as a regular member of the IRIS Board of Directors. I also finished my third year as an associate editor for *JGR-Solid Earth*, and was just reappointed for another three-year term. All this resulted in quite a bit of travel for me this year, including three IRIS executive committee meetings and the annual IRIS workshop, two Department of Defense CTBT meetings, two lengthy trips to Parkfield, and a trip to the fall AGU meeting where my research group had six presentations. Another major highlight of the year was a successful faculty search in seismology, which brought Richard Allen to Madison in January 2002.

#### ❖ Basil Tikoff

It has been a busy year for structural geology. The highlight was probably the combined sedimentology/structural geology fieldtrip to the Pyrenees last spring. With Toni Simo's expert guidance (both geological and gastronomical), we saw some great geology and enjoyed ourselves.

Research keeps going along. **Cheryl Waters** (PhD candidate) put in another field season in central Australia, looking at deformation of lower-crustal granulites. The project on a mid-crustal plate boundary exposed in western Idaho, worked on by **Scott Giorgis** (PhD candidate), is also going well. I can't say I particularly enjoyed, at the time, carrying all the 40 lb. water containers and the rock drills up the mountains of Idaho with Scott. However, writing this in Madison in winter (Winter? Is this really winter?), I want to head back to Idaho. I hear that they at least have snow there.

**Eric Horsman** decided to work on intrusion of laccoliths in the Henry Mountains, Utah, for his Master's dissertation. I believe that the Henry Mountains were the last mountain range named in the lower 48. Regardless,

I do not recommend fieldwork in July there unless you are lizard-like. **Selena Mederos** (MS candidate) is continuing her geophysical work on uplifts and basins in the Utah-Wyoming area, having completed her fieldwork last summer. **Sarah Titus** (MS candidate) decided to do a combined gravity, magnetic, and structural study of some shallow-level plutonic bodies that intrude shear zones in the Sierra Nevada mountains in California. It was fun to wander around the old stomping grounds (I did my PhD research there). **Ryan Clark** is also working on the rocks from the Sierra Nevada as part of his undergraduate senior thesis. **Karoun Charkoudian**, recently graduated from John Hopkins University, is planning to work in the upper Midwest for her Masters' project.

The two new postdoctoral fellows—**Eric Ferre** and **Sarah Tindall**—continue to make the lab a vibrant place to be. **Eric Ferre** is helping out with several of the student projects that use the Anisotropy of Magnetic Susceptibility technique. **Sarah Tindall** is continuing with field research in the western United States and physical modeling.

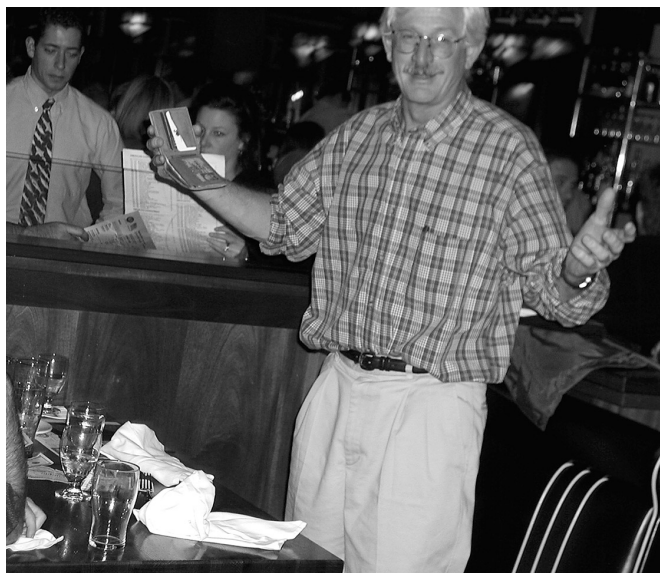
I was able to travel multiple times last year, including Europe three times: For the European Union of Geoscientists in Strasbourg last spring (I was co-convening a session), Spain for the Pyrenees field trip, and the Czech republic where I was a lecturer for a pan-European one-week summer school. I have to admit that a vacation would be just sitting around home for a week. It won't happen anytime soon.

#### ❖ John W. Valley

2001 was a busy year for me. It started with the Jan. 11 publication of my paper with William Peck (UW-PhD 2000) and others on the now famous 4.4 Ga zircon from the Jack Hills of Western Australia (see last year's *Outcrop*). As attention from the science paparazzi died down to an acceptable level, Peck et al. published a second more detailed paper. A third paper by Valley et al. will appear in *Geology* (April 2002). In June, new graduate student, Aaron Cavosie, and I started an expanded project in the Jack Hills with a month in the outback. The high point was collecting 3.0 Ga quartzites that contain the oldest samples yet identified on the Earth. The low point was getting three flat tires on the same vehicle, on the same afternoon, 50 km from the nearest building with a roof.

I spent much of last year editing and writing a new book on Stable Isotope Geochemistry that was published by the Mineralogical Society of America last November. This volume updates the previous MSA volume on the same subject I edited in 1986.

Publication coincided with a short course just before the Boston GSA meeting which was a big success, and



*Lawford Anderson seems perplexed. Read John Valley's report below to find out why. Photo by Dave Mickelson.*

was attended by 80 scientists, including a number of geo-Badgers: Richard Alley, Ilya Bindeman, Aaron Cavosie, Cory Clechenko, Steve Dunn, John Eiler, Liz King, Matt Kohn, Jade Star Lackey, Stephanie Maes, William Peck, Greg Roselle, Pat Shanks, Joyashish Thakurta, and Julie Vry.

At the GSA meeting, I also had dinner with three incorrigible geo-B's: Charlie Guidotti, Lawford Anderson, and Darrell Henry. The first announced that he had a secret that he would not divulge, while the second agreed to pay, but lost his credit card through a crack in the floor. The ensuing disruption was photographed by Dave Mickelson who conveniently was at a nearby table. This event occurred *before* the Wisconsin alumni cocktail gathering.

I did not learn the dinner secret until the next day at the MSA business meeting when it was announced that John Eiler (UW-PhD 1994) will receive the MSA Award in 2002. This highly prestigious award goes to one person a year for scientific achievement before the age of 35. The list of past awardees is truly impressive.

#### ❖ Herb Wang

In last year's *Outcrop* I described how sponsorship by BP arranged by Jay Nania enabled me to attend a conference of the National Association of Black Geologists and Geophysicists. This led me to propose a summer session forum on Environmental Justice. With lots of help from Barbara Borns in IES, the course was a big success. The eight-lecture series brought together approximately 100 students, staff, and faculty from the university together with participants from the community. The