CONTACT

Department of Geology and Environmental Science
Alumni Newsletter
January 2009

Volume 18, No.1

January 2009

CONTACT

THE ALUMNI NEWSLETTER OF WHEATON COLLEGE'S DEPARTMENT OF GEOLOGY

Inside this issue:

When I consider Your heavens, the work of Your fingers,

The moon and the stars, which You have ordained;

What is man that You take thought of him,

And the son of man that You care for him?

~ Psalm 8:3-4

CHANGE IS COMING! NOTES FROM THE CHAIR

Who has not heard *that* phrase over and over again during the recent election season? Well, change *is* coming to the Geology Department and the entire Science Division at Wheaton College! On October 3, 2008, ground was broken for the construction of a new Science Center that will greatly enlarge and improve the resources for science education and research at Wheaton. Fundraising for the Science Center is still in progress, as well as for student-faculty summer research, merit scholarships, and a new mentoring faculty position (see page 9). Naming opportunities for these projects exist. If you have already participated in the campaign we do appreciate it very much. You can learn more about the Promise of Wheaton at www.wheaton.edu/promise/initsciencesfac.php. There you can also look at architectural plans and see the groundbreaking ceremony.

The Geology Department moved into Breyer Lab after it was built in 1955. The story I heard is that Doc Wright recommended to architects that the attic of the building be pushed out to make space for the new independent Geology Department. That may explain why there are so few windows up here. Yet for five decades we have been providing a quality undergraduate education to geology majors in little more than two labs, one lecture room and a few smaller rooms for seminars, computers and equipment and specimen storage. The new space will have the following facilities dedicated to particular curricular objectives:

- Spacious lab for physical geology with specimen displays and demonstration equipment (big enough to also accommodate lectures for many of our general education classes)
- Teaching lab for petrology, mineralogy and structural geology courses
- Teaching lab for geochemistry, soils, hydrogeology and climate change courses with adjoining research room for analytical equipment (X Ray Diffraction, Cathodoluminescence petrography, Raman spectrography, etc.)
- Teaching computer lab for geographic information systems and numerical modeling courses
- Teaching lab shared with Environmental Studies for other classes
- Four faculty research rooms, two student project rooms
- Seminar room shared with Environmental Studies
- Department office with space for project work
- Specimen storage corridor between teaching labs
- Spacious rock preparation lab with saws and laps, sedimentation flume and core storage
- Natural History museum for geological displays
- Rooftop deck for atmospheric, alternative energy and sustainable development experimentation
- Outdoor prairie "landscape" with large rock specimens.

Dean Dorothy Chappell made sure that departments were part of the planning process for the new building, right down to the number and location of electrical plugs. It really has been an exhausting process that began over five years ago! We appreciate her efforts to demonstrate that the future of the sciences at Wheaton depended on improved faculties. We are grateful that President Litfin and the College Board of Trustees have provided leadership for the completion of this remarkable project. Finally, we are blessed to have such a capable Campus Architect, Bruce Konigsburg, who has guided the design of the building and the grounds.

Architect's rendering of the new science building

S.O. Moshier

Jeff's Journal by Jeff Greenberg

We have been a bit on the lazy side in making you wait for this, but the news is meaty-well worth it.

I am about half way finished with year 23 at Wheaton. Before this great journey, I spent 9 years at the Univ. of Wisconsin in Madison as researcher with the state Geological Survey. Some days all the time as a post-doctoral professional seems almost eternal, and on other consideration it really must have blasted by with shocking speed. It's a good thing there are wonderful mileposts standing to give a proper impression of the Wheaton years. You, very dear alums are the standards by which we can keep perspective. Your e-mails, letters (remember those?), calls and visits are always a delight for us. Two occasions just past more deeply impress your significance on me/us. The Black Hills Breakfast this fall brought out some folks not seen in way too long. Strong affection between instructor and formal student isn't universal but it is more the rule for Wheaton Geology. Following the breakfast the same blessing came over the next few days in Houston at the GSA annual meeting. Among the alums present were **Leon Long ('54),** emeritus geochemist-petrologist at UT in Austin, **Ken Wolgemuth ('65),** busy in new ventures in Oklahoma (read about him in the alumni section), **Gregg Davidson ('85),** chemical hydrogeologist at Ole Miss., **Lindsey Christiansen Henry ('04)**, completing her PhD at Univ. of Wisconsin-Milwaukee, and **Andrew Kulpecz ('02),** just installed at Chevron in Houston after finishing his doctorate at Rutgers.

Dr. Greenberg explaining a field mapping exercise at the Science Station.

