

GEO TIDINGS

A New Focus on Energy Sustainability

Interdisciplinary Research Cluster Will Bring Two New Faculty to Geoscience

As most of our alumni know, fossil fuels once thought to be locked away in low-permeability rocks are now being tapped by horizontal drilling and hydraulic fracturing techniques. This new frontier of energy extraction promises to supply the United States with energy for decades to come but it also requires a level of sustainable development unlike any practiced in the past.

In response to the growing demand for highly-educated oil and gas workers, the Provost's Office has funded a new "Energy Sustainability" initiative to enhance IUP's existing strengths in energy research and teaching. Three new faculty positions (one each in Geoscience, Safety Science

and Geography) as well as one renewed faculty position in Geoscience will be filled with researchers and teachers who specialize in ways to assist energy development and minimize environmental impacts (see our search update on page 2).

Our success in obtaining this funding grew out of a year-long collaboration led by our new college dean, Dr. Deanne Snavelly, to develop partnerships within the Marcellus play. Building on our recent hire of oil and gas expert Dr. Tommy Gerber, this cluster will create a focus of energy-related research and teaching at IUP that can both attract grants and meet the needs of the region's growing energy industry.

Volume 6, Number 1

FALL 2012

Cover: IUP students measure a beach profile on Cape Hattaras during the 2012 summer field workshop Coastal and Carbonate Geology.

GEOSCIENCE DEPARTMENT NEWS

Searches Open Now for Two New Faculty

With the funding of the new Energy Sustainability research cluster, and the recent departure of Michael Poage to Dartmouth (where he will be joining his wife Meredith as a faculty member), the Geoscience Department has begun searching for two new tenure-track positions. Please pass these opportunities along to anyone you think might be interested in joining us! More information and deadlines for application can be found at our website link: <http://www.iup.edu/geoscience/employment/default.aspx>

Environmental Aqueous Geochemist

We seek an individual with a strong background in environmental geochemistry. Specific research interests may include groundwater-surface water interactions, cross-contamination of aquifers, fluid flow and reactive transport, and/or the impact of resource extraction on watersheds.

Candidates should demonstrate outstanding skills and enthusiasm for teaching undergraduate students and the ability to develop a strong research program involving undergraduates in both field and laboratory settings. Teaching responsibilities may include undergraduate courses in Hydrogeology, Geochemistry, Environmental Geology, and/or additional courses defined by the candidate's specialty. In addition, the candidate must have a strong interest in and commitment to teaching introductory courses in Geoscience to both majors and non-majors. He/she will also be expected to advise undergraduate research projects and develop a joint faculty-student research program.

Mineralogist / Petrologist

We seek an individual with a strong background in mineralogy and petrology, with preference given to those with specific research interests that include a focus on energy and earth materials. Possible research interests could include any aspect of igneous, metamorphic, or sedimentary petrology and geochemistry, but preference will be given to candidates whose research relates to energy resources and Earth materials.

Candidates should demonstrate outstanding skills and enthusiasm for teaching undergraduate students and the ability to develop a strong research program involving undergraduates in both field and laboratory settings. Teaching responsibilities will include a course on Mineralogy and Petrology and additional courses defined by the candidate's specialty. In addition, the candidate must have a strong interest in and commitment to teaching introductory courses in Geoscience to both majors and non-majors. He/she will also be expected to advise undergraduate research projects and develop a joint faculty-student research program.

Alumni Council Members for 2011-2013:

Dave Brezinski '77
Heather Renyck '99

Wendy Straatmann '92
Jeff Dereume '08

If you have any suggestions or ideas for our council members, you can send them to geoscience-info@iup.edu with a subject line of Alumni Council Feedback.

GEOSCIENCE DEPARTMENT NEWS

All Alumni Reunion Planned for May 2013



Our next all-alumni get-together is coming up in just a few months. We are planning two exciting reunion events for our alumni during the May 19-22 AAPG national meeting in Pittsburgh. We will be bringing faculty and current students down to Pittsburgh to attend the convention and network with alumni. Even if you are not attending the convention, if you're anywhere near the Pittsburgh area please consider joining us at one or both of these events!

Sunday May 19 — The Pittsburgh Pirates play a day game against the Houston Astros in the fabulous **PNC Park in Pittsburgh**. Join us at 1:35 to cheer on the home team (or your adopted team if you're working in the oil patch now!) We plan to buy a block of tickets at a group rate so we can all sit together and talk geology in between innings. If you'd like to join us at the park, email Karen Rose Cercone (kcercone@iup.edu) by January 1 to reserve your seats. Friends of IUP are also welcome!



Monday, May 20 — An evening of craft beers, old friends and lots of geology talk! We will have the cozy Ratskeller at the historic **Penn Brewery** on the North Side all to ourselves on Monday night from 6-9 PM. The Geoscience Department will provide a free appetizer buffet; drinks and dinner are on your own. Join us for an hour after work to catch up with other alums, or order an authentic Bavarian dinner and hang out for the evening with the department faculty — whatever fits your schedule! Please RSVP to Karen Rose Cercone (kcercone@iup.edu) by April 1 so we can order enough munchies.

CURRENT STUDENT RESEARCH NEWS

Dan O'Hara '13

I have been conducting research with Dr. Jonathan Lewis for the past three years. My research project is studying earthquakes in the southeast region of Taiwan in order to understand the deformation occurring within the area due to the collision between the Luzon volcanic arc and the Eurasian continental margin. With this research, I have presented at the 2011 and 2012 IUP Undergraduate Scholars Forum, the 2011 GSA Northeastern/Northcentral Joint Meeting, and the 2011 AGU Fall Meeting. More recently, in being a member of the IUP McNair Scholars Program, I have presented at the McNair Regional Conference (hosted by the University of Buffalo), the McNair National Conference (hosted by the University of Wisconsin – Milwaukee), and the 1st annual McNair Ivy + STEM Symposium (hosted by the University of Pennsylvania in coordination with multiple Ivy League schools).



Editor's Note: We're very proud to announce that Dan has been selected as one of IUP's featured students in their Academic series of YouTube videos. You can learn more about Dan [by clicking this link](#).

John Kearney '13



I really enjoyed my experience at the University of California, Irvine. The REU was well organized and allowed us to branch out and learn about other instruments used for

projects beyond our own. It was interesting to see what the other students were working on. My personal project involved the extraction of organic and elemental carbon from air filter samples using a Sunset OC/EC Analyzer. This instrument converted the captured carbon into CO₂, which was then reduced to graphite. The graphite was ran through an accelerator mass spectrometer (AMS) for radiocarbon analysis so that the organic and elemental carbon can be apportioned into fossil and modern sources.

Dave Watkins '14



This summer I spent ten weeks at the University of Minnesota in Minneapolis, working with Peter Hudleston as my advisor. My work was split into two parts:

studying folding mechanisms and modeling with the Fold Geometry Toolbox, and a field study of folding and other tectonic features in the Northern Snake Range in Nevada. I presented my project at the end of the program, and have submitted it for GSA in November as well. In addition to my own field work in Nevada there were two trips with the whole intern group, to southeast Minnesota to look at different parts of the karst systems, and to Lake Superior to study the hard rock geology in the igneous rocks around Duluth and the iron ranges farther north.

ALUMNI SPOTLIGHT: TOM BERGSTRESSER

1. When did you graduate from IUP?

In 1977. Hard to believe it has been 35 years since I left IUP and hitched up the wagon for Wyoming! Debby and I got married that summer, put all of our earthly possessions in a homemade trailer and drove west for 4 days, never leaving Interstate 80. As far as we could tell, bell bottom pants and platform shoes didn't exist in Wyoming (well at least not in Laramie)!

2. What have you been up to since then?

Four years later after a MS and PhD in Cretaceous biostratigraphy at the University of Wyoming, it was off to Denver to work for Chevron.

We were transferred to California and eventually to Houston in 1990, where we presently live. After 16 years with Chevron, I gave Mobil a try – just in time to catch the merger with Exxon in 2000. I moved to Anadarko in 2001 and have been there ever since.

3. What projects have you worked on?

Most of my career I've worked the Rockies – thrust belts, foreland basins and coalbed methane. I'm currently in the Risk Consistency Team where a few of us look at all proposed exploratory wells around the world. Probably the neatest job I've had since you get to see absolutely everything the company is working on.



Tom and Debby at their Geoscience Banquet.

4. Any personal highlights you can share?

Debby and I have one daughter who got married 4 years ago and now lives in the Dallas area. Dana is a graduate of Texas A&M with a Masters in Statistics. Debby continues to pursue volunteer activities at church and artistic hobbies. I have gotten back into fly fishing and usually get to Wyoming or Colorado once a year. This picture is from a recent fishing trip near Yellowstone National Park.

Editor's Note: Alumni Spotlight is a regular feature of GeoTidings. Any alumni with interesting careers or hobbies are invited to submit a profile along with photos of themselves at work or at play.

