



# Department of GEOSCIENCES



The Boulder RUNdown - April 2012

**Major numbers...**

We now have 41 Geoscience majors...  
**12 in Geology**  
**22 in Environmental Geoscience**  
**7 in Earth Science**

**Let's talk....ROCKS!**

David Della Chiesa '08 & Keith Schonberger '07 returned to DPU to share their experiences and insight on working in the oil industry in PA. Tony Rathburn (ISU) visited the Dept and spoke about his ocean floor research on board the Alvin submersible.

**A rolling stone gathers no moss...**

Geoscience students have again ventured near and far to study rocks, including: various Indiana locations, California (Winter Term), St. George-Hanksville-Moab, UT, & Death Valley, CA,.

**Check us out!**

Visit our NEW Facebook page:  <http://www.facebook.com/pages/DePauw-University-Geosciences/118662514879623> and our NEW website: <http://www.depauw.edu/academics/departments-programs/geosciences/>

## Active minds & active bodies...

Geoscience majors at DePauw have long excelled at honing their geoscience knowledge and skills through various summer research, internship, and study abroad opportunities. The current "crop" of geo-majors is no exception...

Senior Katie Aldrich '12 received a 2011 NSF Research Experience for Undergraduate (REU) summer internship at UNC-Charlotte University in North Carolina. Katie's project focused on the effect of management strategies on nutrient cycling in urban streams. Katie also wrapped up a brilliant career on DePauw University's Division III women's basketball team with the team achieving a 27-2 record this year. Among many other accolades, Katie was named NCAC Player of the Year.

Senior Alex Lopatka '12 obtained a summer 2011 position at the Pacific Northwest National Laboratory in Washington where he worked on CO<sub>2</sub> a sequestration/brine extraction project in the Glen Canyon Group of southwestern Utah.

Senior Brittany Slate '13 and junior Ariana Borrello '14 worked with Jim Mills last summer on the origin of the pegmatitic calcite vein-dykes in Bancroft, Canada.



**Brittany Slate '13 and Ariana Borrello '14 doing field work in Bancroft, Canada for their summer research project.**

Senior Chloe Lawson '12 has been active in the Indiana Dunes region where she worked as an intern for the Alliance for the Great Lakes and used her GIS skills to develop maps as part of an environmental education curriculum. Chloe also worked for the Indiana Department of Natural Resources, Lake Michigan Coastal Program where part of her responsibilities were focused on creating environmental fact sheets on wetlands and watersheds in the area.

Junior Martha Parsons '13 and senior Kate Welch '12 both studied off-campus during the fall semester this year. Martha traveled "across-the-pond" to study at the University of Aberdeen, Scotland, whereas Kate spent her time at the University of Cape Town, South Africa.

**Do you know about any geoscience internship opportunities? Please let us know, and we'll pass them along to Departmental majors.**



**Jake Willingham's '12 summer research field area in China.**

Senior Jake Willingham '12 spent six weeks last summer in China with Tim Cope studying the sedimentology and tectonics of the Yanshan Fold-Thrust Belt. Jake presented his work as a poster at the 2011 National Meeting of the Geological Society of America in Minneapolis, Minnesota.

## Message from the Chair

Greetings and welcome to another Department of Geosciences newsletter! We hope that this issue finds you all doing well. As you will note in the following pages, we have many interesting things to share with you about student, faculty, and alumni activities and happenings.

The Department of Geosciences is pleased to report that Kyle Smitley '07, a double-major in Environmental Geoscience and Philosophy, returned to campus this spring as one of DePauw University's 175th Anniversary Celebration speakers. Kyle spent the better part of three days on campus visiting classes, campus organizations, and other groups.

Kyle started her organic children's clothing company, Barley and Birch, in 2008. Soon afterwards, the rapid success of her company caught the attention of Inc., who highlighted her as one of their *30 under 30: America's Coolest Entrepreneurs*. You can find out more information about Kyle's 175th anniversary presentation and the Inc. article later in the newsletter.