The Science Station this last summer hosted 10 Geology majors for their field camp. We are quite proud (is that Christian?) of the WC summer program for geostudents. Over the last decade or two while the number of geoscience majors in the USA took a dive, field courses were a general casualty. Many summer programs were either abandoned or greatly diminished. Now we see the rebirth of a strong market for well-trained geologists. Field work is one of the cardinal virtues mentioned by employers desiring quality hires. We find the department currently has one of the truly premiere summer programs. I may be biased, but this is probably no exaggeration. 2008 was unique in that we had three geologists teaching over the eight-week schedule. I was again honored to lead the five weeks of geologic mapping. Before me came two weeks of field methods, taught by the most-brilliant **Lauren Powell Heerschap ('01).** The last week of camp, the "big bonus" we call it, offered the Western Trip to Yellowstone, Tetons, and Bear Tooths (teeth?). This time, that master of minerals, **Jeremy Vaughan ('99),** played the role of trip leader. He survived the 10 and the rigors of responsibility to complete a fine experience for all. It is a remarkable feeling to witness your students as they begin the process of doing you out of a job. These two were not the only Geology alums teaching with us this summer. **Joel Moore ('99),** was back again to teach intro geology for gen.ed. students. Joel is Dr. Moore now after writing a splendid dissertation at Penn State.

Jeremy Vaughan, Western Trip

One fine, hot day after completing the field work for the Bear Butte geological map earlier in the week, the 10 plus one drove to Owanka, to check out the possibility of finding any sign of South Dakota's greatly-coveted golden barite crystals. These beauties occur as groundwater replacements in fossil-bearing Pierre Shale concretions. Yes, we did. One student uncovered a huge fertile concretion near the local road. After an hour or so of sweaty digging we got lots of pieces out, including one big, heavy "potato." In total, probably several hundred dollars worth of barite were extracted by the crew. The discoverer took home a prize chunk with many 4-5 inch crystals grown in a spray. Come visit the department and see this and other goodies we've managed to collect for a new museum.

On campus, student scholarship "beyond the classroom" is taking place in two particular areas with my supervision. One student pair is attacking the rigors of learning about Raman spectrometry used in mineralogy/geochemistry. The department now has a portable Raman unit and needs toil to calibrate and troubleshoot its capabilities. **Gabe RiCharde ('10)** and **Bryn Hendricks ('10)** together are slowly conquering the demons of the instrument with hopes of accuracy and precision. I am also beginning to lead another pair of geology majors as apprentice museum curators. **Peter Brice ('11) and Dan Alle ('12)** will learn particularly about the care and display of rocks, minerals, fossils, instruments, etc. as we prepare for the move into Wheaton's new Science Center. Perry Mastodon will find wonderful new housing surrounded by our natural history displays.

Other than the above, I can say that being on the college's Faculty Personnel Committee is time consuming for me, but it's good to serve the institution. Committee work and administrative duties sure do cramp the desire to innovate in teaching and attend to research. A lighter observation is that wife Diane and I are now going on two years living only two blocks from campus. This makes socializing and offering hospitality a snap. I hope some of you will consider coming to Wheaton and visiting with us. There is often an empty guest room waiting. Of course, the Black Hills is there for you during a summer visit.

GSA Meetings by Jeff Greenberg

The Houston GSA conference afforded me important opportunities to preside at the best-attended gathering of the Affiliation of Christian Geologists ever (my tenure as President ends next year). The organization is open to anyone that wants to join us on an Internet listserve with the addition of annual meetings at GSA and the ASA (American Scientific Affiliation). ACG Houston fellowship was spiced by a fine discussion of global climate change and our Christian response. This year we were also treated to the company of some Christian soils scientists and agronomists, as the Houston venue was a broader combination of earth scientists than usual. Two good ACG friends and I gave oral presentations of published abstracts at a GSA session, *The Historical Influence of Religion on Geology and Geology on Religion.* My contribution departed from the typical record of "evolving" ideas about age of the earth, etc. and featured the foundation of faith as instrumental in getting geoscientists to serve people and environment across the globe. Also of note is a session held early in meeting to assess the current critical shortage of professionals in resource industries. Petroleum and mineral industry executives and government scientists spoke of the dire need for a junior management-level work force to meet the demands of the world's unprecedented resource boom. I personally see tremendous potential for small, liberal-arts geology programs such as our own as sources of the highest quality candidates in cultivation for employment. Traditionally, companies have only sought to recruit post-grad students and tender them scholarships and internships. I made the public comment that failing to partner with exceptional undergrads (our people) was a huge mistake costing industry as these people often are lost to other vocations. I think we will follow up on this concept and see if liberal arts colleges like Wheaton can lobby for some of the major funding more often provided by corporations to larger schools with graduate programs. If you have any ideas that might help this challenge, please contact us.

