THE IUP GEOSCIENCE ALUMNI NEWSLETTER

GEO TIDINGS

Volume 5, Number 2

FALL 2011

Cover: IUP students Mike Russo and John Kearney work on a measured section near Carbon Junction (south of Durango, Colorado)

The Beginning of the End …. of Walsh Hall

Plans For A New Science Building Are Finally In The Works!

Doctor Taylor says he's been hearing this rumor since he was the new professor in the department (and yes, that was back during the Paleozoic), but plans are underway for a new science building to be built by 2015.

The new building will sit on the current space occupied by Keith and Leonard Halls, both of which will be demolished after a new Humanities Building is constructed on the lawn between Clark and Sutton Halls.

Even before the new science building goes up, however, Walsh Hall will be coming down. Current plans call for the new science building to be connected to Weyandt Hall with a second-floor skyway. The space where Walsh Hall sits will become a walkway and a science garden.

The new dean of our college (see page 2) has already begun the process of planning and developing resources to equip the new building, with opportunities such as naming rights available to interested alumni.

Rumor has it there may also be a fund-raising auction for the right to push the button when Walsh Hall goes down … but you'll have to get in line behind Doctors Hovan and Taylor to bid on that!

GEOSCIENCE DEPARTMENT NEWS

Our new Energy Geologist is Dr. Tommy Gerber

Dr. Thomas P. Gerber accepted our offer to join the department and has already begun putting together a dynamic new research program in energy geosciences, sedimentology, landscape and seascape evolution and subsurface characterization of sedimentary basins. Dr. Gerber earned his BS at the University of Montana and received his Ph.D. at Duke University. His current research interests include:

- New methods for 3D seismic geomorphology
- Turbidity currents and the evolution of submarine canyons and deep-sea channels
- Incised-valley evolution in an experimental basin subject to varying base level and sediment supply
- Modeling the stratigraphic evolution of synrift basins

Dr. Gerber is teaching introductory geology for majors and non-majors this fall, while developing a new class called Geology of Oil and Gas for spring. Along with Sedimentation & Stratigraphy and a brand-new Geophysics class, Dr. Gerber's class and research programs will form the core of our new Energy Resources track in Geology.

IUP welcomes a new Dean of Natural Sciences

Dr. Deanne Snavely assumed the leadership of the College of Natural Sciences and Mathematics on August 1, 2011. Dr. Snavely previously served as interim Associate Dean of the College of Arts and Sciences, interim Vice-Provost and Chair of the Chemistry Department at Bowling Green State University in Ohio.

Dr. Snavely earned a B.S. degree in Chemistry from Ohio State University and a Ph.D. in Physical Chemistry from Yale University. After completing her doctorate, Dr. Snavely held post-doctoral appointments at Yale and at Stanford University before joining Bowling Green. Early in her career, Dr. Snavely was awarded a prestigious Naval Young Investigator Award in Chemistry.

Dr. Snavely is a physical/analytical chemist and her research has focused primarily on the study of polyatomic molecules through the use of vibrational spectroscopy and the kinetics of reactions by laser vibrational overtone activation. She has published thirty-six peer-reviewed journal articles and has secured nearly $1 million in external funding in support of her research. During her career, Dr. Snavely has mentored twenty-five undergraduate students on research projects and has supervised seven master's theses and seven doctoral dissertations.

Several new opportunities await Dr. Snavely as she begins her career at IUP. One of her immediate objectives is to develop and strengthen interdisciplinary linkages between departments in the College and she's already working with faculty to design innovative teaching and research spaces that will facilitate interdisciplinary research in the new science building complex slated for construction in 2015.

GEOSCIENCE DEPARTMENT NEWS

Dr. Joe Clark reports that IUP Geoscience was well represented at the October 20, 2011 Shale Gas Seminar held in Monroeville, PA. In the attached photo are (left to right) Joe Clark, Brad Zewe, Jeffery Greenawalt, Barbara Dunst, Susan Carulli, and John Harper.

Also in attendance were IUP grads Matthew Valentine, Stephen Zbur, and Scott McCallum, who together with John Harper was one of the main speakers at the seminar.