A major accomplishment this year for the Department was the National Science Foundation (NSF) Award Tim Cope received in March for the continuation of his research in the Yanshan Fold-Thrust Belt in northeastern China. Tim was awarded an initial \$144,000 for two years with a third year option for another ~\$74,000. Tim will be taking three to four DePauw students each year to China to assist him with the research project. NSF awards, as many of you may realize, are difficult to get. This year, approximately 25% of the proposals were funded. This is a terrific achievement for Tim and a wonderful opportunity for students in the Department. You can read the full award information and abstract of Tim's proposal at: <http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=1145230>

Other Departmental faculty have been busy on the publishing front...Scott Wilkerson (with co-authors Beth Wilkerson and Stephen Marshak) has published a major revision of *Geotours Workbook: A Guide for Exploring Geology and Creating Projects Using Google Earth* (W.W. Norton & Company; <http://www.amazon.com/dp/0393918912>). Jeane Pope has contributed a book chapter on "The Role of Efflorescent Sulfate Salts in Indiana's Mine Water Quality" that will appear in Indiana Geological Survey Special Report 72. Jeane also co-authored a webpage on the use of scientific instrumentation in the classroom ([http://serc.carleton.edu/NAGTWorkshops/undergraduate\\_research/optimizing\\_instruments.html](http://serc.carleton.edu/NAGTWorkshops/undergraduate_research/optimizing_instruments.html)) and made a presentation at the Council of Undergraduate Research new faculty workshop at GSA in November. Lastly, Fred Soster published an article "Decadal changes in the benthic invertebrate community in western Lake Erie between 1981 and 2004" with co-authors Peter McCall (Case Western Reserve University) and our own Keith Herrmann '05 in the *Journal of Great Lakes Research* (v. 37, no. 2, pp. 226-237).

You've probably already read about some of our students' activities on the front page...they've been making us proud! In addition, Brittany Slate '13 and Ariana Borrello '14 have rallied the

major together this year to revive the Geology Club. Brittany organized the club's first outing this semester to the Chicago Field Museum of Natural History. We spent a full day touring the museum and all its wonderful displays. The Geology Club's next adventure will be a weekend camping trip to either Turkey Run State Park or the DePauw Nature Park. Lastly, seniors Katie Aldrich '12, Alex Lopatka '12, Melissa Penfold '12, and Jake Willingham '12 already have had offers from graduate schools for the coming year and are waiting on additional offers from other schools before they make their final decisions on which school to attend. Congratulations and good luck to all of you!

As usual, the Department has conducted a number of field trips this year (supported, in part, by the **F. Michael and Dorothy W. Wahl**

### Endowed Fund for Geosciences Field Trips).

Fred Soster took the Historical Geology students to Brookville, Indiana last fall to study the paleoecology of the Ordovician limestones (and collect trilobites, of course). Tim Cope and Jim Mills led a Winter Term trip to California with a dozen students to study the geology and environmental issues of central and southern California. Tim Cope took 15 students in the Field Experiences class to southern California to map over Spring Break, and Jeane Pope took several local field trips (water and waste water treatment plans, Green Valley Abandoned mine, the Danville Landfill and wetlands effluent treatment facility) with her Geochemistry class. Scott Wilkerson will soon take his Structural Geology & Tectonics class to Baraboo, WI to look at the mesoscopic structures there (e.g., tectonic cleavage, en echelon tension gashes, and other strain/kinematic indicators) as well as the overall regional fold.

As for me, each year seems to slip by just a little quicker...! Last summer Brittany Slate '13 and Ariana Borrello '14 (Science Research Fellows) worked with me on the seemingly never-ending Bancroft project. We tested a new model this year for the origin of the pegmatitic calcite vein-dykes (yes, that's how its spelled!). David Lentz, a geoscientist who has worked in this area, has proposed in a seminal work that much of the skarn formation in the Bancroft region is related to fluid migration from deep-seated igneous intrusions. This past summer we collected a suite of samples from the catazonal Cheddar Granite pluton and surrounding marbles to look for evidence of magmatic fluid migration into the surrounding country rock by using carbon and oxygen isotope ( $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$ ) ratios. Preliminary data suggest that fluid migration was minimal at best.

This coming summer, Tim Cope and I hope to make some sense out of the incredibly monotonous andesites in China (always been a rhyolite person myself...) and how they relate to the tectonic history of the Yanshan Belt. Although the thin sections show that the andesites are surprisingly relatively unaltered, I must admit that magma mingling, xenoliths, and phenocryst zoning – all those wonderful features you learned about in Mineralogy and Petrology – are alive and well in these rocks. There's a story in there somewhere...

All on the farm is well, Molly says hi to everyone! In a few weeks I'll be in the bee-keeping business... Please keep in touch!

-Jim ([jmills@depauw.edu](mailto:jmills@depauw.edu))



Winter Term 2012 students standing on the San Andreas fault.

## Tim Cope

I begin this contribution from a newly-remodeled Motel 6 room in Las Vegas. I've just arrived with 15 students, and in the morning we are headed out to the Death Valley area to map the geology of the Resting Spring Range. We'll be camping for the entire week. There is a wind advisory in effect for tomorrow – I hope all our tents hold up! Wish me luck...