Last spring's North-Central GSA meeting was attended by four of us, myself and three department majors. I can report that two of my young colleagues who went to Tanzania, during summer 2007, **Brandon Lewis ('08)** and **Nathan Williams ('09)**, were my co-authors on a poster-abstract describing a very interesting calcrete deposit from the gem fields of northern Tanzania. I took the occasion of the NC GSA to volunteer Jim Clark and myself as co-conveners for the 2009 NC GSA in Rockford in a session on international development via geoscience expertise. This theme is an extension of the Houston talk and probably summarizes about 75% of my present direction in the department. The last issue of CONTACT outlined my vision for a geoscience-based training program for undergrads in global development projects. Unfortunately, the proposal, which was sent to the National Science Foundation for funding, was declined. I prayed about refining and resubmitting the proposal but decided not to. It would have educated good people for good works, brought nice "overhead" funds to the Science Station as host and brought excellent notice to the college. I have not given up on this concept but am trying to recast it for submission to other granting organizations that may be more sympathetic to its practical philosophy. The Program summary in NSF form is below.

Project Summary REU Site:"APPLIED GEOSCIENCE RESEARCH AS TRAINING IN INTERNATIONAL COMMUNITY DEVELOPMENT" *Jeffrey K. Greenberg, Principal Investigator; Wheaton College (Wheaton, IL), with Taylor University, and Baylor University. Location: Wheaton College Science Station, Black Hills, SD (Fields: Geoscience, including hydrogeology, applied geophysics, soils and geotechnical evaluation, industrial minerals, energy systems). An ideal cadre of sixteen students is envisioned (2X8 in teams) during ten summer weeks. Selection criteria include primarily liberal-arts geoscience and other related majors with a desire to gain practical expertise in research for global service. Underrepresented groups such as Native Americans from the nearby region are desired.*

The foundation dug for the new science building. Looking from the Beamer Center and Coray Gym toward Jenks.

<u>Activities (objectives and methods):</u>

The program (ten weeks) will be modular, in that participants move through the schedule together in weeks 1 and 10 and are in teams of eight from weeks 2-9 (divided into two-week sessions, A-D). The overall objective is to provide basic orientation to global development work (philosophy, research planning, cross-cultural issues, etc.) and then to exercise applied-technology research in four critical areas: A) Groundwater hydrogeology-exploration (includes geophysical techniques), exploitation and storage; B) Sanitation under varying conditions; C) Indigenous building materials/technology (resource analysis and "brick" fabrication under varying conditions); D) Village-scale energy systems (wind, solar, hydro, biofuels, etc.). Upon program completion, participants will be enabled to make internship placements with organizations devoted to international development work.

*<u>*Broader Impacts:</u>*

- *To train young scientists as trainers, managers, and facilitators for the tremendous global needs in relief and especially development projects (in light of recent natural disasters, the geological-resource boom, and rapid climate change).*
- *To uniquely claim development projects for their relationship to geology (in comparison with engineering, life sciences, and social sciences).*
- *To recruit gifted undergraduates, including minorities (who might seek fulfillment in other disciplines) into geoscience graduate programs and careers.*
- *To provide a rich environment as research-training base which coordinates the activities of students, instructors and guest experts representing a broad spectrum of academic and cultural affiliations.*

Geology Office News by Jamie Selander

My experience as an instructor along with Gary LaVanchy ('98) and Lisa Heidlauf for introductory geology lab last year was wonderful; it's always a joy to interact with Wheaton students and a pleasure open their eyes to geology. Gary and Lisa have a passion for students that shines through in their labs. Students this semester are fascinated with the new Emriver stream table purchased for the department over the summer, and we have been able to simulate river features and even floods that were beyond the capability of our previous table.

Student Gabriel RiCharde '10 working on the new Raman Spectrometer.

In preparation to the move to the new Science Center that the campus is buzzing about, this year I began cleaning out the department closets with the help of student workers in the hope of minimizing the amount of file cabinets, map holders, and specimens that is the Geology Department legacy. The first to be tackled were the old historic geology files which included student papers dating from the late fifties, pictures of field trips from the early sixties, correspondence between faculty members Drs. Block, Boardman, DeVries, and Haddock, and equipment manuals from the fifties (a few of which are still in use). It was fascinating to read through the old files and catch a glimpse of our past, though it took a good week to clear my office of the smell generated by mimeograph paper. Bryn Hendricks ('10) is working this semester to sort through our old maps, some of which are from as early as 1896, and organize them into more easily accessed drawers.

