

precise isotope thermometry. The metamorphic temperatures will restrict conditions of partial melting and genesis of the Harney Peak granite (Mt. Rushmore).

Two students are finishing their PhD's and are on the job trail this year. **Jade Star Lackey** has created the largest and most comprehensive isotope data set for rocks of the Sierra Nevada batholith. At GSA, he reported that depths of intrusion can be inferred for individual plutons by analysis of $\delta^{18}\text{O}$ in coexisting titanite and zircon. **Aaron Cavosie** published a large paper in *Precambrian Research* last year reporting ion microprobe measurements he made in Australia and China to date 4.4 to 3.8 Ga detrital zircons from the Jack Hills. There are now over 100 zircons in this sample set (vs. 5 in 2001) allowing Aaron to resolve and discuss individual events on the earliest Earth for which there is no intact rock record.

Beth Valaas completed her MS on contact metamorphism of the Biwabic iron formation of Minnesota. She has conclusively shown that a systematic increase in oxygen isotope fractionation away from the Duluth Complex is controlled by retrograde diffusion, cooling rate and grain size. This is an elegant demonstration that apparent thermometry actually represents geologic speedometry.

I was elected to the position of Vice President of the Mineralogical Society of America last year. This is a responsibility and an honor following a long department tradition (see p. 13).

HERB WANG

My year was a mix of rock physics, underground science workshops, environmental justice, and college administration. In February I gave an invited talk at a Lawrence Berkeley Lab symposium in honor of Paul Witherspoon. I addressed the topic of predicting the nature of saturation (patchy or homogeneous) from elastic properties. The modeling was based on the evaporative drying model developed by former PhD student **Tyson Strand**. In March I gave an invited colloquium talk to the civil engineering department at LSU. While there I (and Rosemary) encouraged **Dante Fratta** to apply for a position in the GLE program where he is now a faculty member with affiliate status and an office in our department. I have gotten Dante interested in doing some electrowetting experiments on rock surfaces. Welcome, Dante!

While in Louisiana, Rosemary and I visited several important environmental justice researchers and activists in "Cancer Alley." I will be leading a 2005 spring break field trip



Herb Wang in the Kimballton mine near Blacksburg.

there. In summer 2004 project assistant, **Martha Boyd**, an IES graduate student and I taught a three-week summer field course for a second time. Four high school teachers were in the group, including alum **Joe Tiller** who now teaches at Verona High. In the fall semester Martha was in residence at People for Community Recovery in Altgeld Gardens in Chicago as a quasi-staff member. UW-Madison and several other institutions partnered with PCR in obtaining an EPA grant for environmental justice activities. You can read more about my environmental justice work at my website www.geology.wisc.edu/~wang/EJBaldwin/.

I have continued to participate in workshops for a possible physics and earth science, deep underground science and engineering laboratory (DUSEL). I attended workshops in Berkeley, Blacksburg, and Boulder. The latter two trips included mine tours.

Other activities during the year included spending a week at Lawrence Livermore Labs in the summer to work with UW physics alum **Jim Berryman**. In the fall I served on the Hydrologic Sciences Panel at NSF as well as an Intercontinental Scientific Drilling Program panel at the DFG (Germany's NSF) in Bonn. Parts of the meeting were conducted auf Deutsch. My high school German from four decades ago was not up to the task.

I am continuing my appointment as associate dean for natural sciences where one of the major issues is funding startup packages for new faculty. Establishing a new laboratory is ever more competitive and costly.