I have been involved in a lot of field trips lately, and there are many more to come. Last January, Jim Mills and I took 12 students out to California for Winter Term. January is the rainy season in coastal California, but we lucked out: no rain. Sunny skies, mid-60's to 70's, sunny and gorgeous... After visiting several sites along the central coast, we headed inland to Yosemite, and experienced something that hasn't happened since the 1920's: a snow-free Yosemite in January. We went all the way up to Glacier Point, along a road that typically is closed by November. We hiked to Vernal Falls along a trail that is usually buried beneath feet of snow in winter. Because it was the off-season, there were very few people in the park. Later, we headed off to Death Valley—where it was cold and rainy! Overall, a great trip, but man, the weather was backwards.



Jake Willingham '12 (tallest) & Prof. Tim Cope (shortest), with Chinese colleagues (left to right: Teng Fei, Zhang Yu, Li Chengming) during the summer 2011 field season in China.

Last summer's field season in China was fantastic. One student, Jake Willingham '12, accompanied me. We worked in the shadow of the Great Wall on a section of Jurassic conglomerate that underlies a major thrust fault. The Wall is built atop a near-vertical cliff of Proterozoic carbonate rock that constitutes the upper plate of the thrust fault. Spectacular scenery in which to work, and the geology was phenomenal as well. Jake presented the results of our work in a poster (which he authored) at the 2011 GSA annual meeting in October. Spotted a few DPU Geo alums there, too.

The big news for me, of course, is that my NSF grant for future fieldwork in China was funded. The two-year, \$144,123 grant (extendable to \$218,079 for three years), will fund 3 students to work with me in China each summer. It also funds travel and expenses for students to work in the

LaserChron LA-ICPMS lab at the University of Arizona, for U-Pb radiometric dating of zircons. I hope to keep this project funded for at least three years. This summer, Steve Dobbs '15, Yihao Xu '14, and Martha Parsons '13 will join me on the first year of the NSF project for what I hope will be a productive and fun field season in northeast China.

The family is doing great. The girls (Tess and Zoe) are a blast to play with, and getting more and more fun to talk to as their vocabulary improves. They love to sing and dance. They also love chocolate. At age three, Zoe can write the alphabet and do simple math. At age one, Tess can copy everything her big sister does (especially if it gets a laugh out of Mom and Dad). At age thirty-something, Kate is a better partner than ever. At age forty-something, all these young 'uns run me ragged sometimes—but they, like my students, keep me feeling younger than I have any business feeling.

I'm now safely back in Indiana. The spring break trip was great—left with 15 students, returned with 15 students, all limbs intact. Only one flat tire, and only one minor tent casualty. I'm looking forward to planting my garden soon, since spring appears to have arrived early this year in Indiana. Everything is already in bloom, the morels are up (got a sackfull last weekend), and I'm ready to start planting. If I time it right, the garden will be starting to produce when I return home from China this summer.

-Tim ([tcope@depauw.edu](mailto:tcope@depauw.edu))

## Department Scholarship Awards

### **Ernest R. "Rock" Smith Memorial Scholarship**

*Alex Lopatka '12 & Jake Willingham '12*

### **Charles L. Bieber Memorial Fund**

*Katie Aldrich '12, Jason Blasdel '12, Melissa Penfold '12, Brittany Slate '13, & Reilly Taylor '13*

### **Charles M. & Frances Wylie-Condit Science Scholarship**

*Ariana Borrello '14*

### **H. Richard Gault Memorial Scholarship**

*none*

Income from the **James A. Madison Fund for Research** and the **F. Michael and Dorothy W. Wahl Endowed Fund for Geosciences Field Trips** help subsidize Department of Geosciences faculty-student research activities and student field trip costs, respectively. This past year the **Madison Fund** helped support field and lab work for Fred's sabbatical and thin sections for Tim's China research.



Environmental Geophysics class exploring Boone-Hutcheson Cave.

## Jeane Pope

Hi all! I can't believe it's already been a year since I last wrote. But what a year! It feels good to be fully back into the swing of things after sabbatical and early motherhood. My daughter, Luna, started full-time daycare in January 2011, which meant that I was back full-time too. Last spring, that meant teaching Geochemistry and Earth & the Environment, and last fall, it meant teaching a (new) First Year Seminar (FYS), Environmental Science Seminar, and Environmental Geology. (You'll recall from the last newsletter that Environmental Geology is now a 200-level course specifically designed for majors).