This past summer my husband Nic and I traveled to Tokyo, Japan to visit with his family. It had been five years since he was last home, so it was great to visit and spend time in the city. We traveled to Mt. Fuji one day but found it covered in cloud.

Development and Wheaton by Jeff Greenberg

Every other year since 1993, I have led or co-led a semester-long seminar course titled, Appropriate Technology, Development and the Environment. I taught the seminar in spring of '08 with only six students; however thanks to some promotion and a friend from Wheaton's Intercultural Studies grad program, I offered it again this semester and have 21 students. Among these folks are four grad students and mostly Geology or Environmental Studies majors. Along with other classes, such as GIS, the ATD&E seminar ought to become core components in a growing Global Studies curriculum. Together with much reading of pertinent articles and discussion of issues, the seminar strives to conceive real solutions applicable to real problems. Some of the issues selected include:

- Geology practiced in the exploration for water resources,
- Water treatment and source protection,
- Land-use practices that benefit both conservation of precious plant-animal life and the indigenous people nearby,
- Mining-related concerns of economic justice and human/ environmental threats,
- Energy technologies appropriate to various living conditions,
- Case studies from Rwanda and Central Asia,
- Formulation of a training program for students going into development work,
- The partnership plan for long-term development in a Kosovar village, and
- Strategies for production and marketing gemstone products out of Tanzania.

Appropriate Technology, Development and the Environment class with 21 students.

The last two topics are among active projects involving our students and myself in the combination of international service with academic research. In addition to the Tanzanian and Kosovar connections, Jim Clark and I are working with Christian environmental consultants to build a partnership in Haiti. If all goes well, (prayers greatly appreciated) I ought to be supervising four of our majors over spring break 2009 in structural mapping as a basis for water-well sites. If this proves successful, a continuing relationship might allow our talented charges to go and do more quality projects in the name of Christ. I should mention that the former two venues of Tanzania and Kosovo are made possible by my continuing association with YWAM (Youth With A Mission). I thoroughly expect that our global adventures will yield professional publications, as did previous work in South Africa.

TA Testimonial by Bryn Hendricks ('10)

I became a TA for the Geology 211 Lab at the beginning of my sophomore year because I heard it was a good way to review and because I needed money. The job turned out to be much more fun than that. It helped me get to know other geology students, the geology faculty, and myself a bit better.

Bryn Hendricks '10 at the Science Station

I came to Wheaton as an "Undecided," and ended up in Intro Geology almost by accident (Intro Biology, Chemistry, and Physics were full). The encouragement of Dr. Greenberg (my professor) and Chris Gregory (my TA) started to plant the idea of majoring in geology, but it wasn't until I became a TA that I realized how much I enjoyed geology.

Getting to know my students was fun, and I was able to answer questions for them about the department, the professors, and the classes I had already taken. After hearing myself talk to my students about all the wonderful things geology has to offer, I realized how much I liked it and would miss it if I didn't continue with it. I began to think, "Why am I *not* a geology major?!" And so, in my second semester as a TA, I chose my major.

So here I am, in geology. Yes, being a TA was much more than a paid review session. It helped me make the most important decision of my college career and know that I chose well.

Thoughts on the New Science Center by Dan Parker ('09)

Uncomfortable classrooms, inadequate laboratories, and maintenance issues make the third floor of Breyer Laboratory an inconvenient location for Wheaton's otherwise superb Geology department. One of Wheaton's gems has been obscured from both the public eye and from prospective majors by a building that does little to lend itself to a tradition of learning that persists in spite of its surroundings. However, the groundbreaking ceremony for our new Science Center has given the Geology Department hope for increased prominence in years to come.

Dan Parker, Yellowstone, during the Western Trip section of the Science Station Geology Track

Breyer Laboratory is an adequate yet utilitarian building featuring an interior of drab, white cinderblock. I mention the interior first and foremost because a complete lack of windows in the classrooms prevents me from discussing any view. To say the least, the rooms in the Geology Department are claustrophobic and spartan. Issues with ventilation and heating systems often combine with the innate closeness of the environment to result in an oppressive stifling atmosphere. The roof leaks and warning signs caution students and faculty to avoid spending too much time in the department's storage closets, where insulation hangs from the walls and ceiling like ghostly stalactites.