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John Harper '68

After 35 years with the Pennsylvania Geological Survey, 32 of them as head of the Pittsburgh office, John Harper says he's going to retire at the end of December, 2012. But retirement won't mean the end of all things geologic for John. He plans on volunteering part of his time with the Survey working on some unfinished projects, and part with the Carnegie Museum of Natural History trying desperately to get his head back into paleontology after far too many years away from his beloved Paleozoic snails.



John Repetski '69

I'm still here at USGS-Reston, and still finding conodonts to be an important underpinning to our geologic knowledge. Currently, I'm still working on several Cambrian-Ordovician projects with Dr. Taylor and Dave Brezinski, as well as one or two projects with Jim Loch. Recently, Dr. Taylor and I joined forces with a grad student at Harvard who's working in eastern and northeastern Alaska and the Yukon, so we're getting some faunas from yet another field area, and the student and his professor (structural geologists and geochemists) fully realize the importance of the fossil evidence, so - everybody wins. On other fronts, I'm involved in other Appalachian

projects, too. The black shale gas & oil 'frenzy' means that I'm working on Middle Devonian conodonts for the first time seriously since my post-doc project a couple of decades ago. With a prof from SUNY-Geneseo, we're using the conodonts (which are rare, but yes they're there!) to update and improve the regional stratigraphy within the Marcellus Shale interval from southern West Virginia to New York. I have plans/hopes to be doing the same thing in the Utica Shale interval, too. The conodont-based thermal maturity maps that we published a couple of years ago are being used widely in industry, and we're constantly adding to the database to update these maps before too long.

Oh yeah, I'm still helping a lot of mappers with age-dating by conodonts, and last but not least, John Taylor, Dave Brezinski, Albert Kollar (Carnegie Museum), and I are planning to lead a three-day Cambrian-Ordovician field trip in the central Appalachians following the AAPG national meeting in Pittsburgh this coming May. Find the dates for that trip, 'cause it's surely going to rain!

Jane (Pochan) Jones '69

After leaving IUP with a BS in Secondary Earth Science, I taught school at Knoch HS in Butler County for 5 1/2 years. Through those few years, I taught grades seven, eight, 11 and 12 both Earth and Life Science. While working there (and through a relatives introduction) I met and married a USAF pilot, John D. Jones in March of 1975 and moved to Loring AFB in northern Maine. We enjoyed Maine's outdoors until 1983. Thankfully, I only worked about one of those years! My classmates will be surprised to learn that I became a fishing and hunting person while there. John was transferred in the summer of 1983 to Elmendorf AFB in Anchorage Alaska. We have been here ever since. I stayed employed working for the Base Aero Club, a jewelry store and then almost 22 years as an administrator for a University on Elmendorf. Tried my hand at being a purchasing agent for an outdoor recreation company that sold snow machines and ATVs as well as boats for two years. Due to the "reorganization" of the business, my position was eliminated and I retired. My husband and I got the travel bug some-

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where in there and in 2003 starting to travel to Europe. Have been to Ireland, France, Italy and Greece over the years. Greece holds a special passion for us and since we were both into photography (and had taken thousands of pictures on our trips), we started a small business selling our pictures in various forms. So here I am in Alaska retired and enjoying life. Hope all of you are well. email me at missjane@gci.net

Ralph Feather '71

I am now an associate professor in the Department of Educational Studies & Secondary Education, College of Education, Bloomsburg University. This past year, I have published several more books:

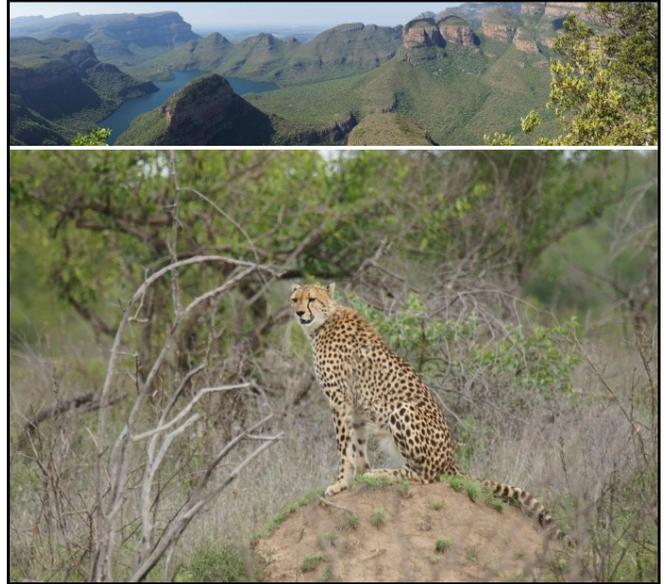
- Co-author of Physical Science with Earth Science (2012), Glencoe/McGraw-Hill.
- Consulting Author on iScience Earth Science, iScience Physical Science, iScience Life Science, iScience (3-year, 3 books for middle school science) 15 Little Books (alternate printing of the Earth, Physical, and Life Science texts.) The program is composed of 21 separate books; all published in 2012.
- I also contributed a Case Story for Methods for Teaching in Diverse Middle and Secondary Classrooms (2012) by Ken Henson, Kendall Hunt Publishers.

I am currently serving on several university-wide committees at Bloomsburg. These include: Promotion Committee, Curriculum Committee, College of Education Curriculum Committee (Chair), and General Education Committee. And to top it all off, I have recently been elected to serve as Chair of the Department of Educational Studies & Secondary Education in the College of Education at Bloomsburg University. The department consists of 22 full time and 12 part time faculty.

Bill Clark '73

Not much has changed since my last update. On the work front, our office has moved to downtown Denver, but I'm still doing the same sort of things for Schlumberger. On a personal note, I travelled to

South Africa and Zambia for safari, Victoria falls, and Cape Town visits. Fabulous places. A cheetah picture and Blyde River Canyon panorama are attached—the cliffs are Ordovician sandstone.



Phil Lacey '74

I decided to retire from teaching this past summer from the East Liverpool City Public Schools. I am still involved in the AMS (American Meteorological Society) education programs - DataStreme Atmosphere and DataStreme Ocean. These are graduate courses (3 credits) that are free to certified teachers. Teachers can contact me if they are interested at placey61@msn.com. Please encourage any earth science teachers you know to get in touch.

Tom Moore '76

Déjà vu, all over again. As some reading this may well know, the recent period of low natural gas commodity price has dampened some of the previously enthusiastic shale gas activity in the Marcellus Shale. The lull in drilling just means that we work differently, not less, but it does slow bringing on new hires and interns—not good news for geoscience departments trying to place students in jobs. There are some early indications coming into the winter heating season (cooler than last year's almost-a-winter) that the supply is tightening and there were net withdrawals from storage the first week in November—suggesting hope for better

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prices and more activity on the horizon. Many can be successful in good times; learning to be successful at times like this is the trick. Working smarter, being creative, paying attention to details, delivering complete and thinking holistically are some of the keys in such an environment. Some of us are used to this by now, having survived many cycles. For a few of you, this is a new and different world compared to the past few years. Welcome to the club.

Gary Smarsh '81

Hello, Gary M Smarsh here from south-eastern PA, still working at the NJDEP and as of October 22, now have 24 years in with the State as a geologist (thank you to IUP Geology). Also am working in the same bureau with another IUP alum (who came over to our group a few years back), Mr. Tim Nuss and also talk with Mr. Jeff Story a few times a year. Otherwise, that is about all for now. Thank you and good luck to all.

Tom Cornuet '85

Even though the price of gas is still quite low, there seems to be quite a bit of excitement in Ohio with the wet gas plays. I have recently become more involved with the shale gas drilling and particularly the evaluation of the pre-drill and post-drill water quality data and it's quite interesting. The local geology obviously has a lot of impact on the water chemistry in the area and it's important to include that in the evaluation of the data. I co-presented a paper at the Shale Gas Conference in Cleveland on July 24th which looked at the chemistry of water wells in Bradford County and found no impacts from gas drilling activity, including fracking.