Although most of my summer was spent developing the new FYS, I did get a chance to explore sustainability in Northern European cities in late May and early June. This trip was funded through the Alliance to Advance Liberal Arts Colleges (a collaboration of 23 liberal arts colleges, including DePauw) and allowed me to visit some of Europe's greenest cities to study their sustainability initiatives first-hand. I traveled for nearly two weeks with 17 other faculty members (including Dana Dudle, a Biology professor at DePauw) from seven colleges. We went to Denmark (Copenhagen & Arhus) and Germany (Freiburg). Our main objective was to "experience sustainability" and thus we toured eco-villages and alternative energy projects by bike and interviewed local residents at grocery stores and farmer's markets while staying in youth hostels. Our group investigated a wide range of topics from transportation infrastructure to local food production to sustainable design. It was a fantastic opportunity to not only see how European cities are tackling environmental problems, but also to talk with other faculty members about how we can incorporate these ideas on our home campuses and into our classes.

After Europe, I went to work developing my new First Year Seminar. Although it is still called "Modern Environmental Problems," the content has completely changed. I wanted to update the readings and pick new topics. Previously, we had mostly focused on energy and waste. This time around we spent the first half of the class broadly covering the science of a number of different problems (e.g., population, energy, climate, water, land, and food) and the second half reading Sandra Steingraber's *Living Downstream* to discuss environmental exposure and the health consequences of environmental problems. This class also incorporated a lot of new writing assignments to go along with the University's new requirement that FYS's be writing intensive. As always, I had a lot of fun with the class and look forward to teaching it again next fall.

The other course I significantly revised this year was a Winter Term class. I've decided that traveling isn't an option while Luna is small, so I revised and updated an on-campus course that hadn't been taught since 2004. This time around, though, I co-taught it with Jen Everett from the Philosophy department. Throughout the three-week course, we investigated different local environmental problems, ranging from waste disposal to alternative energy production. We took a number of field trips, including some that I had led before (e.g., the water and waste water treatment plants, the Danville landfill, etc.) and some brand new ones. I particularly enjoyed the trip to the Benton County Wind Farm located in NW Indiana, which has over 1000 turbines. We also went to a trash incineration facility south of Indianapolis that burns trash and uses the steam from this process to provide energy for a large number of Indianapolis businesses and

institutions. Working with a philosopher had both its benefits and its challenges, but we agree that the course was a success and we will plan on offering it again next year.

In addition to teaching classes this semester (Applied Hydrogeology and an Honor's Scholar class "Contemporary Environmental Issues"), I've been getting ready to start my new research project on agricultural runoff. You may recall that I've spent the last few years getting up to speed on the experimental design and environmental statistics needed for this type of work. I'm happy to say that this coming summer, I'll be working with five students collecting water samples to quantify how agricultural practices affect water quality in the streams and tributaries of Big Walnut Creek. It's going to be a busy summer for us, but we are all quite excited. Stay tuned for the results!

Everyone in my family is doing well. Jason is still cycling, but now he often has our almost-two-year-old in tow. Luna is really great. During the last year, she's really grown into a full-fledged person. Right now, she's a little chatterbox, frequently expressing her likes ("pasta!") and dislikes ("no!") on a number of topics, including what books to read and when to go to bed. Both Jason and I have enjoyed watching her learn new words and develop new skills

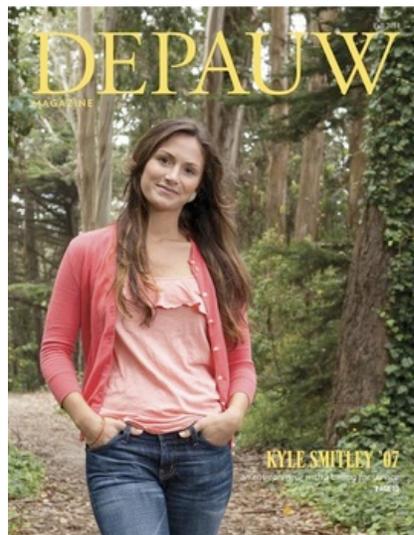
every day.

It was really great to hear from many of you all, so keep those updates coming! We are proud of the work that you do.

-Jeane ([jpope@depauw.edu](mailto:jpope@depauw.edu))



Luna's first hike at Turkey Run State Park.



