

FACULTY NEWS 2002

Richard Allen

Professor Allen's report is published on preceding pages.

Mary Anderson

The year 2002 was a year of transition as I began a three-year term as Editor-in-Chief of the journal *Ground Water* in January, completed my term as department chairman in June, and rotated off GSA's Council in October. A colleague warned me that it would take about three months to "decompress" from being department chairman and this proved to be true. A bumper crop of students finished in 2002. **Yu-Feng Lin** completed the PhD in Geological Engineering and started a job at the Illinois State Water Survey in Champaign. **Tina Pint** finished the MS (co-advised with **Randy Hunt**) and is at Barr Engineering in Minneapolis. **Tim Eaton** finished the PhD (co-advised with **Ken Bradbury**) and is currently finishing up other projects at the WGNHS. **Wes Dripps** and **Paul Juckem** are on track to finish in 2003, while new students **Raycine Hodo** (BS, Smith College), **Rahul John** (MS, Univ. of New Orleans) and **Chris Lowry** (BS, Pacific Union College) arrived in September.

I taught the contaminant transport modeling course in the spring and a graduate seminar in the fall. Randy Hunt helped us out by teaching 627 (Introduction to Hydrogeology) while Jean Bahr took a sabbatical and I tended to my editorial duties. Foreign visitors to the hydrogeology program in 2002 included Professor K. Fujinawa (Nagano, Japan), Professor C. Tang (Chiba, Japan), and Professor H. Klempe (Norway). I took Prof. Fujinawa along to Egg Harbor, Wisconsin, in Door County in May where I helped convene a very successful workshop sponsored by the National Research Council's *Committee on Hydrologic Sciences* (see picture). The topic was "Groundwater Fluxes across Interfaces". Ken Bradbury, **Randy Hunt**, **Jean Bahr**, and **Yu-Feng Lin** also attended the workshop. In addition to stimulating scientific discussions, we were treated to wonderful Door County sunsets.

Yu-Feng, Tina, Tim and I went off to the ModelCARE conference in Prague in June, where all three of them presented papers, allowing me to sit back and bask in the reflected glory of their success. The conference was carefully timed to occur before the terrible floods that devastated the city later in the year. I had an opportunity to travel to Snowbird, Utah, in October for an excellent workshop on transboundary aquifers. The workshop included

about 60 water specialists including some 30 lawyers! The discussions were fascinating but after two days at an elevation of 8000 feet, I was feeling a little strange and was very glad to return to a more sensible altitude. The year ended up with a trip to Las Vegas for NGWA's Expo. I hadn't been to an Expo in 10 years but made the trip this time in my role as Editor-in-Chief of *Ground Water*. I attended committee meetings related to the journal and also attended the excellent technical sessions run by AGWSE. Kudos to the technical session co-chairs Dave Rudolph and HydroBadger **Bill Woessner**. Other trips in 2002 included Traverse City, Michigan, in July for a conference on transboundary water issues and to Denver for GSA where I re-united with many HydroBadgers at the department's alumni party.

Jean Bahr

My group of talented graduate students remained at the steady number of five in 2002. **Kristin Anderson** completed her thesis in the summer and is now working in Oregon. She was replaced by **Hilary Gittings**, who came to Madison in the fall after completing her undergraduate degree at Carleton. **Tara Root's** study of arsenic contamination received funding through the WI DNR to drill a 300-foot rotosonic borehole through the glacial deposits. The core from this hole is providing useful data on arsenic concentrations as well as a valuable record of Pleistocene stratigraphy. **Ingrid Ekstrom's** monitoring results from our Fort McCoy research site were presented as a poster at a bioremediation conference in California and in an oral presentation at GSA. **Jeff Wilcox** has now collected over a year's worth of background data at the site of a new unsewered subdivision that will be used to assess impacts of conventional and novel septic systems on groundwater. **Abby McDermott's** transect through an undisturbed wetland has revealed the importance of shallow hydrostratigraphy in controlling water levels and water chemistry, both of which likely contribute to observed vegetation

gradients.

The National Research Council committee on the Everglades kept me busy with periodic meetings in Florida and Washington DC. We put out two reports this year and are in the process of revising a third that should come out early in 2003. Additional trips to DC were courtesy of EPA, NSF, and DOE panels. I also had



Participants in the National Research Council's Workshop on Groundwater Fluxes across Interfaces, Egg Harbor, Wisconsin, May 2002. Front row, left to right: John Wilson, Chris Duffy, Henk Haitjema, Anita Stanley, Jean Bahr, Bridgit Scanlon, Chris Milly. Second row: Randy Hunt, Guido Salvucci, John Selker, Leslie Smith, Bill Woessner, Katsuyuki Fujinawa, Yu-Feng Lin. Back row: Mike Dettlinger, Stacy Howington, Matt Rodell, Don Siegel, Ken Bradbury, Charles Anderson. (photo by Mary Anderson)

the opportunity to visit the University of Idaho as part of a review team.

On the home front, my solar roof generated more electricity than I used in 2002. This may have partly been the result of my 4-week absence in August for a vacation safari in East Africa. This included a flight by small plane down the axis of the Kenyan portion of the rift valley and a climb up Ol Doinyo Lengai, an active carbonatite volcano in Tanzania.

Next year promises even more travel as the 2003 GSA Hydrogeology Division Birdsall-Dreiss Distinguished Lecturer. The opportunity provided by the lectureship to visit with researchers and students throughout the country made it an attractive way to spend the spring semester of my year-long sabbatical. I gave a "preview" lecture in Madison in November and am scheduled to visit about 40 institutions between January 6 and May 15 (see www.geology.wisc.edu/~jmbahr for abstracts of the talks and the schedule). Part of the tour will be by car, and that will be a good test of my hybrid Prius. I'm looking forward to seeing many of my former students and other UW alumni during these travels.