Marty Albertin '86

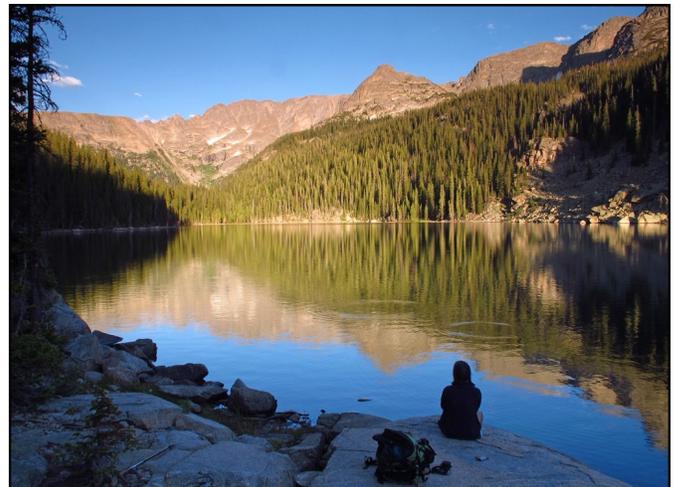
Work continues here at BP, and in the industry, to learn from Macondo and reduce the risk of such an accident happening again. I am in a new role – the title is a real mouthful: Segment Technical Authority for Pore Pressure and Fracture Gradient Prediction and Detection (or in BP acronym form SETA, PPFG). In this role I have global oversight of pore

pressure forecasting guidelines and procedures, competency of the staff performing PPFG prediction and detection work, heavy involvement with PPFG forecast reviews and PPFG related incident investigations. Thankfully I still get to dabble in actual technical work – I am developing and rolling out our new PPFG toolkit, built to run in the Techlog petrophysical package we are now using.

The family is doing fine. Our oldest son, Dustin, is working for the US government in Hawaii as a mechanical engineer at the Naval Shipyard at Pearl Harbor. Our middle daughter, Jamie, is in her junior year at Colorado State, working on a degree in environmental communications. Our youngest daughter, Maya, is 11 now. She is in her first year of Junior High (a big adjustment), and still heavily involved in gymnastics. It's sad when your 11 year old daughter has more muscle than you do! Ah well...just more motivation to stop eating so much and work out more. My knees have just said no to volleyball and soccer, so I am now playing tennis and bicycling to stay in shape.

Jeff Miller '87

All is well in Denver. Work is fine...still fighting the evil polluters for the EPA Region 8. My work isn't currently super exciting, but life is much more so. Highlights this year have been buying a 1901 Victorian in downtown Denver, a week spent storm chasing in the mid-west, and various backpack,



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star gazing, eclipse viewing trips in the Rockies. Hope everyone is well, and hope to make it in again for a visit to the university one of these days!

Chris Mitterer '88

After working as a DCNR State Parks Environmental Education Specialist at Cook Forest State Park from 1987 to 1997, and as a science teacher at Brockway Public School District from 1987 to 2010, I am currently running my own business from home.

1999 BAY STALLION
JUSTAFIRE LEO

2010
POHA Breeders Award
Joyce Armstrong QIP Breeders Award
Okie Wyatt Memorial Trophy Jr. Weanling Fillies
Res Sr. Weanling Colts

2009
CONGRESS CHAMPION

POHA CLASSIC 2010
FUTURITY CHAMPION

POHA CLASSIC 2010
FUTURITY CHAMPION

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583 Fire Tower Road, Brookville, PA 15825
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www.kestonem.webs.com

I am also actively involved in quarter horse breeding and showing. Our Keystone M Quarter Horses have won Pennsylvania Quarter Horse Association Breeders Award Winner and the Quality Improvement Program Breeders Award.

Diane (England) Miller '88

I'm starting my second year as Senior Geologist at Applied Geology and Environmental Science, Inc. in

Clinton, PA. I've been keeping busy writing reports for our remediation work at 36 Columbia Gas facilities as well as reporting on our on-going monitoring at various power plants in Pennsylvania, Ohio and Indiana.

We still live in Pittsburgh and my son is in the middle of his sophomore year at IUP majoring in international business. He's planning to study abroad next year and we are starting to plan for that. My daughter is in 7th grade and keeps us busy with her various activities.

Scott Mutchler '93

My wife Cathy, Makena (my daughter) and I moved to Erie, Colorado this past year. We love it here! The mountains are amazing. I also started my own analytics consulting company this year (www.bigskyanalytics.com). It's been a great year for us. I often think about my old classmates and the faculty at IUP. I hope everyone is well.

Glenn Smith '94

I currently work as an earth science teacher for Bentworth area school district and also serve as an adjunct instructor at WCCC. In my spare time, I am also the head tennis coach for the University of Pittsburgh at Greensburg.

Marty Arford '97

I am still teaching in the Geography Department at Saginaw Valley State University, just north of the 'thumb' in Michigan. One bit of news I'm most excited about is that I will be teaching a section of Intro Geology (not geography!) next summer for our Physics department. There is NO geology program here at SVSU University, how sad is that? Physics offers intro Geology, Meteorology, and Astronomy classes as general education science courses. However, they have no plans to expand on them, they offer very few sections (in spite of the need for more), and they have adjuncts teach nearly all of them. I'm hoping we can slowly convince them to let us have the Geology classes.

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Heather Renyck '99

Greetings from western NY. This is my third year teaching in western NY but my 14th year of teaching! I can hardly believe it. I still miss New Hampshire, but this year I acquired a new class to keep me busier. I welcome teaching our environmental science elective but have been relying on fellow educators and former professors for guidance. With all of the controversy in the field of energy and climate, it has been an interesting class to teach so far.

I finally started graduate school through Montana State because I am running out of time to keep my certification in NY. Otherwise, I doubt I would have pursued it (mostly because I have been able to find really great professional development in lieu of these forced graduate school classes that I am taking online). In summer, graduate school should be more rewarding because I will be taking geology field courses in Montana.

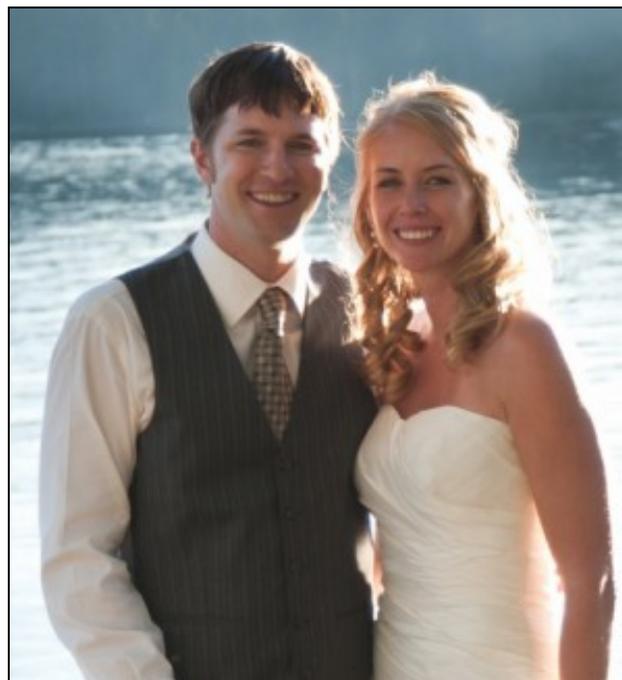
I am still balancing my time between NY and Ontario, as my partner is Canadian. He and I might be taking a motorcycle trip next year from Meaford, Ontario all the way down to Tierra del Fuego and back! Better brush up on my Spanish. I have yet to make up my mind because it will be quite a commitment.

I am really excited about the changes that are happening in the IUP Geoscience Department. I'm especially pleased for the current and future students. It was so nice to meet so many of you at Geoscience Day last May to celebrate your accomplishments and Dr. Taylor's!

Mark Zellman '99

All is well here in Denver, and I've been keeping very busy both in and outside of work. Over the past year I've been involved with siting studies and geohazard investigations for nuclear power plants, dams, wind farms, and pipelines all around the western US.

Outside of work I've recently been keep-



Mark and Kristi at the Holland Lake Lodge in Conton UT on July 23, 2011.

ing busy with a major home remodeling project. In addition my wife is wrapping up her first semester as a PhD student in the Geology program at the Colorado School of Mines, and she is pregnant! The baby is due in April just in time for finals.

Bryan Sell '00

This past year I've been working as a laboratory manager at the University of Michigan. We've been trying (almost finished) to build a radiogenic isotope laboratory dedicated to ultra-low blank analyses, mainly with respect to dating ice cores. The research is similar to what Dr. Hovan has been doing in that we are working with dust that has traveled a long way. So far it has been incredibly challenging, which shouldn't be surprising as I have a propensity for making everything unnecessarily difficult for myself. I'm still keeping busy with isotope and trace element research on ash-fall beds from really big eruptions in the deep past. So far we love living in Michigan. There isn't much in the way of rock outcrops here, but everything else is fantastic. This is probably the most pleasant place where I have lived.

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A special note from Steve Smith about the AAPG 2013 Alumni Baseball Game

I was chatting with one of the Pirates people about the possible IUP Geoscience reunion during the May 2013 AAPG Conference that will be held in Pittsburgh, PA. If anyone is interested in attending a game on May 19 (the day before the conference), please e-mail me, **Steve J. Smith** at iceburghwolves@comcast.net or one of the IUP Geoscience faculty, either Dr. Taylor or Dr. Cercone. If I can have an estimate of numbers by the end of this year, then I can return to the folks I know in the Pirates organization and talk with them about pricing plans!