A New Alumni Council

One of the recommendations of our 2010 program review was to create an alumni advisory council. By happy circumstance, Jeff Dreueme, a 2008 IUP graduate, had independently proposed the creation of just such an advisory group based on his positive experiences with it while attending graduate school at the University of Wyoming. Jeff was our first recruit, and he will be joined by three other alumni who have shown a strong commitment to strengthening our department over the years. Our alumni council members come from different generations as well as different career paths, so that we can gain the benefit of their varied experiences. We trust you will be hearing more about their activities and advice in the coming year!

Alumni Council Members for 2011-2013:

Dave Brezinski '77 - Maryland Geological Survey
Wendy Straatmann '92 — Talisman Energy
Heather Renyck '99 - White Mountain School District, New York
Jeff Dereume '08—EQT Resources

The National AAPG Convention comes to Pittsburgh in 2013!

If you work in the energy or energy-related environmental field, mark your calendars now! The American Association of Petroleum Geologists will hold their national convention in the Steel City from **May 19-22 of 2013**. In addition to the great scientific sessions and talks, we are planning an all-alumni reunion dinner to be held during the conference at a site convenient to the David Lawrence Convention Center. Please join us no matter what field of geology you work in—we'd love to see everyone there!

GEOSCIENCE STUDENT NEWS

IUP Senior Geology Student Ellen A. Lamont travels to Taiwan for Summer Research Internship

The Taiwan International Graduate Program (TIGP) at Academia Sinica Research Institute in Taipei, Taiwan is an intensive, pre-doctoral research training program designed to prepare participants for future research and career development through rigorous hands-on training conducted under the supervision of professors and other academics. Every year the TIGP sponsors a Summer Internship Program (SIP) where they accept 40-60 interns from across the world representing different scientific disciplines and ethnic backgrounds with the intention of exposing interns to graduate study and research while encouraging international cooperation and networking. This year's program accepted 40 individuals representing 28 countries. Ms. Lamont was selected as the only student to attend from the United States and was accepted into the Earth Systems Sciences program under the supervision of the reputable structural geologist, Dr. J.C. Lee, whose research mainly focuses on the tectonic environment and crustal deformation within Taiwan.

While in Taiwan, Ms. Lamont was able to expand her understanding of the geoscience sub-disciplines in relation to their involvement in the processes working to deform the island. In her second week, Ms. Lamont spent nine days in the field assisting with a project in the sub-discipline of tectonic-geomorphology. She, three other interns, a graduate assistant and Dr. Lee set to the task of mapping and sampling tectonically elevated alluvial terraces of the Longitudinal Valley and Coastal Range in eastern Taiwan. The field work conducted on this trip set the framework for two subsequent trips for sample collecting, by the graduate assistant and other interns, to be used for OSL dating. In addition to learning about geomorphologic processes, considerable time in the field was spent on understanding subsurface stratigraphy, tectonic architecture, and fault evolution. Ms. Lamont also conducted an independent research project using both earthquake focal mechanism data and field-measured fault slip data from southwestern Taiwan to explore the role that the architecture of the ancient South China Sea rift basin and the Chinese continental margin play in controlling the evolution of mountain ranges. She found that possible reactivation of rift-related normal faults as active thrust faults, as evidenced by deep modern seismicity in the region, may be dictating the patterns of regional fault systems in the upper-crustal frontal fold-and-thrust belt of Taiwan. Ms. Lamont notes that this work is in its preliminary stages and will be further investigated in the future.