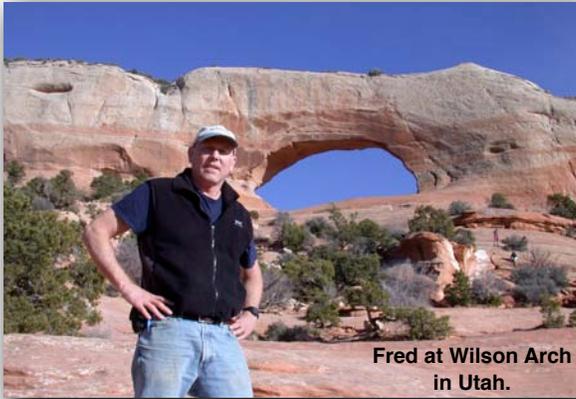
**Kyle S. Smitley '07**, founder and owner of Barley & Birch, was featured on the cover of DePauw Magazine and spoke on "Doing Well Doing Good: Stories of a Young Entrepreneur" on March 7, 2012 as part of the 175th Anniversary Distinguished Alumni Lecture Series. You can read more about Kyle at the two websites below:

175th Anniversary:  
<http://www.depauw.edu/about/175celebration/distinguished-alumni-lecture-s/#kyle>

Inc.: [http://www.inc.com/30under30/2009/profile\\_barley\\_and\\_birch.html](http://www.inc.com/30under30/2009/profile_barley_and_birch.html)

Please email Scott ([mswilke@depauw.edu](mailto:mswilke@depauw.edu)) with information and/or pictures for the Alumni News section in the next newsletter and/or for inclusion on the website!

## Fred Soster



Fred at Wilson Arch in Utah.

Dear Alumni, Students, and Friends of the Geosciences Department,

It's hard to believe that another year has gone by so quickly! Last year I taught a full schedule of courses, served on the Committee for Academic Policy and Planning, and completed work on my three-year Faculty Fellowship project. I taught Earth & the Environment and Introduction to Environmental Science during Spring Term, 2011. In the fall, I taught a First-Year Seminar (Energy for the 21st Century,) Historical Geology, and Senior Seminar. Although I enjoy teaching all of these courses, Senior Seminar is probably the most rewarding because one of the things I focus on early in the course is working with the seniors on skills to help them make the transition to life after DePauw: resumé, cover letters, and job or graduate school applications. The rewarding part comes when the students send out their applications and resumé and eventually get responses, which are more often positive than negative. Of course, we also study lots of different areas of geology by reading the primary literature, so both the students and I get exposure to topics that may be unfamiliar to us.

In last year's newsletter I described the completion of a major piece of work with my graduate school advisor, Peter McCall, and former student Keith Herrmann '05: "*Decadal Changes in the Benthic Invertebrate Community in Western Lake Erie Between 1981 and 2004*". That work was published in 2011 in the June issue of the Journal of Great Lakes Research. In 2011, I also completed a three-year Faculty Fellowship project on the role of mud-dwelling insects in Lake Erie hypoxia. The short version of this story is that some of these "bugs" that live in the bottom muds of Lake Erie construct U-shaped burrows and pump water through the burrows for respiration and filter-feeding. As the water moves through the burrows, oxygen in the water is consumed by biogeochemical reactions in the sediments. Consequently, when the water moves back out of the sediments it has a much lower dissolved oxygen concentration than when it entered the sediment, thus contributing to the lowering of oxygen concentrations in the lake water. I am now preparing this manuscript for publication and hope to get it submitted this summer. This work was supported by the Joan Westman Battey endowment to support Faculty Fellowship projects. Thank you, Mrs. Battey!



Uranium mill tailings pile near Moab, Utah.

As I write to you this year, I am sitting in a motel room in Moab, Utah enjoying a sabbatical. Why Utah? Because this is where all the rocks hang out. Actually, I am starting a new project on environmental contamination from past uranium mining in southeast Utah. There are lots of abandoned mines, mine waste piles, and mill tailings piles scattered throughout the area, and they are leaching radioactive materials into the surface water and groundwater. The problem is so bad that the U.S. Department of Energy has or is in the process of cleaning up some of the most contaminated areas. For example, DOE is now in the process of moving an estimated 16 million tons of tailings from the floodplain of the Colorado River near Moab, UT to a disposal area 30 miles north at Crescent Junction, UT at an estimated cost of somewhere around a billion dollars! I am using my sabbatical to collect soil samples from several of the watersheds that have been impacted by uranium mining. Aside from assessing the extent of contamination in the environment, I am hoping that variations in the ratios of the uranium isotopes that are unique to ores found in different geologic formations will provide a unique signature on the eroding sediments. Thus, this may provide an opportunity to study sediment transport processes in a semi-arid environment based on the isotopic signature on the sediments. I plan to get geology

students involved in the project next year once I identify a good watershed to study.