Steve Smith '01

Hello again everyone! The past year since the last update has found no real major changes on the work scene at the National Geospatial-Intelligence Agency (NGA), so I won't even bore you with any of that information. On the home front, our daughter, Aurora, just started kindergarten this passed September, and so far seems to be liking the academic side of things. Kate has still not found anything with the school to keep her in the same off times as Aurora, but she does find time to volunteer at the school when needed. Other than that, everyone is doing well.

As for the off duty fun for the year, what I thought would be a little less busy turned out to be just as busy as the year before, but also very fun-filled. Once again, we made it back to Pittsburgh for several trips, though I went back more due to the start of school in September and didn't want to take Aurora out of school just to attend baseball games - which was my main intention on the trips. Saw many family members as well, which is usually the case.

I have still kept busy with the Honor Flight greetings, but I have now included Reagan National Airport along with Dulles International Airport from the last couple years. I attended nine different days of greeting flights for World War II Veterans coming to Washington, DC to see their Memorial. I got to be a guardian for one flight in September, which was awesome as always.

As with last year, but increased this year, I attended several Civil War re-enactments. There were eight different weekends of Civil War events to see, and one additional one of me just checking out Civil War defenses around the Washington, DC area. Among the battle re-enactments I attended were: McDowell, VA; Hampton Roads, VA and Norfolk, VA;

First Winchester, VA; Cross Keys, VA; Seven Days Battles around Richmond, VA; Second Manassas, VA; South Mountain, MD; and two separate events for Antietam, MD. I will also be participating in my second re-enactment for the 150th Anniversary of the Battle of Fredericksburg, VA in early December 2012.

Besides a quick weekend trip to Baltimore, MD to take in a Pirates-Orioles game and the 200th Anniversary celebration events for the War of 1812 in mid-June, the family only went on two longer trips. The



first one was a May trip to Mammoth Cave National Park, KY. None of us had ever been there. Pretty interesting to see one of the longest cave systems in the world. We even went to the tourist traps of Ken-

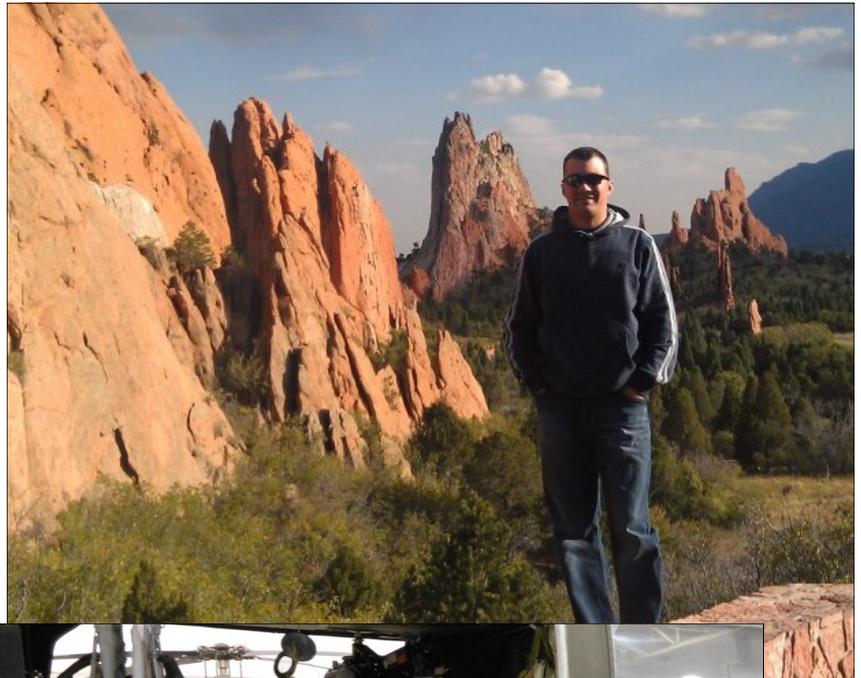
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tucky Down Under, where we got to pet a kangaroo, and Dinosaur World.

The other longer trip was the summer trip for the year - Alaska - in the second half of August! We had not been back since I left graduate school in 2005, so we went for an 18-day trip (with the travel time included). We were going for a friend of Kate's wedding, but also to see several areas that we never got the chance to see while we were there for three years. We rented an RV to drive most of the 2600+ miles around the state (an SUV was rented to drive on the Dalton Highway). The location highlights were: Anchorage, Denali State and National Parks, Fairbanks, Coldfoot, Dalton Highway (of "Ice Road Truckers" fame), North Pole and the Santa Claus House, Glen Allen, Palmer (and the State Fair), Wasilla, Seward, Kenai Fjords National Park, and Homer. We saw several volcanoes, many glaciers, bears, caribou, a couple moose, humpback whales, sea otters, salmon, and many birds. We visited Mitch Seavey's Iditaride where we got to take a ride with one of the dog teams on a cart, then hold 8-day old puppies. Really cool. Best part came only a couple days in where Aurora got to witness, though briefly due to being very tired, her first Aurora Borealis over Birch Lake Rest Stop. The Aurora Borealis is what she was named after, so to get the chance for her to see it was, as they say - "Priceless." It was the only time we had the opportunity to see the Aurora Borealis due to weather, but also latitude and lower activity. Kate says the trip to Alaska was one of our best, so far, as a family because of how everything worked out. I agree. The photo is a group shot of the family standing as close as they would let us get to Exit Glacier in Kenai Fjords National Park, Alaska in August 2012.

Greg Anthony '01

After working for a bit with the PA DEP as a surface mine inspector, I was hired full time with the PA GUARD last year. Right now, I am at Ft. Hood preparing to go to Afghanistan. I have to say that being an Apache pilot is pretty exciting. Recently I was in Colorado Springs for high altitude flight training, and I got to see some of the formations that piqued my interest in geology in the first place. Flying around Pike's Peak and the Garden of The Gods gives you a different perspective!



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Bob Kervin '02

I was one of two geologists at El Paso Corporation that was lucky enough to be given the Eagleford project before it had taken off. They approached us and asked if that would be something we'd be interested in working on and it sounded like a great project. Our first well was the 5th (if I remember correctly) Eagleford well in the trend and I'm the one that chose the location/coring/sampling, etc. Then from there we helped drive El Paso's leasing and drilling program until we got up to about a 300 million dollar a year program. It was very exciting to watch it all happen. The unfortunate side of things was that we did such a good job that they didn't want to hire any help for us and as a result it burned us out quickly. We learned rapidly that running a few horizontal rigs while concurrently keeping up with exploration, development, presentation, etc was just too much for us. Both him and I went out on the job market and got picked up very quickly for substantial pay raises to go do the same thing as a slower pace for someone else. I left El Paso and moved over to a small independent named Wapiti Energy.

When I came to Wapiti they had 5500 acres in the heart of the trend with about 6 months until expiration of the leases (it was part of an acquisition) which meant I had to hit the ground running. We quickly put together a plan, lined up a rig, and got on location. Shortly thereafter we were bought out by Marathon for \$25,000 an acre...it was the perfect storm. Since then I've been primarily working east Texas Wilcox Formation (Eocene shoreline-deltaic sands) and also some Uinta Basin, Utah tight sands. It's been pretty nice to get away from Eagleford for a little while. I was quickly being dubbed an unconventional geologist and I didn't necessarily want only that title. I think it's smart to diversify my skill set a bit for the day that I break away and start my own company.

Other than that, on a personal note, I got married this past year to a young land(wo)man whom I've been dating for about 3 years. She currently works at Midstates Petroleum working on their Louisiana assets. She's a Texas girl and a lot of fun.

Danielle (Chirip) Miller '06

After graduating in 2006 (my last name was Chirip then) I moved to Florida and am now in my 7th year of teaching. I spent three years teaching middle school in Osceola County, and now I'm teaching High School in Orange County. This year I'm teaching Astronomy and Physical Science at University High School in Orlando. I'm serving my second year as a Science Ambassador for the Orlando Science Center, and at school I serve as the National Honor Society sponsor, Girls in Engineering, Math and Science (GEMS) club sponsor, and I'm coaching our first ever all girls robotics team.



My students have been accomplishing amazing things. Last year I brought a team to the first ever Florida Student Astronaut Challenge and they placed 3rd, and you can see some photos of their experience if you visit the astronaut challenge website: <http://astronautchallenge.com/> then click on Previous Competitions. I had one student win the NASA Cassini Scientist for a Day essay contest and you can see her photo and read her essay here: <http://saturn.jpl.nasa.gov/education/scientistforaday10thedition/winners2011/>. One other student was a finalist, and two earned honorable mention. At the end of the school year last year, my students launched rockets as part of the Reach for the Stars rocket competition, and a student was one of six winners from the entire country. He won a trip to Kennedy Space Center for his whole family and launched his rocket from the Astronaut Hall of Fame.