GEOSCIENCE STUDENT NEWS

A little gift goes a very long way…

Prior to coming to college, I had never imagined having the opportunity to travel to another country, let alone to live in another country for any extended period of time, especially where English is not the native language and the word tofu can be spotted more regularly on a menu than beef or chicken; but that is exactly what I did. I am a first generation college student and have always dreamed of exploring the natural world and of bringing the thrill and wonder of that world into the classroom where I could inspire others to enjoy the adventure of discovery and learning. Initially in coming to Indiana University of Pennsylvania, I was not aware of exactly how fortunate I was to be a student in the Geoscience Department. Unlike the geoscience departments of many other universities, undergraduate students at IUP have the opportunity to both participate in real-world research projects and to present their results at conferences all over the country. Because of this opportunity, I was able to conduct research under the supervision of Dr. Jon Lewis in west-central Taiwan and later present the results of this project at the American Geophysical Union National Meeting in San Francisco, California in 2010. Networking opportunities at this meeting opened the door for me to later participate in an international research internship in Taiwan where I was able to both further explore the tectonic processes deforming Taiwan and to discover the joys of traveling to another country and learning about the culture. Upon returning from my internship, I have had several opportunities to share my experiences with fellow scientists and secondary students from generally underrepresented groups in post-secondary institutions.

However, none of this would have been possible had it not been for the generous support of both the university and contributions by alumni, faculty and friends of the department to the fund used to support the activities of students at IUP. That being said, I want to thank the IUP Geoscience Department, the IUP College of Natural Science and Mathematics, the IUP Graduate Research Institute, and most importantly all of those people who have supported the activities of students at IUP over the years through both monetary donations, services, and networking. The help you have provided countless generations of students is very much appreciated and will assist is the advancement of the science for generations to come. I know that the support all of you have given me to reach my goals and advance my career as a geoscientist will stick with me for years to come. I look forward to the day that I can reciprocate your kindness to others in the same position that I was in just a few short years ago. Again, thank you.

Sincerely, Ellen A. Lamont

On November 3, 2011, two Geoscience undergraduate students joined Rick Adkins, Professor of Mathematics to present a campus-wide workshop entitled: **Scientific Visualization and Creating a Research Poster** Ellen Lamont ’12 and Dan O'Hara ‘13 helped Dr. Adkins cover the basics of manipulating and visualizing large datasets and showed how to create large research posters suitable for conference presentation. This workshop was sponsored by IUP’s S-COAM program.

At the April 2011 Undergraduate Scholars Forum, Dan O’Hara ‘13 was awarded the Best Computational Science Poster Award for his poster “Strain Partitioning Offshore Southeast Taiwan: Evidence from Focal Mechanism Strain Inversions Near the Huatung Ridge” based on his research with Dr. Jon Lewis. Dan was invited to present a talk on the same subject at the December 2011 national conference of the American Geophysical Union in San Francisco, California.

ALUMNI SPOTLIGHT: MIKE JARVIS

1. What is your current position or job? What kinds of projects do you get to work on?
I am currently working as a geologist for Talisman Energy in Pittsburgh. Talisman is an exploration and production company based in Calgary, Alberta, but works in countries throughout the world. Our Pittsburgh office is developing the Marcellus shale in northeastern Pennsylvania, with most of the work focused in Tioga, Bradford, and Susquehanna counties. I am part of a development team that plans and executes drilling operations in the shale. Each of our geologists also has several technical projects that they are responsible for, and we work closely with reservoir and completions engineers to incorporate different data types into our geologic models.

2. Any other professional accomplishments or honors you would like to share?
I am serving as Vice-President of the Pittsburgh Association of Petroleum Geologists (PAPG) this year.

3. What aspect of being a professional geologist have you enjoyed the most?
One of the things that drew me to geology was the multi-disciplinary style of geoscience, and while working on the Marcellus I have been able to apply different aspects of my training to the project. Working with other geologists and engineers has been a great learning experience for me.

Mike and his wife Melissa exploring the geology of Yellowstone National Park.

4. What advice would you give to current IUP students who want to follow your career path?
When I first left IUP, I was employed as an intern for several months and I would strongly recommend internships to any student. If you are able to find an opportunity during the summer, it will make it easier to discover what you are interested in doing with your degree or what you would like to focus on during graduate studies.

5. What other hobbies or recreational activities do you and your family enjoy doing?
My wife and I enjoy camping and boating during the summer and spent some of this past summer traveling in Montana, Wyoming, and Colorado.

6. What's one interesting thing about you that most people don't know?
Something many people don't know is, when I transferred to IUP, I was accepted into the music school and was preparing to major in vocal performance. Music is a passion that I have had my whole life, and I gave a lot of consideration to making it my career.