The Soster family is doing well. Jennifer continues her work as Executive Director of Alumni Relations and is ramping up her travel schedule to support President Casey's initiatives. Erica is preparing to graduate this spring from Indiana University with a degree in human biology and is planning to attend graduate school. Her applications are still pending. Frederick just turned 17, is a junior in high school, and is seriously considering attending Purdue University. How's that for a family rivalry? The Soster family went big on the garden last year and turned most of our backyard into a small farm. We taught ourselves pressure canning and canned lots of tomato sauce, salsa, peppers, and other

vegetables...some good, some not so good. We'll do better this year with a little experience under our belts. We continue to enjoy our boat and jet ski. I finally figured out what the word "boat" really means: break out another thousand.

I hope you all are doing well. I enjoyed hearing from many of you last year, and it was great to see those of you who managed to stop by for a visit. Please keep in touch and plan to visit if your travels bring you this way. Finally, after much cajoling from family and friends, I finally gave in. You can follow me on Facebook.

-Fred ([fsoster@depauw.edu](mailto:fsoster@depauw.edu))



Environmental Geophysics students using the GPR to locate buried metal at the DePauw Intramural Field.

## Scott Wilkerson

Greetings! I hope this note finds you and yours doing well and enjoying an early Spring.

Since our last newsletter, I've again managed to find a way to take a trip out west to Utah during Spring Break using my usual excuses (e.g., the rocks are eroding, Google Earth isn't THAT good, etc....don't say that you wouldn't do the same!). The real reason, of course, was to teach GEOS 220-Geologic Field Experiences, where we divided our time doing some geo-tourism (Zion NP, Bryce Canyon NP, Arches NP, Canyonlands NP, Capitol Reef NP, etc.) as I introduced the students to the stratigraphy and tectonics of the Colorado Plateau and conducting some mapping in the Henry Mountains and the San Rafael Swell. We were fortunate to have Jim Mills accompany us in the field (his first trip to the Colorado Plateau)...he provided considerable insight into the petrology and evolution of the Mt. Hillers laccolith that greatly added to our understanding of the Henry Mountains area. In addition to GEOS 220-Geologic Field Experiences, I also taught GEOS 107-Geology of America's National Parks last Spring. Not only could I share photos from the Spring Break trip with the students, but I also endeavored to integrate Google Earth more into the course throughout the semester. In the Fall, I taught GEOS 380-Environmental Geophysics after a major overhaul of the course content. I was fortunate to have internal support from DePauw to re-imagine the course to include



Beth & the boys at Ruby Falls in Chattanooga, TN.

even more hands-on applied environmental techniques. For example, we buried a cast-iron pipe and a manhole cover at the intramural field so that we could practice locating buried metal objects using the Department's magnetometer. We also were fortunate to have Ashtead Technology (Indianapolis) loan us a ground-penetrating radar (GPR) unit. Not only did we use the GPR to locate

the buried metal objects, but we also used it at several

other places around the county, including near the Monon Railroad on the north side of town, at Boone-Hutcheson Cave, and around the DePauw campus (searching for former building foundations). In addition, the class participated on a "consulting" project for the the City of Greencastle to study the US 231-Monon Railroad intersection using various geophysical techniques (namely, seismic refraction) to determine depth-to-bedrock for a city waterline replacement project.

On the research side, most of last year was devoted to revising another edition of the Google Earth-based *Geotours Workbook* (ISBN 0393918912) with my wife Beth. In this totally updated edition, questions from our previous *Geotours Workbook* were rewritten, clarified, and simplified so that the book can be used to accompany any introductory geoscience textbook (not just the Marshak series). Moreover, the book was redesigned and significantly expanded to serve as an independent resource on how to develop your own Google Earth content (e.g., self-running tours, georeferenced overlays, zoomable photos, media-rich placemarks with embedded YouTube videos, etc.). My summer 2012 research plans remain fluid: continue work on the Hudson Valley fold-thrust belt project that I described last year or create an interactive Google Earth book using Apple's new iBook Author software.



Scott & the boys in Smoky Mt. National Park, TN.

Speaking of summer activities (and Google Earth), last summer Beth and I conducted a second rendition of our Google Earth-GPS workshop for grade 3-12 teachers. Teachers participated in a 3-day workshop on developing Google Earth content for their classes and on using a handheld GPS (which they were able to keep for their classroom). Some teachers stayed an extra 2 days in order to work on specific projects. This summer we plan on offering a third workshop, but teachers will use (and take home) a GPS-capable iPad instead.