ALUMNI NEWS

I was at Kennedy Space Center for the launch of the Juno mission to Jupiter and the GRAIL mission to the moon. I also took a trip to Huntsville to represent the class of 2000 at the 30th Anniversary of Space Camp. As a NASA Explorer Schools teacher I applied for their recognition program and won a week-long trip to Baltimore to visit and work with the astronomers at the Space Telescope Science Institute at Johns Hopkins. We also visited NASA Goddard and Washington, DC. My blog is here: <http://danielle-miller.blogspot.com/> and I have lots of photos from all of my experiences.

I found out last month that I was one of 18 educators from across the country chosen to be a NITARP (NASA/IPAC Teacher Archive Research Program) teacher. As a result, I'm headed to the American Astronomical Society meeting in Long Beach, California in January. I'll be going back to California with students this summer and then to Washington, DC for the next American Astronomical Society meeting in January 2014 to present our research. My students and I will be doing research with scientists from NASA Ames and the NASA Exoplanet Science Institute using data and observations from the Kepler Telescope. The announcement about this year's program is here: <http://www.spitzer.caltech.edu/explore/blog/266-NITARP-2013-Class-of-Educators>.

Joe Biondo '07

I am still working for a natural gas drilling company based out of Mt. Morris Pa. The company is Shaft Drillers International. I mainly work with two subdivisions. MEC Construction (specializing in compressor stations) and TCB Pipeline (specializing in both HDPE lines for frac water removal and Steel Lines for gas transmissions). Since the last news letter, I have been promoted to the safety manager over these two divisions. I am currently preparing for the CHST (Certified Health and Safety Technician) exam.

Tom Lavanga '07

Tom Lavanga here. Graduated in Spring 2007. Had a great time with Drs. Hovan, Taylor, Coles, Poague, Lewis, Cercone, and everyone else in the earth sci-

ence department! I am in my 6th year teaching physics and earth science at Perkiomen Valley High School in Collegeville, PA. I received my Masters in Geoscience from West Chester University in December of 2011. I also teach online graduate classes at Wilkes University through a program aimed at helping middle school teachers advance their understanding of science. My wife and I have twin daughters who are now two and a half years old.

Jeff Dereume '08

his past year has been a busy one both in and out of work. I've continued working for EQT Production in Pittsburgh Pennsylvania with operations focused towards the exploration and production of Marcellus and Utica shales. During the middle of last year I was rotated from the Huron shale, Kentucky working group to the Marcellus team. The upcoming year looks promising with lots of activity continuing throughout the Appalachian Basin.

In February, my girlfriend Kathryn, also an IUP graduate, and I adopted a 2 year old Wheaten Terrier named Loki. With both of us growing up with family dogs, adopting a dog was something we had been wanting to do for some time. Luckily, we were able to find him online at a shelter in Virginia, and it has been a joy having him ever since. Kathryn and I have been together since our senior year at IUP, and in May we got engaged at Letchworth state park in central New York. What more appropriate place to propose than in front of a giant waterfall and outcrop of Devonian shale. We plan to get married next October here in Pittsburgh.

Working with one of my coworkers Scott McCallum, also an IUP graduate, we have established an annual EQT recruiting event at IUP. We had our first IUP summer intern this past summer, and many of my peers and managers had great things to say about all of the students we interviewed, as well as the summer project that was completed by our IUP intern Patrick Boyle. We returned this past fall and were able to interview another great group of students.

ALUMNI NEWS

Lastly, I have continued to work with the geology faculty in establishing the geologic advisory council. The goal of this group is to assist departmental planning through the communication of ideas between the IUP geo-faculty and local industry professionals. I'm sure you will hear more about this in future department announcements; however, if anyone is interested in learning more or becoming involved, feel free to contact me or any of the faculty members.

Ben Stufft '09

All is well here at CME Engineering in Greensburg, busy as ever. We have two little girls now. Quinn just turned two and Veda is 5 months old.

Joe Ruffini '09

I graduated with a Master's Degree from the University of Wisconsin-Milwaukee in May 2011. My thesis topic was "Hematite and Sulfate Minerals in Lava Tubes at Craters of the Moon, Idaho: An Analog for Martian Basalt Diagenesis."

I am currently employed by Coeur Alaska mining company. I am a Mine Geologist and have been employed for 1 year and 4 months. My duties include ore control, underground geologic mapping, and using Vulcan 3D Mining Program to create block models which predict grade for large mining blocks called stopes. Some secondary jobs include checking on diamond core drill rigs, logging core, creating drill plans to accurately define ore zone targets and exploration geology in the summer. This involves hiking or taking helicopters to remote prospects to map and sample to help develop resources and extend the life of the mine. The job consistently calls upon knowledge of mineralogy, alteration, geochemistry, structural geology, and economic geology. Oh, and did I mention it was a gold mine?

Surinder Tara '10

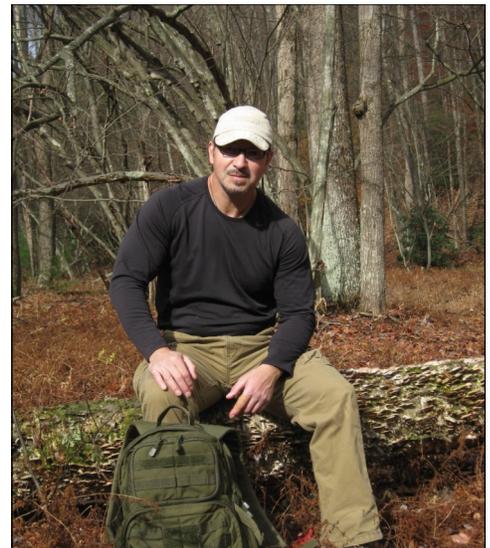
After returning home from IUP, I joined our national strategic development company for a couple of months before landing a job with a local oil and gas service provider as a geophysicist doing mainly 2D Hi Res site investigations. Closest I ever got to geo-

physics was from my research with Jon on fault kinematics besides his legendary structural geology class but somehow I survived the learning curve and offshore life for about a year and a half. Worked mostly offshore Peninsula Malaysia, Borneo and Thailand but it all basically looks the same when you're out there. I got bored of it rather quickly as I was spending 2 months offshore on average with about a month in office doing reporting in between. Timing couldn't be better as HR offered to place me in project management. I took the offer and have since loved the travel that comes with this industry. Sleepless nights has been common practice since but it's all worth it.

I moved to a smaller company a few months back and am currently one of the project managers taking care of Petronas projects for the provision of geophysical survey in Peninsula Malaysia. Working here has been really satisfying as I get to execute my own planning for projects and then wait to see if my head gets chopped off at the end. Management really isn't as challenging as being offshore with 15 foot waves hitting the decks but I guess I'll see where this leads to. As for now I'm enjoying the work while making new acquaintances.

Matt Morgan '11

From August to September 2012 I worked for Vibra-Tech Engineers Inc. as a field tech in Pennsylvania, New York, Maryland, New Jersey and Alaska. I currently have a geologist position with Rosebud Mining Co. out of Kittanning, and I'm living down near Schenley Park in Pittsburgh.



ALUMNI NEWS

Mark Smith '11

I am a graduate student in the Center for Integrative Geosciences at the University of Connecticut in Storrs. I research the formation and reactivation of the Eastern North American rifted margin. While most research studies have concentrated on structures in synrift strata, we concentrate on brittle structures found in crystalline bedrock. Our study focuses on eastern Connecticut and includes fault-slip data from various Paleozoic accreted terranes and the early Jurassic Higganum dike. Paleostress inversion of the fault-slip data identify four tectonic phases and are consistent with other studies in eastern North America of the post-Triassic states of stress. I will be presenting at AGU in December 2012 and NEGSA in March 2013. I intend to submit an article for publication and complete my Masters thesis by May 2013.



Caz Bejger '12

As of four weeks ago, I obtained a position as a lab technician at Alternative Testing Laboratories, Inc. in Latrobe. It is a small yet quickly expanding environmental and materials testing lab with a staff of 19 people. Here, I test for certain parameters depending on the customer and on the material being tested, such as phenols in water samples from land-fill locations (which represents an example of a type of environmental testing), or metallic iron in parts

made by a company that manufactures food processors. While it isn't geology, it's still science and it requires me to apply myself, which is refreshing and enjoyable so far.

As for graduate school, I'm continuing with my application processes. I am applying to University of Utah, Cornell University, and University of Missouri. I have exchanged emails and spoken with a professor at each university, and they all have encouraged me to apply. I will keep you updated as the endeavor continues.

Patrick Boyle '12

After graduating last May I completed an internship with EQT production in Pittsburgh, PA. I have since started my first semester as a graduate student at Virginia Polytechnic Institute and State University, where I am working towards my Masters in geoscience. Here in Virginia my thesis work deals with the seismic expression of contourite drifts off the coast of Newfoundland Ridge, Canada. These drift deposits provide insight towards mud dominated depositional systems and the dynamics of the Deep Western Boundary Current.