While the third floor of Breyer does a great disservice to the students and faculty who work there, this location also deals a severe blow to the public image of the Geology Department. Currently, a vast collection of museum-quality gem stones, fossils and other unique geological treasures remains cluttered in display cases down the length of the main hallway. Isolated on the third floor of Breyer, they do little to inspire people or raise awareness of the department. Perry Mastodon at least has a degree of prominence, but his severely outdated exhibit in Armerding does not do justice to his magnificence.

Plans for the new Science Center, however, will change these unhappy circumstances. Better lit and well-furnished classrooms, modern utilities, ample display areas, and increased accessibility promise to amplify the already excellent overall experience of Geology majors at Wheaton College. Plans for a highly-prominent, interactive display for Perry Mastodon in the main atrium of the building show that Wheaton officials are certainly acting in the best interests of the department and of the general public. The Geology Department will at last be able to reach its full potential in instructing its students and in sharing the riches of God's glorious creation with the world.

Doc Mo's Memoirs by S.O. Moshier

Bucket-auger drill rig at Ashkelon along the Israel-Mediterranean coast, July 2008

2008 was a mighty busy year. Here are a few highlights:
I was elected to serve on Faculty Council as a member-at-large. I have enjoyed the opportunity to "peak under the tent flaps," so to speak, at college affairs and administration. This has been an exciting time with the Promise of Wheaton Campaign in process. I was assigned visitation rights to the Board of Trustee committee on Campus Facilities. Seeing the decision process for the new Science Center up-close has been encouraging.

I get lots of opportunities to take geology out of Breyer to potential future students. Many elementary school groups have been visiting the Perry Mastodon, and it is hard for me to say no to giving my "Perry Powerpoint Presentation." I have spoken to probably 250 kids in the past 12 months. In March, I compiled and proctored the Rock and Mineral event for the Regional Science Olympiad for middle and high school.

My involvement in the Black Hills was limited to office administration during the academic year (promotion, hiring, scheduling – all the not-fun stuff) and helping with the first 1 ½ weeks of the program. Jamie Selander was a great help in the administrative work, along with student assistant Kristen Spacapan and Lorrie Curé. Lorrie has been a secretary on campus for several years. Over the summer, she and her husband Kent Hunter served as Program Assistant and Maintenance Supervisor, respectively, for the Science Station. My son Zachary joined me those days at "classroom as big as all outdoors," and worked as a Maintenance Assistant with Jeff Greenberg's son Kyle and another student, Lars Skoglund.

For three weeks in July I joined the Leon Levy Expedition to Tell Ashkelon in Israel on the Mediterranean coast. The Associate Director for this Harvard University expedition is Wheaton Archaeology Associate Professor Daniel Master. Daniel asked me to conduct a geological survey of the site, including some shallow coring to search for an inland embayment that might have served as a harbor in the middle to late Bronze age. Our cores did not encounter such a feature, but we did determine that some earlier coring was misinterpreted and that additional work is necessary to understand site formation there.

I did not return to Egypt last year, but two students and I have been looking at sands collected from my fieldwork in the Sinai in 2005-2007. The objective is to determine if we have discovered an unknown early Nile distributary in the vicinity of the Suez Canal zone. An article I wrote on fieldwork in the area from 2000 to 2004 was published over the summer in Geoarchaeology: An International Journal.

Carol and I are enjoying our first year of "empty nesting." Zachary is a freshman architecture major at Judson University in Elgin IL. Joshua completed his BA in Music at Northwestern U. and is now making a living playing and teaching jazz piano in Chicagoland. Carol and I have a few joint projects going – teaching middle school at church and serving on the local board for YoungLife Kane County.

Geology Museum

Upon completion of the new Science Center, Geology will become the main contributor to a museum located in the middle of the new Geology Department. While the department owns several collections of which we are proud, we will welcome donations of rocks, minerals, and fossils, so please think of us if you begin cleaning out your geology collections.

Faculty Publications

Moshier, S. O., D. Arnold, L. L. Funck, R. J. Lewis, A. J. Smith, J. H. Walton, and W. R. Wharton. 2007. Theories of Origins: A Multi- and Interdisciplinary Course for Undergraduates and Wheaton College. *Perspectives on Science and Christian Faith* 59: 289-296.

Haddock, G. H., E. J. Neiburger, and S. O. Moshier. 2008. The Perry Mastodon: A Specimen Exhibit at Wheaton College. *Central States Archaeological Journal* 55: 32-33.

Moshier, S. O., A. El-Kalani. Late Bronze Age paleogeography along the ancient Ways of Horus in Northwest Sinai, Egypt. *Geoarchaeology* 23 (2008): 450-473.