Besides our collaborations, Beth continues to work with various faculty, staff, students, and administrators on a variety of projects through the GIS Center. Zach (14) just wrapped up a very successful basketball season, and now is playing U14 & U19 soccer and is refereeing recreational and travel soccer. Ben (10) continues to play in a very competitive Indy basketball league and will be lacing up the cleats to play on a U12 travel soccer team. Both boys remain involved in various school-related activities, so we stay on the move.

For fun this year, the family took a late summer trip to southeastern Tennessee and northern Georgia. Our travels took us to Lookout Mountain in Chattanooga, Stone Mountain near Atlanta, and Smoky Mountain National Park near Gatlinburg/Pigeon Forge. The trip was of a diverse mixture of geology, historical battlefields, and tourist traps.

Take care and please keep in touch!

-Scott ([mswilke@depauw.edu](mailto:mwilke@depauw.edu))

## Alumni News

*Errata* - In the last newsletter, **Doug Trout '52** was mistakenly packed up and moved across the country from his home in Lewes, DE to Phoenix, AZ. Sorry about that! Doug still lives in Delaware, but enjoys extended vacations in "The Grand Canyon State." **Jim Puckett '67** also was mistakenly moved up to the Class of 1963. Had he known that he had a degree in 1963, he probably wouldn't have needed to pay tuition through 1967! Again, very sorry for the mistake.

**J. Chris Herin '84** works for Geosyntec environmental consultants in the south Florida area, where he specializes in "...hydrogeology-related issues, evaluation of environmental impairment on property (and cleanup design/implementation - if needed), waste management, and litigation support." Chris, his wife Mary, and his two children love the outdoors, with both kids showing an aptitude for the natural sciences (future geo-majors?).

**Suzanna (Carrithers) Soileau '99** works for the USGS in Bozeman, MT. She says, "Most of my work since DPU has centered around soil and water science, and I still teach graduate classes for Montana State in that area. My work at USGS focuses on science information and education and ranges from working with research programs on grizzly bears to wildlife diseases to climate change. Basically I am responsible for helping our partners and the general public understand the science and research we are doing." She and her husband were expecting their first child last fall.

**Julie (Kasi) Wood '99** lives in Lexington, KY teaching mostly freshman earth/space science (although she recently has added a junior-senior AP Environmental course). She and her husband love to travel locally (e.g., Mammoth Cave, Asheville, NC) and have plans to visit Puerto Rico for some "...rainforest hiking, zip-lining, mangrove kayaking, and beach relaxation."

**Nic Brissette '00** continues to work for Gunn Oil in Texas with some recent success in the Whittenburg Basin. In addition to his exploration work, Nic has plans to share his expertise with local high school students.

## Alumni News *(continued)*

**Audrey Gehlhausen '06** reports that she remains busy stewarding whitewater rafting trips across the western US, including: Grand Canyon NP (Colorado), Dinosaur NM (Yampa), Hell's Canyon, WA-ID (Snake), and other locales.

**Keith Schonberger '07** has joined Atlas Energy (Chevron)'s Marcellus Shale team in Pittsburg, PA. Keith became proficient in remote geo-steering for horizontal wells with Pason Systems, and now brings that expertise to the East Coast. Keith and **David Della Chiesa '08** came back to the department together to share their experiences in the hydrocarbon industry and to serve as potential resources for DePauw geo-majors.

**Bill Alward '08** has moved on to his second rotation in Qatar Production for ExxonMobil in Houston, TX. Bill and his girlfriend Rebecca enjoy hiking and have recently spent some time in the Pacific Northwest. While there on one trip, Bill took part in a 220-mile, 12-person team relay race from just outside Crater Lake NP to Bend, OR!

**Jennifer Davis '08** is attending graduate school at the University of New Hampshire in outdoor education. She notes that working with children in the outdoors has become a real passion for her.

**David Della Chiesa '08** has been promoted to Business Development Manager for Directional Drilling Contractors (a division of Archer Company) East Coast operations. He has collaborated with **Keith Schonberger '07** on several horizontal drilling projects. He also took the time to come to DePauw with Keith to share his experiences in the petroleum industry.

**Beth Drewes '08** has the "unfortunate" task of teaching earth science in Switzerland. She loves teaching the students (and the 4 hour breaks in the middle of the day). She writes, "...We did the map lab this week. I have to admit topo maps are a bit more interesting in Zermatt than in Greencastle." Check out the photo she sent, so that you can be envious too!

**Cambia Green '08** notes that she is continuing her education in medicine. In her off-time, she has been enjoying hiking in the Sierra Nevada.