When I am not working on my research I am TA-ing a Sedimentology and Stratigraphy class for undergraduate geoscience majors. This May I will be presenting my first poster as a graduate student at AAPG Pittsburgh. Soon after AAPG I will be heading down to Houston, Texas to complete an internship with ConocoPhillips.

All in all it has been a great year!

Michael Deemer '12

I'm still looking around for a job. I've had a few interviews but that is about it. But in the mean time I've been keeping myself active with one of the college ministries here at IUP while I've been job searching.

ALUMNI NEWS

Ellen Lamont '12

Following graduation, I enrolled in a Geology master's program at the University of Connecticut's Center for Integrative Geosciences with a focus in Structural Geology, Tectonics, and Geodetics.

New this year at UCONN, we have developed a **Geoscience and Geohazards Study Abroad Program in Taiwan**, and the course will be running for the first time over the winter inter-session. It will be led by Dr. Tim Byrne (Structure/Tectonics), Dr. Will Ouimet (Geomorphology), Chung Huang (Ph.D. student) and myself, in addition to our colleagues in Taiwan.

It is a 3-week course designed for students interested in learning about the diverse geology of Taiwan through field-based geologic mapping, integration of data sets from a variety of geologic sub-disciplines, and through interactions with Taiwanese students and professors in the field. The goal of the program is to get students involved in data collection, data synthesis, and field mapping in addition to building networks with students abroad. The Geoscience and Geohazards Study Abroad program is open to students of all universities, and though it is too late this year, we hope to see a broader enrollment the next time the course is offered. For more information about the program, feel free to contact me at ellen.lamont@uconn.edu.



Heather (McGinniss) Empfield '12

Things here are going great. I love my job at McLanahan. I have been doing a lot of traveling and research supporting different projects that McLanahan is involved in. Projects that I have been involved in include stratigraphy, mineral/rock identification, settling testing, durability and frack sand identification, AMD remediation, viscosity and polymer testing, this is just the icing on the cake.

Stephen Norair '12

I am currently employed in the field of mortgage banking at George Mason Mortgage LLC working full time as a loan processor. While I am making decent money and could pursue this as a career I still desire to work in a field related to geology. Currently I am in the process of applying to graduate schools for a masters degree. The schools I am most interested in are University of Calgary, University of Idaho, University of Texas at Austin, and New Mexico Tech.

FACULTY NEWS — JOHN TAYLOR

John reports that 2012 was filled with memorable occasions. Among them was a remarkable milestone reached in May, when he completed his 30th (!) year on the faculty at IUP. He greatly appreciated the “tribute” assembled to honor the occasion by current students, with the devious assistance of the faculty and alumni, and sprung on him at the banquet in May. At least that’s what he said; many of those involved admit that they are looking toward the future with some trepidation, wondering what the barely audible mutterings about “payback” might foretell.

Field work in the southwest in March with his usual partners in crime successfully tied up a few remaining loose ends on his decades-old project on the El Paso Group -- although no one believes his claim that it was the last time he’ll visit the cherished cliffs of the Caballo Mountains. The accompanying photo shows John standing at the base of 12-13 meters of dark-weathering “Jose oolite”, which directly overlies the light-colored microbial reefs, dwarfed by the large entrance to the “Bat Cave” (no kidding...that’s actually the cave’s name). If you zoom in on the photo and find him blurry, don’t blame the photographer. Instead, chalk it up to violent shivering elicited by a cold front that abused the field party with icy temperatures and sustained 20mph winds. (Yeah, he still has that effect on the weather.) But the lower “Jose” took pity on him and yielded an impressive collection of trilobites to reward his perseverance.

Speaking of which, John is thrilled to report that AAPG Memoir 98 - The Great American Carbonate Bank: geology and petroleum potential of the Sauk Sequence - will be available for purchase before the end of 2012. As lead author on the biostratigraphy chapter, and coauthor of three other papers



Paleontologist for scale.

in the volume, he is really looking forward to seeing that volume on the shelf. But other initiatives are now at the top of the queue, including some trilobites from Alaska that refute earlier claims of a Siberian origin for parts of the Brooks Range, the previously men-

tioned trilobites of the lower “Jose”, and a large manuscript on the base of the Stairsian Stage that is long overdue. But another project, on Upper Cambrian trilobites in Utah and Virginia, is on the front burner as the focus of his Fall 2012 sabbatical. So, in other words, 2012 has been “business as usual”!

FACULTY NEWS — KAREN ROSE CERCONE

Karen Rose got a new title this year (Director of Academic Assessment and Planning) but continues with pretty much the same administrative work for the university provost that she has been doing

Karen Rose continues teaching introductory classes for the department, along with Hydrogeology in alternate fall semesters. She enjoyed teaching the Carbonate Geology field workshop so much

this past summer that she plans to offer it again as a Florida-only trip in the 2013-2014 January inter-session. Pictured here is the motley crew from 2012, posing with the largest land crab ever seen on Andros Island.

In her spare time, Karen Rose still does agility with her blue merle border collie, Kyanite. They recently had a perfect weekend, qualifying in ten of ten runs at a CPE agility trial.



over the past two years. She assists with five-year program reviews as well as university accreditation, strategic monitoring and student learning outcomes assessment. She also chairs two university committees and helps train other departments and offices to use TracDat assessment software.

Karen Rose was recently approved for a sabbatical to design a PASSHE-specific format for program review inside the TracDat relational database. She'll be working on that project in the spring of 2014, right before she takes on the Geoscience Department's next five-year review.

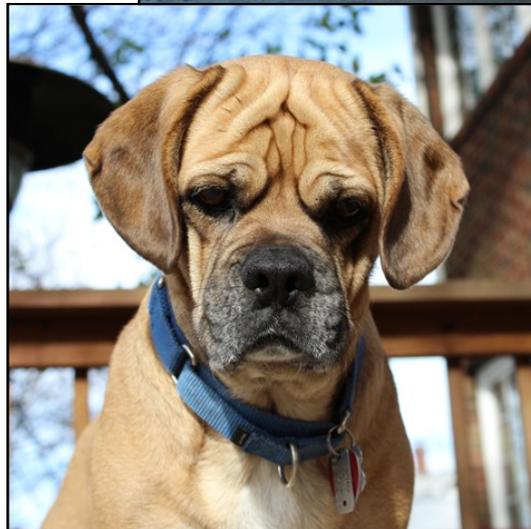


FACULTY NEWS — STEVE HOVAN

This past year I returned to the tropical Pacific on a month-long research cruise near the Line Islands, about half way between Hawaii and Tahiti. The central tropical Pacific is an ideal place to monitor changes in the Pacific's inter-tropical convergence zone and El Niño variability. The Line Islands Ridge is a broad, relatively shallow feature spanning a latitude range of 0 to 10°N and topped in many areas with carbonate sediments. The aim of this cruise was to collect sedimentary materials suitable for paleoceanographic research.



We surveyed selected areas of the Line Islands Ridge that appeared promising for collecting sediment cores using multibeam bathymetry, 3.5 kHz single channel seismic reflection and multi-channel seismic reflection surveys. We collected multi-cores, gravity cores, and piston cores from a meridional transect along the ridge. Water column properties and samples were also collected using a CTD/rosette in order to better tie modern processes to the sedimentary record in this area.



Back at IUP, three students continue to work with me in the “dungeon lab” in basement of Weyandt Hall. Sierra Davis is evaluating the glacial-interglacial cycles of dust and wind speed in the Line Island Ridge samples. Becca Smith and Shannon Stiffler are tirelessly working through the backlog of Pliocene and Oligocene samples Hovan collected the previous year to assess how the trade wind systems responded during periods of significant global climate change.

At home Amy and I have been busy running two teenagers to baseball games, dance recitals, volleyball practice, etc.



Some of you may remember “Turbo” – my beast of a black lab named after one of my favorite sedimentary deposits (turbidites). Last spring, after 14 years of chasing rocks and wrestling with students at campfires, his candle finally burned out. His replacement has some big paws to fill, but “Milo” appears to be up to the challenge!

FACULTY NEWS — JON LEWIS

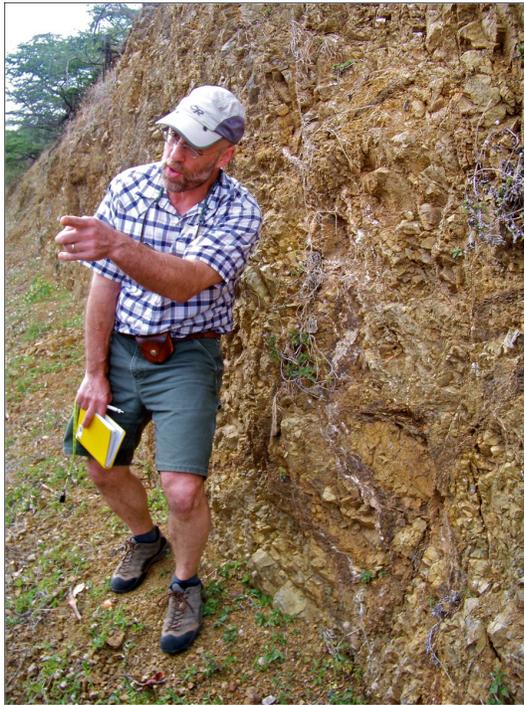
Dr. Jon Lewis finally wrapped up a component of his research on great earthquakes following his participation late in 2007 on Expedition 315 of the [Nankai Trough Seismogenic Zone Experiment](#). He was unable to convince himself that core-scale faults reflect the seismic cycle. Instead, he and his colleagues came to recognize that the faults record stress conditions during the formation of an out-of-sequence-thrust and thus the establishment of the Kumano forearc basin. The [manuscript describing this work](#) was accepted in November for publication in a Nantroseize themed issue of G-Cubed. His student colleague on this project Matt Harding ('12) is now a graduate student at Kent State!