Greenberg, J.K., R. Seebach, A. Luhman, D. Zylestra, J. Wentz. Cooperative sanitation project, Pellsrus township, South Africa. *Waterlines* 26 (2007): 18-20.

_____, "Epilogue: So What? Now What?" *Christians, the Care of Creation and Climate Change* edited by L. Scott. Eugene: Pickwick Publications, 2008.

Spring 2008 Graduates in Geology

Kevin Befus, Glenn Sharman, Brandon Lewis

Kevin Befus spent the summer after graduation as a SAGE scholar at Los Alamos National Laboratory in New Mexico. In the Fall he started graduate studies in geophysics at University of Colorado, Boulder.

Glenn Sharman married Joni Harper in August. They live in a married-students apartment on the campus of Judson University where Joni is completing her architecture degree. Glenn took a job with ENVIRON International Corp. as a hydrogeologist.

Brandon Lewis spent the summer in Idaho doing economic mineral exploration. He started graduate studies in economic geology at Colorado School of Mines.

Geology Scholarship Awardees

Last year we were pleased to award the **Wheaton College Geology Scholarship** to **Bryn Hendricks**. Bryn is an outstanding student and serves the department as a Teaching Assistant. She carries rocks around in her backpack and keeps a cardboard box full of rocks and soil samples by her favorite seat in the petrology lab. Bryn grew up in Minnesota where her family spent a lot of time outdoors working on landscaping projects. **The Dr. Donald Boardman Black Hills Scholarship** is provided to assist geology students with costs related to attending summer courses in the Black Hills. Recipients for the 2008 course were **Gabe RiCharde**, **Jeffrey Tutman**, **Nathan Brown** and **Bryn Hendricks**.

All who have contributed to these scholarships in the past year have our deepest thanks and appreciation. Please note that if donations are given to the college for use by the Geology Department, that they must be clearly designated for a specific scholarship or other particular purpose.

Devotions during an overnight field trip. Geology Track, Science Station.

Clark's Capers by James Clark

After an action-filled sabbatical leave the previous year, Jim settled into a largely uneventful academic year during 2007-2008. During Spring Break he went to Nigeria with Lifewater International to train the Nigerian national well drilling team in use of geophysical electrical resistivity methods for finding water. Lifewater was able to obtain a grant that provided funds for purchase of a used and discontinued Sting commercial resistivity meter for only $5000. Jim was able to compare results from his inexpensive ($200) resistivity meter to the commercial instrument. He was encouraged in that the results were identical. Jim also trained the Nigerians in use of free GIS software (QuantumGIS). The GIS used Nigeria data that his GIS Practicum class assembled for the trip. Satellite images, geologic maps, roads, elevations, political boundaries and surface hydrology features were some of the layers included in the GIS. Now the well drillers will know what to expect before they drill a well and also be able to maintain an inventory of wells that were drilled.

Life became more exciting through the unexpected proposal of marriage to his oldest daughter, Christel. In May she married Veniamin (i.e. Benjamin) in a Russian Evangelical church in Sacramento. It was a challenging cross-cultural experience blending the Russian and American cultures while planning the day-long ceremony for 400 guests. After the wedding Jim spent the rest of the summer in California developing his cheap geophysical instruments with his son. He has nearly finished an improved resistivity meter that will automate tasks with a small "Arduino" microcomputer and accomplish everything the commercial instruments do, all for under $100.

Dr. Clark with Lifewater trainees, Nigeria

Only a year after Jim's father passed to eternity, the Lord also called his mother home. Both parents knew the Lord and they had enjoyed 65 years of marriage. Jim rejoices that the Lord gave him so many years with his parents and that they are now at peace and once again with each other.

Jim completed his National Science Foundation grant studying the Great Lakes, and his students presented at North-Central GSA. The abstract titles are below.

Befus, K.M., Gregory, C.T., Sharman, G. and Clark, J.A. (2008) Glacial isostacy and fluctuating lakes: a reconstruction of the Great Lakes during the past 20,000 years. *North-Central Section of the Geological Society of America meeting*, Spring 2008, Geological Society of America Abstracts with Programs

Parker, D., Sharman, G., Befus, K.M., Gregory, C.T. and Clark, J.A. (2008) Predicted late glacial and post glacial river systems and groundwater flow regime in the Great Lakes region. *North-Central Section of the Geological Society of America meeting*, Spring 2008, Geological Society of America Abstracts with Programs

Contact Candid

Recognize anyone in these photos? Let us know who these students are! Many old photos were uncovered as the department sifted through files this semester.