**Lauren (Weir) Aiken '08** graduated from IU-SPEA in Dec 2010 and now is working as an analyst for Cadmus Group, a drinking water consulting firm in Arlington, VA.

**Ali Barnes '09** managed to squeeze out a few days of free time in January to join Tim and Jim on the California Winter Term Trip. Ali is working as a naturalist for the California State Park system and is hoping to land a permanent position in the near future.

**Andrea Huska '09** presented some of her graduate research at the NE GSA section meeting in Pittsburgh and at the GSA annual meeting in Minneapolis. Her work focuses on locating tin sources associated with various Bronze Age archaeological sites in West Serbia. She also recently received a K-12 fellowship... congratulations, Andrea!

**Lauren Schaefer '09** is currently finishing up her Master's project at Michigan Technological University on the stability and rock mechanics of Mt. Pacaya in Guatemala. She was recently awarded a Michigan Space Grant Consortium Graduate Fellowship, and has decided that she wishes to continue with this project for a PhD.



**Lauren Schaefer '09 at Pacaya Volcano, Guatemala**

**Jay Wellik '10** began a 27-month stint with the Peace Corp Service in Indonesia last April as part of his MS program at Michigan Technological University (<http://jwpcmi.wordpress.com/>). He shared some perspectives about his education at DePauw...*"The two biggest strengths that I got out of DePauw's program, as compared to some of the other students, were field experience and GIS capabilities. Some of the new students had only done a single field camp and described it as haphazard. After all, there was neither accountability when the camp was over nor opportunity to work on interpretation, writing, and revision. Our department also got out on more field trips than even some of my colleagues who studied at schools in the Appalachians and Basin and Range provinces. I am indebted to these experiences."*

**Chris Alonzi '11** wrote the department to say "thanks" after he aced the Illinois Earth and Space Science test for certification to teach middle school and high school. Great job, Chris!

**Maggie Baber '11** is continuing work towards her Master's at Dartmouth in the area of climate change. Maggie hopes to do fieldwork in Uganda this summer to collect isotopic data on glacial deposits. She also notes that it's just a "little intense" being a student at Dartmouth, but that she was well prepared.

**Bridget Coleman '11** notes that she is planning on continuing on for her Master's in Education at the University of Massachusetts, so that she can teach high school science. She has been tutoring middle school special needs students in science and really enjoys it.

**Jessica Fenn '11** spent her summer in the Sierra Nevada, the highlight of which was climbing Half Dome along the Snake Dike route with her sister. Jess says, *"It was the by far the scariest thing I've ever done, but I got to kiss some amazing granodiorite!"* She is presently wrapping up her internship with the Indiana Dunes Learning Center.

**Cameron Huffman '11** received a Robert Noyce Science Scholarship and is finishing his M.S. in Education at Indiana University, Bloomington in the field of Earth and Space Science. Cam is in the process of looking for a permanent teaching position here in Indiana.

**Andy Krein '11** has begun working for Conestoga Rovers and Associates in Chicago as a CRA geologist in their environmental firm. Andy writes that he has undergone extensive training (including a week-long HAZWOPER course in Canada) as part of his job, and is looking forward to getting out into the field.

**Natalie Mathews '11** is a field scientist with ATC Associates, Inc. in Indianapolis. She occasionally gets back to the Greencastle area as part of her work. *"I'm mostly doing Phase I work—doing environmental site assessments, historical research, and writing up reports. I've done a little bit of field work as well—groundwater sampling, installation of monitoring wells, and taking soil samples."*

**Andrew Newberry '11** has moved to the Denver, CO area to explore various employment options. He has been spending his time recently updating his resume and crafting cover letters, so if anyone knows of a geoscience opening in the Denver area, drop us a line and we'll pass it along to Andrew.

**Julia Shaw '11** has been logging wells in Montana for Horizon Well Logging, LLC. She writes, *"...I've also been offered a position with my company down in Tulsa to do geosteering."* Good luck, Julia!

**Burris Smith '11** is currently working for Halliburton Energy Service as an associate technical professional in production enhancement in Pampa, TX. Burris is presently soaking up information as he trains on all aspects of production enhancement, including secondary recovery using fracking techniques.

# Photo Gallery



David Della Chiesa '08 on a drill site location in the Appalachians.



Field area where Beth Drewes '08 teaches her topographic map lab in Switzerland.

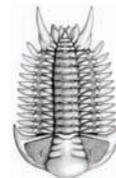


Bill Alward '08 & Rebecca hiking on Mt. Rainier.



Rumor has it that Tommy Good '10 found a ring at the bottom of Bryce Canyon and gave it to the young lady making "moose ears" behind his back

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