Phil Brown

The last couple of years have been busy and rewarding for my students, my family, and me. I apologize for missing last year's *Outcrop* and will try to catch up here.

Beginning in the fall of 2000, two graduate students **Stephanie Maes** and **John Marma** have been breathing life into the Economic Geology program. Stephanie came from New Mexico Tech and undertook a stable isotope study of tungsten mineralization in the Pine Creek area of the Sierra Nevada Mountains for her MS thesis. (Long-time readers of this newsletter will remember that I did my PhD thesis on the Pine Creek tungsten mine 25 years ago—this was a sentimental return to rocks near and dear to my heart.) This study was completed last summer and Stephanie has begun an exciting combined geochemical-petrologic-structural-geophysical study of a layered complex in South Africa (see the field trip report elsewhere in this *Outcrop*).

John Marma arrived in Madison via North Dakota and fresh from a Fulbright year in Austria and undertook a detailed microscopic/micro-probe study of precious metal mineralization in the Duluth Complex in Minnesota for his MS thesis. This work was completed last fall and is in publication. Happily for me he is also continuing on for a PhD and is also working in South Africa undertaking a geochemical-petrologic study of gold mineralization in the Barberton Greenstone belt.

That is the scientific good news—I personally have been deeply involved in University level committee work for the past 2.5 years. I am currently the Chair of the University Committee that is the executive committee of the Faculty Senate. The weekly multi-hour meetings are occasionally tedious but overall very satisfying as I know that this is a group that deals with important issues that are fundamental to maintaining the academic integrity and freedom of the faculty—two of the cornerstones of a great university.

The family is fine although milestones continue to creep up and pass by at an alarming rate. Kris is still the librarian at Memorial High School and couldn't ask for a better job. Jason is now a senior (!?) at Carleton College and will graduate this spring as a Computer Science major. Peter is a freshman at Grinnell College also with a strong interest in computer sciences. Karin is a high school junior and the college search has begun. All three of these very 'unshort' young adults are still avid and successful swimmers and Kris and I have enjoyed traveling the Midwest to support them and their teams.

Best wishes to all and hopes for a peaceful and successful new year.

Charles W. Byers

In the spring, for the first time ever, I got to teach mineralogy and petrology, the soft-rock parts, anyhow. **Phil Brown, Brad Singer, Basil Tikoff**, and I all chimed in on the new majors course, Earth Materials. Minerals and rocks taught together, and with emphasis on those that students actually will encounter: Quartz Rules!

This year saw the completion of **Chris Ott's** Master's thesis and the beginning of **Steve Beyer's**. Chris analyzed a ceratopsian dino skull collected in the Hell Creek of Montana by UW Geology Museum field workers. It turned out to be a rare find, especially in terms of biogeography. Chris, who has worked in the museum throughout his college and grad career, identified the fossil as *Leptoceratops gracilis*, one of only a dozen or so known. All the other specimens are from highland paleoenvironmental settings, next to the rising Cordillera. The UW skull was deposited in lower alluvial plain/delta sediments near the Cretaceous Interior Seaway. Chris's dino-partner **Lisa Buckley** also completed her work this year, a senior thesis on vertebrate microfossil paleoecology (the second thesis project Lisa did as an undergrad). Chris and Lisa are off to South Dakota for more grad schooling in the land of Mesozoic reptiles.

Steve Beyer is doing a stratigraphic study of the Galena Formation in the vicinity of Decorah, Iowa, as part of our ongoing project on Ordovician carbonates. The Galena rocks are incredibly monotonous, scores of meters of burrowed wackestone, with the occasional reward of a shell bed or a *Receptaculites* to brighten the geologist's day. Steve's work will give us a framework for further studies of the geochemistry of the thin bentonite beds, as **Norlene Emerson** has recently completed (Simo PhD, '02) for the underlying Decorah.

At home, Becky and I passed the 20 year milestone this past fall. Last summer we took the kids out west to see Mesa Verde, Four Corners, Canyon de Chelly, Santa Fe, Sand Dunes, and the Front Range.

"Look, guys, it's the Dakota Hogback!"

"Sure, Dad. Could you turn the PlayStation back on?"

Alan Carroll

Last June I was officially voted to tenure by the UW Regents (the last step in a lengthy process), and during the fall semester I began my first sabbatical. I've chosen to spend most of my time so far in Madison (but mostly not in the department) catching up on writing, reading, and generally trying to do the things I never seemed to have time for previously. I'm also trying to continue riding herd on my somewhat unruly group of 8-9 graduate students, the majority of whom are working on PhDs. Another milestone last year was the graduation of my first PhD student, **Meredith Rhodes**, who began a job with BP in Houston. She promises not to forget her old friends in Madison as her new salary begins to roll in (we'll see!). Her dissertation was on the stratigraphy and Sr-isotopic composition of the Laney Member of the Green River Formation, and included a rewarding collaboration with **Clark Johnson** and **Brian Beard** of the UW Radiogenic Isotopes Laboratory. In addition to her duties involving the Gulf of Mexico, Meredith has already begun to establish herself as a company expert on lacustrine deposits. In late October Meredith, **Jeff Pietras**, and I led a GSA fieldtrip to the Green River Formation, focusing on the Laney and Wilkins Peak members. The trip enjoyed record attendance, and along with five presentations at GSA helped to cement our reputation as one of the leading research groups working on the Green River Formation. Despite the considerable weather risk involved with a late October trip in Wyoming, we were generally able to part the clouds and snow long enough for the participants to get a good look at each of the stops.