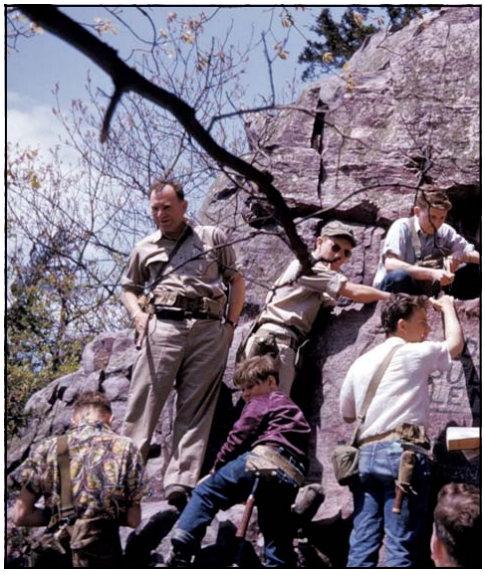
Field trip with Dr. Haddock, 1970's.

Left: Right: From a Wisconsin Dells trip, late 1950's or early 60s, learning to use clinometers.

The four photos below were taken in 1954 and 1955 on various field trips. Provided by Howard ('57) and Valerie ('56) Heidlauf. Son David is a 1982 geology alumnus.

Dr. Laurence Kulp ('42) at the Garden of Gods in 1954.

Dr. Wright ('26) and son at Devil's Lake in 1954.



Dr. Wright ('26) and students at Devil's Lake in 1955.

Dr. Mixter and class on field trip to Florasaut Fossil Beds in 1954.

Faculty Mentoring Initiative by S.O. Moshier

The Faculty-to-Student Mentoring Initiative is an important piece of the Promise of Wheaton Campaign of potential benefit to our department and majors. As stated on the College website:

> "This initiative will provide each Wheaton undergraduate with an opportunity to be taught, discipled, and mentored by faculty in ways that go beyond what is possible in the classroom. The funds generated will enable Wheaton to allocate more faculty time for mentoring. Mentoring groups will consist of three to five students and will allow students and faculty to focus on research projects that will result in the kind of intellectual and spiritual formation that takes place only when wise leadership is combined with motivated learners in informal but focused work and discussion. The Faculty-to-Student Mentoring Initiative is an attempt to encourage what often in the past has occurred serendipitously to become a regular and accessible part of each student's educational experience and each faculty member's life as a teacher."

In short, we are trying to increase the number of full-time faculty without increasing course offerings. Faculty will get credit for work with students outside of the classroom. We have proposed that a new professor in the geology department would have the background to teach any of our general education courses and upper division courses related to geochemistry. Such expertise would broaden what we can currently offer our students in geology and environmental studies. With this in mind, we have included a "wet" lab for geochemistry instruction in the new Science Center.

Some of the prospective faculty-student projects that we envision include: (a) collaborative work on curriculum improvement, (b) advanced study on a special topic in the geosciences, including explorations of faith and learning pertaining to the topic, (c) collaborative work leading to the development of grant proposals for long term research projects, (d) small groups preparing for summer-term, campus-based, research project or study expedition (domestic or international) including training and background reading during the preceding academic semester, and (e) specimen collection and exhibit development for the department and the Natural History Museum of the new Science Center. There are so many more possibilities!

The college will open positions as they are funded. For example, donors to the Math, Art, and Education Departments have already made new Faculty Mentoring positions available. The target amount to open a position is far less than required for a traditional endowed chair. If you are interested in learning more about this program, please contact Steve Moshier.

The Black Hills Experience by Christina Ellerman ('10)

I can honestly say that the summer of 2008 was one of the best of my life. My experience in the Black Hills far exceeded everything I was expecting; the Lord answered prayers and concerns I had in such a bigger and more significant way than I could have ever imagined.

I left my home in Wheaton, IL on May 30th unaware of the adventures I would experience in the eight weeks ahead. As we got closer to our destination, the earth began to rise and fall; the reasons why I knew I loved geology were literally becoming visible right before my eyes. The concerns I had brought with me were slowly beginning to fade away with the flatness I had left behind.

Geology students in the Black Hills

Our summer was full of geology—we were completely surrounded by it. We spent our days mapping the structural geology of the Black Hills, going on fieldtrips, hiking, camping—all while learning valuable geological lessons. I do not think we have become aware yet how valuable this eight week field camp will be to our future careers, but we have already experienced the benefits of having that hands-on learning experience since last summer. Perhaps equally significant to the practical lessons and skills we learned this summer was the way we fell in love with geology, God's creation, all over again. Being in the field, having hands-on experience in a beautiful place, was a necessary renewal of the passion for geology God placed in my heart. Honestly, its hard to be a geology major sometimes at Wheaton—it's really flat! Last summer was a great reminder why I am doing what I am doing.