Jon continues to work with his collaborator in Costa Rica, Walter Montero. The manuscript they authored with Jeff Marshall (Cal Poly Pomona), Sarah Kruse and Paul Wetmore (University of South Florida) has been revised and it should soon be "in press" at GSA Bulletin. Fingers crossed.

Jon wrapped up his 3-year term on the 12-member U.S. Advisory Committee for Scientific Ocean Drilling (USAC). The committee, which helps plan U.S. participation in the Integrated Ocean Drilling Program (IODP), spearheaded the renewal bid for IODP (with a slightly modified name) for 2013-2023. The Science Plan was given the green light by the National Science Board for an additional year of support during an election year and continuing budget resolution. The community is encouraged that the program will be retained afterward. To learn more about the next decade of drilling, check out the [IODP website](#).

Jon launched on a new chapter of service for IODP by serving as Instructor for the 2012 School of Rock

on the drilling ship JOIDES Resolution (JR) on its transit from Curacao to Bermuda. He and his fellow instructors (Jon Snow, U. of Houston and Leslie Sautter, Coll. of Charleston) arranged a field trip to explore the geology of Curacao before embarking on teaching with cores onboard JR. He's been tapped to teach on JR again in May 2013 off the coast of Victoria, British Columbia.



Jon Lewis at a pillow lava outcrop on the island of Curacao, Summer 2012.

Jon currently mentors three undergraduate students continuing to tackle problems that were initially spawned by his last NSF award. Dan O'Hara is the most senior of these students and he continues to find new problems to explore. He has provided Jon with a manuscript outlining his findings. Once we sort out the best way to statistically test the kinematics we expect to submit this work for publication in a peer-reviewed journal. Tom Paronish is currently working on unpublished field data assembled by Ellen Lamont ('12) during her stay in Taiwan. This is challenging work because we don't have personal field experience to provide background. Thus, the context must

be derived from primary literature. Tom is making great progress on this. Paul Good is going to use earthquake focal mechanism data from vertically below where Dan O'Hara has worked in order to explore whether the partitioned plate motion seen in the shallow crust is transmitted to the down-going slab.

Thanks to support from Dean Snavely the Tectonics Lab has started down the path of analog modeling. We have a new sandbox designed specifically to explore the oblique strain that typifies the Taiwan arc-continent collision. In the coming months Jon hopes to lure a talented quantitative thinker into his lab to start making mountains (albeit in a sandbox).

FACULTY NEWS — KEN COLES

Ken is back from his sabbatical in Arizona and New Jersey. At the US Geological Survey Astrogeology office in Flagstaff, Arizona, Ken assembled plans for a new Atlas of Mars. This atlas will include maps created by the USGS and text by a number of contributors, edited by Ken. We'll keep readers posted as this project nears publication.

While in Flagstaff, Ken also made digital scans of out-of-print planetary maps used in teaching at IUP. It is a big improvement to be able to print these or view them via computer as needed, rather than relying on tattered original copies. The Astrogeology office also proved to be a superb location to learn about current research in most specialties of planetary science. Daily seminars, topical meetings, and visiting scientists contribute to this exchange of ideas.

The temptation, when on sabbatical and not teaching every day, to attend conferences was too much to resist. Among those were the conference on current research on the Late Heavy Bombardment of the Moon and other bodies by asteroids and the annual meeting of planetary geologic mappers working with NASA and USGS support. Ken also presented a lecture at the Mid-Atlantic Planetarium Society conference in May and a poster on the Mars Atlas project at the Lunar and Planetary Science Conference in Houston in March.

In Toms River, New Jersey, Ken was able to spend time learning to operate a state-of-the-art planetarium at Ocean County College. The equipment in the Novins Planetarium differs considerably from the venerable equipment in the IUP planetarium; it takes two people and several computers to combine images from an optical-mechanical Zeiss projector and a digital projection system in a seamless way. Novins presents shows, primarily for paying audiences and school groups, every day of the week and has a staff of half a dozen people, most of whom are part-time. After a

lot of practice, Ken was able to operate the equipment for several shows, though he was not expert at making it "rain" inside the planetarium (a standard feature of shows at Novins). The facility at Ocean County College is versatile and has an ambitious program. Any future changes in the planetarium equipment at IUP need to consider how our needs differ from a full-time facility.

During trips back and forth across the country, Ken also had a chance to image some celestial events: the opposition of Mars in a very chilly image from February (at IUP) and the transit of Venus across the Sun (right, seen through a last-minute hole in the clouds on the coast of northern California).



All the time in Flagstaff led him to give in to one other temptation. Late in June, Ken hiked down the Bright Angel Trail into the Grand Canyon and back



up, three days altogether. A friend from college, Bret Burns, came along. While he is an engineer, he is the one who insisted on locating the Cambrian-Precambrian unconformity along the trail!

FACULTY NEWS — TOMMY GERBER

It's hard to believe I'm already making my second contribution to the Geo-Tidings newsletter. In some ways it feels as though I just arrived. At any rate, it's been a busy year. After getting my feet wet teaching established introductory courses for majors and non-majors last fall, I developed and taught a new course for our Energy Resources track in the spring called "Geology of Oil and Gas". It was a challenging and fun undertaking. Perhaps the highlight of the course for the students (apart from the lucidly presented lectures and fascinating lab exercises)

was a field trip to an EXCO drilling site graciously organized by department alum Tom Moore. It was a real eye-opener for all of us.

In April I attended my first Geoscience Day, which included a presentation by my first

undergraduate research student, Patrick Boyle. Patrick did a nice study on thermal maturity indices in the Paleozoic rocks of the Appalachian Basin using a USGS database generously provided by another department alum, John Repetski. In addition to his Geoscience Day talk – for which he was awarded Best Paper – Patrick was also selected to present his paper at the PGS Student Night. Patrick is now at Virginia Tech working on an M.S. with



a colleague of mine, Brian Romans.

Summer brought a much-needed respite from the classroom and a chance to devote some undivided time to research. In early August I presented some recent work at the fifth Meeting of Young Researchers in Earth Science (MYRES) in Salt Lake City, UT. The theme of the meeting was "Landscapes into Rock: The Sedimentary Record of Landscape Dynamics". The meeting consisted of three

days of talks and discussion followed by a two-day field trip in the San Rafael Swell region of central UT, and brought together early-career researchers working on a variety of problems related to Earth-surface processes.

At the end of August I visited the National Taiwan University for a workshop I organized on submarine canyon evolution that was supported by an IUP

FACULTY NEWS — TOMMY GERBER (con't)

Senate Fellowship Award. Our host, Steven Lai, has been doing some very interesting microscale laboratory experiments aimed at reproducing the morphology of continental slopes. Also in attendance was my long-time colleague David Amblas from the University of Barcelona. (Incidentally, our latest collaborative effort was published in the June issue of *Geology*.) We had some interesting discussions, conducted and observed some experiments, and laid the groundwork for what I hope will be a fruitful and long-lasting collaboration. The only downside was the arrival of Typhoon Tembin, which cut the trip short by a few days.

Early this fall I started Matt Toland ('13) and Anthony Vaiana ('13) on their senior research projects. Matt is working on a 3D seismic dataset donated to IUP by CGGVeritas that covers part of the continen-

tal slope offshore of Nova Scotia. He's interpreting the shallow section (first few hundred meters), looking at the recent activity of canyons and evidence for mass wasting events.

Anthony is looking at a suite of well logs (~150) from SE Kentucky provided by EQT Production. (Again, thanks to department alums Scott McCallum and Jeff Dereume for arranging the donation.) He's currently correlating units in the Upper Devonian section. Both Matt and Anthony are using Kingdom, a state-of-the-art software package widely used in the oil and gas industry for subsurface characterization and mapping. The software was donated to IUP through the IHS Kingdom University License program and will serve as a valuable research tool for years to come.