7. Any other thoughts you would like to share with students, faculty and other alums?
I'd like to thank the professors and other members of my class for helping me during my time at IUP, and wish everyone happy holidays.

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.

ALUMNI NEWS

Michelle Bosko Gajewski '74

I graduated in 1974 from IUP and taught in PA for 35 yrs — one year at Ambridge and 34 years at Greater Latrobe. I mostly taught Earth & Space Science, but also Environmental Science. Well, since retiring in 2009 I have been enjoying myself. I have been to Europe three times: Italy, Baltic Sea & Greece trips. Next venture is Riviera Maya in March for my Birthday Bash with the girls! I also have been blessed with 2 grandchildren: Mila and Silas. They keep me young! I hope all my buddies from the 70's are doing well!

William J. Clark '73

In the summer of 2010, I was promoted to Geological Advisor in Schlumberger. There aren't really many changes in my duties: I'm still in the Consulting Services Group out in Colorado, working on such diverse projects as the Bakken Formation and a carbonate reservoir in Kuwait.

David Stake '75

I graduated from IUP in 1975--Earth, Space and General Science and returned to IUP to get my M.Ed. in guidance. I just retired this past summer as the superintendent of the North Clarion County School District — 35 years was enough. I can relate to the informal teaching moments — my wife is very patient & kind as I point out a recumbent fold in the rock strata on an outcrop or that we are looking at a planet not a star and so forth. The teacher in us never leaves. Jeanne, my wife, and I have been doing lot of traveling. We are currently maintaining two homes: a farm in PA and a townhouse in VA Beach. We need to downsize — too much maintenance!!

Our children are all doing well. Jeanne's daughter, Kristi Yakulis, is an IUP Earth & Space grad.who taught in Dubois for awhile then relocated to VA Beach. She taught science there for a few years and made the move to media specialist in her district. Her husband is career Navy, thus the move to the Norfolk area. Jeanne's son, Tom, is a mechanical engineer in Chicago. My daughter, Kristen, is an IUP Honors College grad who is the National Marketing Mgr. for Consumer Electronics in DC. My son, Bryan, just got out of the Air Force Intel Division and is finishing his degree at Pitt and serving in the AF Reserve.

Tom Watkins '75

I continue with a career that is far afield from what I thought I'd be doing when I graduated in 1975. My career started out in coal mining and I had the good fortune do geologic work and mine planning in all of the major coal fields, which covered anthracite, bituminous, subbituminous , and lignite coals. Then about 13 years ago I moved from the mining side of the energy business to the generation side. After serving in a leadership role as plant manager for 9 years at Associated Electric's 2 facilities, I was asked to take on the challenge of maintaining the mechanical reliability of our 5 electric generating coal units. In total they produce about 2400 MWs and supply power to roughly 1 million homes. It provides a great deal of satisfaction knowing that one's efforts are supporting the quality of life to millions of people in rural America.

With 36 years invested in me, Fran continues to overlook my "faults." We have 2 children, both of which are married, and as of this past May we also have 2 grandchildren. The grandchildren live only

about 15 minutes from us, and Fran watches them about 2 days a week.

As empty-nesters, Fran and I are beginning to travel more. I have to burn up all of that vacation that has accrued over the years. Our two most recent trips were to Arches National Park / Monument Valley, Utah and we just returned from Spain. Spain was enjoyable, but Arches and Monument Valley were fabulous!! The geologist in me got excited. For us it was a first, and it made think about how we took a trip to Big Bend National Park, White Sands and Carlsbad when we were undergrads.

Richard Parrish '75

I continue at Chevron after 31 years and am still situated in Houston, the energy capital of the world. My current role is Manager of New Ventures for Latin America, in which I regularly call on all of the skills acquired at IUP to evaluate and recommend new oil and gas investment opportunities. These days, this involves the whole range of: conventional deepwater oil and gas prospects, heavy oil in the Orinoco, or the growing shale gas opportunities opening up in various countries. After a history of believing that shales were only a source rock, now they are a viable reservoir also, making for a real game changer, not only in PA, but all over the world. When not occupied with the search for hydrocarbons, I've recently taken some interesting trips to New Zealand, Costa Rica and the Galapagos Island. Attached is a field picture of my research on the Franz Josef glacier on the south island of New Zealand, showing both macro and micro techniques.