What made my summer what it was, what made geology exciting, were the people who surrounded me. There was an immediate sense of community among the geology majors. These ten college students seemed to have not much in common except for our love for the Lord and our love for geology. I was concerned that would not be enough—that we were all just too different. I could not have been more wrong. Ten of us, (what seemed like random geology majors), spent weeks living in community together. We went to church together, mapped together, hiked together, camped together, got lost together, wondered what in the world happened structurally at Bear Butte together, laughed together. FELLOWSHIP. And we have brought those friendships back to campus this fall. God answered my prayers of concern with individuals and relationships that enriched my understanding of what it means to be a true community of believers who find their unity in the same transcendent God. I will cherish the memories made and lessons learned last summer for the rest of my life. We will all thank the same true God for his power to transcend differences of every kind, and unite his followers to each other on this beautiful earth.

Alumni Updates

New births to: Jeremy ’99 and Katie **Albers**, **Joanne Scigliano and Josh Cady** ’98, **Andrew** ’92 and Wendy **Fulton**, James and **Bethany** ’05 **Thornton**, **John** ’01 and Laura **Welsh**, **Daniel** ’99 and Rose **Wolbrink**.

Rich Aram ’76: Coordinates geoscience training for ConocoPhillips in Houston. Rich ran a five day field trip this year in SW Montana on the interaction of tectonics and sedimentation. He presented two posters at the Karst Waters Institute in Rapid City in June and visited the Wheaton College Science Station where he ran the majors through an energy industry exercise and accompanied them visiting two of the Black Hills' interesting caves. Rich's wife, Sarah, began treatment for leukemia in 2008 and they very much appreciate your prayers through that challenge.

Walt Eckelmann ’51: The department was sad to learn of the passing of Walt on September 28th. Walt graduated from Wheaton in 1951 and completed a PhD in geochemistry at Columbia University in 1956. He enjoyed a distinguished thirty-year career in the petroleum industry. Walt is survived by his wife, three children, and ten grandchildren.

Joanne Scigliano ’98 and Josh Cady ’98: Have moved to the Northwest as Josh has transitioned to a new career as a Special Agent of the Federal Bureau of Investigation.

Cassie John ’04: Plans to attend the environmental policy program at Columbia University in the next year.

Ana Cichowski Meyer ’04: Works in Denver as a geologist with Anadarko. Graduated with a master degree from CSU.

Erik and Jen Mickelson ’00: Are now out in Buffalo, WY and enjoying the dry air and mountain views. Erik is enjoying his new work situation working on some fun projects.

Stephen Moss ’99: Won best paper at the International Kimberlite Conference in Frankfurt, Germany.

Ryan Patton ’07: Works in Glen Ellyn, IL with an environmental consulting company.

Stephen Potter ’80: Is working on an M. Div. Degree at Denver Seminary and is expected to finish in May of 2009. After that he anticipates moving to a mountain community to pastor a church. His wife of 7 years, Kathryn, a CSU and Seattle Pacific graduate, teaches for Jefferson County Schools.

Dwight Schuster ’94: Recently published a paper in the September 2008 *Journal of Geoscience Education*. He is employed at the Indiana University School of Education.

Bruce Sidebotham ’81: Mobilized as a reservist with the US Army to Mosul, Iraq—the ancient city of Ninevah. He is driving a Mine Resistant Ambush Protected vehicle (MRAP).

Christopher Williams ’93: Defended his Ph.D. dissertation at Southern Illinois University on December 12. He is employed by the Florida State Geological Survey in Tallahassee.

Ken Wolgemuth ’65: Works for the University of Tulsa as an adjunct professor and research associate. Part of Solid Rock Lectures, which focuses on the geology of creation for churches, seminaries, schools, and colleges.

Dawn Wright ’83: Named Oregon Professor of the Year by the Council for the Advancement and Support of Education and the Carnegie Foundation for the Advancement of Teaching in December of 2007. Dawn was named fellow of the American Association for the Advancement of Science in December of 2008.

Geology students at the Grand Canyon, early 1960’s

Geology students on Wisconsin Dells field trip, 1960’s.

Wheaton College
For Christ and His Kingdom

Department of Geology and Environmental Science

501 E. College Avenue
Wheaton, IL 60187
Phone: (630) 752-5063
Fax: (630) 752-5996

http://www.wheaton.edu/geology