FACULTY NEWS — KATIE FARNSWORTH

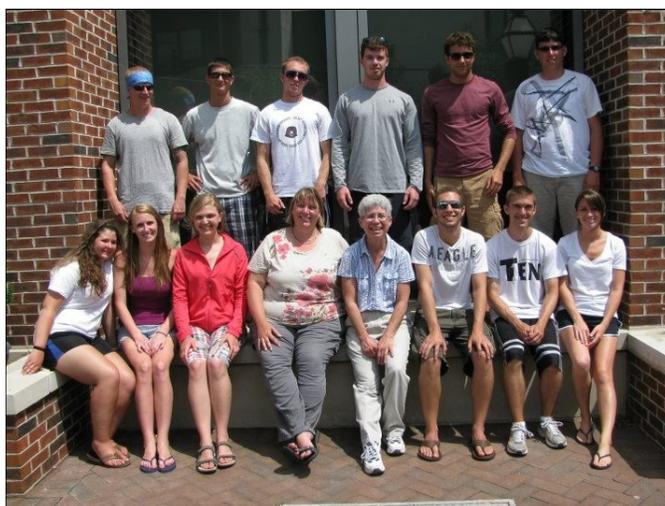
Dr. Cercone will tell you that I am a week late in getting my update to her – some things never change! 2012 started out very busy with students finishing up their senior research projects. Stephen Norair was looking into discharge trends and patterns in the Great Lakes region while Heather McGinnis finished up her multi-year study of AMD impacts on Bear Run. Both students did a great job on their Geoscience Day presentations. The semester ended with the good news that I had received Tenure, so the department seems to be stuck with me!

The summer was quite busy with co-leading the summer field workshop with Karen Rose Cercone. We split it up nicely with me taking the clastic shoreline down to South Carolina and meeting her there to take over the Carbonate part of the trip. After watching the vans drive away in Charleston I spent a week working with

a colleague at the College of Charleston on a paper on the sedimentary history of Black River Bay, Lake Ontario, before taking a leisurely train ride back North.

Since then, this fall semester has been flying — I cannot believe another year has passed and it is time for a Geotidings update already by with classes and a handful of students working with me on their senior research projects. We have a big project going with the local Senior Environmental Corp with

many dataloggers in streams collecting baseline data. I hope to get some of this data published in the coming months as well. In early October a few of us headed up to New Hampshire for Michael Poage's wedding, while a fun celebration it was bittersweet with the knowledge of his leaving our department family.



FACULTY NEWS — YVONNE BRANAN



Dr. Yvonne Branan took a semester off from teaching introductory classes to welcome a new member to the IUP Geoscience Department. Finnegan Liam Branan was born at home on September 27, 2012. Big sister Kiley, now in second grade, has been showing him the ropes around the department.

Yvonne plans to rejoin the IUP faculty in spring 2013, when she will take over teaching the earth science foundations class for elementary education majors from Dr. Cercone. Her volcano demonstrations remain very popular, both in IUP science labs and at local middle schools. Dr. Branan has the distinction of having recruited more new geology majors from her introductory geoscience classes than any other department faculty member this past year. We're delighted that she's coming back.

FACULTY NEWS — JOE CLARK

The attached picture is of our Subsurface Geology class from the late 1980's visiting a Victory Development drilling well in Clearfield County. Susquehanna Exploration and Production Company with Jeffery Greenawalt (IUP 1980) as Senior Geologist is now clearing three locations in Indiana County for Upper Devonian wells to be drilled this winter and would welcome another geology student field-trip.

I had a great backpack to the High Sierra of California in July, and am presently working on a paper on Quaternary Faulting of the Greater Monterey area, California for presentation at a Pacific Section AAPG -SEPM meeting in California in April. Greatly looking forward to the forthcoming national AAPG Meetings in Pittsburgh in May and to seeing IUP students and alumni well represented. Don't forget to sign up for the reunion, everyone.



MILESTONES — DOROTHY GRANATA

We are sorry to report that we lost another member of the IUP Geoscience Family this past summer, when Dottie Granata passed away on July 23 after suffering from pancreatic cancer.

As the wife of former department Chair, Dr. Walt Granata, she is someone that many graduates from the 1960's and 70's will remember fondly for her hospitality on occasions where department functions were held at the Granata farm. Even after the Granatas left the department for geologic adventures in Libya, Mexico and beyond, Dottie always kept in touch with many of Walt's former students.

Our condolences go out to Walt and to the entire Granata family on the loss of a devoted wife, mother and grandmother.



MILESTONES — MICHAEL POAGE



Best wishes to Michael and Meredith!

We are bidding a reluctant farewell in this issue to Dr. Michael Poage, who has been a member of our IUP Geoscience department family since 2003. This past October, Michael got married to glacial geologist and Dartmouth professor Meredith Kelly. He will be returning to Dartmouth this December as an adjunct professor so that he and Meredith can spend more than a few weeks together at a time.

Michael taught Mineralogy, Petrology, Geology of the Northern Rockies and many sections of introductory classes and labs at IUP. He was also the guiding force behind recent curriculum revisions that condensed our degrees into a single stronger program with tracks for Geology, Environmental Geoscience and Energy Resources.

Field work was always Michael's passion. He not only spent his winter breaks doing research in Antarctica, he also brought an increased emphasis on mapping to our summer field workshops. He also advised many student research projects both using his Antarctica data and his connections with local watershed advocacy groups.

Coastal-Carbonate Geology Field Workshop Visits the Outer Banks and the Bahamas in 2012

IUP Students Survive Two Tropical Storms, One Thunderstorm at Sea and a Land-crab Festival!

IUP Geoscience students took off in the traditional white vans for a brand-new version of the summer field workshop. Instead of heading west to the Rockies or north to Newfoundland, Dr. Farnsworth led the intrepid group south to the barrier islands and bays of the Outer Banks. Students spent ten days dodging tropical storms and measuring changes in beach profiles as they trekked south along the shoreline, ending up in Charleston, South Carolina for a day on the ocean in a research vessel.

The next day, Dr. Farnsworth handed over the keys to Dr. Karen Rose Cercone, and the crew headed even further south to study the carbonates of the Florida-Bahama platform. A few more days of dodging tropical storms ensued, while they studied coquina and oolite among the fancy condos of the Florida shore. Fortunately, the weather cleared up in time to get in two snorkeling trips to the reefs along the Florida Keys, as well as a visit to Coupon Bight and Key West.

The last week of the trip was spent at Forfar Field Station on Andros Island, which our alumni will be happy to know looks just the same as it did back

in the 1990's (except for having a lot more holes in all of the window screens!) Students visited carbonate outcrops at Morgans Bluff, Red Bays and Somerset Beach. They also spent time snorkeling around patch reefs and blue holes, but they all agreed that the highlight of their time in the water was swimming out over the Tongue of the Ocean and dropping an empty conch shell into the deep blue abyss.



Higher than normal waves stirred up by Tropical Storm Alberto at Cape Hattaras.



A handy hotel in Flagler Beach, needed when Tropical Storm Beryl hit Florida just a week later!

Thanks to alumni and faculty donations, we were able to schedule an extended day-trip to the ooid shoals of Joulters Cay, which was made even more exciting when we were chased back to land by a fast-moving thunderstorm at sea. Our week in the Bahamas ended with an evening spent at the Andros Land-Crab Festival before the flight back to the states and the long van-ride home.

Chair's Note: we offer field workshop classes every summer, but many students would be unable to afford to take these trips if they weren't also supported by the IUP Geoscience Foundation. We wish to take this opportunity to say a heartfelt 'thank-you' to all alumni.

We Hope You'll Stay in Touch...

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Social Media:

GeoTidings

Interesting geology news and department updates delivered to your Facebook wall. Add us to your 'Interests' to see all of our posts.

Geological Society of IUP

Facebook updates for student club projects such as t-shirts and trips.



... And We Appreciate Your Support!

Over the past year, our IUP Foundation accounts have made a big difference in the quality of education we offer our majors. Alumni donations helped students ride out two tropical storms during the summer field course by underwriting emergency hotel rooms. Students also were able to attend professional conferences and society meetings such as the recent SPE Distinguished Lecture on Safe Hydro-fracturing by Dr. Kevin Fisher. As you plan your year-end giving, please consider us. A donation to the IUP Geoscience program is a donation to the future of our profession!

- **IUP Geoscience Fund (Code 4530)** This general purpose fund is used to support general needs of our students including research, professional travel, field and laboratory work and our summer field workshop classes.
- **Joseph C. Clark Research Scholarship (Code 0545):** This fund was established in 2008 to recognize Dr. Clark's long and distinguished career. It supports IUP students in Stratigraphy, Energy Geology and related fields
- **Paul Prince Memorial Scholarship for Research in Oceanography (Code 0362):** The scholarship honoring Professor Paul Prince is used to support IUP students in Oceanography and related fields.
- **Walt Granata Memorial Scholarship for Research in Geology (Code 0361):** The scholarship honoring Dr. Walt Granata is used to support students in all fields of Geology.