T.R. Moore '76

With the departure of some key personnel from EXCO Resources, I had to take over management of the Development Geology operations group at the EXCO Resources (PA) joint venture. That group has operated for about a year now very short-handed, with an active drilling program and most of this year has been catch-as-catch-can, fighting to stay ahead of a just-in-time drilling schedule. I am hoping that is about to an end, as we have a couple working-hand geologists lined up and, finally, a replacement manager for that group coming from our JV partner, BG Group. That means that I get to switch back to more mentoring mode, because the geologists coming in are not very experienced and/or have not worked in shale gas or the Appalachian Basin, and the drilling manager has spent nearly all of his career working offshore North Sea. I also hope to get back to doing more science than operations to actually put to good use the core and petrophysical information we've continued to collect in the Marcellus Formation. And there are other formations that are certainly prospective when one starts to apply some of the same technological approaches that are now more readily available to us here in the basin.

It's been a tough year on the personal side. The most tragic event happened this past summer when Muffie had an automobile accident while driving her elderly mother and father for a doctor's appointment. While she was not hurt, her father sustained fatal injuries. Her mother was badly hurt, but now months later is fairly well recovered. Muffie continues to spend nearly all day, every day with her, and by doing so has successfully gotten her mom home instead of into a long-term care facility. Continuing with vehicular mishaps, I managed to do in not one, but two cars with deer hits. One about an hour after the Steelers lost to Green Bay. The other in early November—on the entrance ramp for I-79 S from US 19 in Cranberry of all places. I'm sure the insurance company is wondering just what is going on. I feel like the hunted rather than the hunter.

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Dan Markey '77

I retired in 2010 after 32 years in oil & gas exploration in Houston. Linda and I now spend part of the year in Winter Park, CO and part in Coldspring, TX (both towns only have one traffic light). Some of you may remember we married one week after IUP graduation in 1977 and loaded up the U-haul for Lubbock, TX where I went for my masters degree at Texas Tech. For the past 15 years I specialized in "start-up" Gulf of Mexico exploration companies (British Borneo Exploration, Basin Exploration, Tana Exploration). Our oldest son lives in Australia, working in mining exploration and getting his second degree (this one in geology!). We will visit him next month and stop off for a live aboard scuba trip in Palau. Our younger son lives in Denver and is a geophysicist for a small Environmental Engineering firm.

Gary Ball '78

I have recently changed jobs. I left CME Engineering after 11.5 years and took a position with Alpha Natural Resources as Senior Geologist for their Amfire division. I am now working with the exploration side of mining rather than permitting.

Keith Stultz '78

I'm still working as the Director of Operations for Southern Clay Products in south Texas. I can't believe I've been here for 28 years now but the industrial minerals business has been good to us. SCP chemically alters clay minerals (mostly smectites) that we mine from various locations around the US and Europe as rheological modifiers for the coatings, plastics, and oilfield markets. Currently, the oilfield is keeping us very busy for mineral products for drilling and fracking fluids. I still make it a point to go out with the exploration crews a couple of times a year to keep my field skills polished. It's definitely the best part of the job! My wife and I have two children (a son and a daughter), and each of them has one child, although our daughter is expecting their second in February. The grandkids keep us busy but I still find time for running, biking, fishing in the Gulf, and taunting Cowboy fans.

Paul Weaverling '79

So difficult to fathom that it has been over 32 years since departing the hallowed halls of the IUP Geoscience department…..such great times there with even better people! I am currently a Program Manager for a small firm in Littleton, CO (International Risk Group) that does liability assumptions of medium and large contaminated properties and then implements the environmental cleanup and redevelopment of those properties. Interesting work but far removed from the practice of the science, though it does come in handy at some sites. Colleen and I currently live in Louisville, CO (near Boulder) and in the absence of kids we decided to spend their unused college education funds and inheritance to see other parts of the world when not working to support the habit. I am one shy of having visited all of the continents but have not yet convinced Colleen that there are many good reasons to visit Antarctica.

There is always some interesting geology to observe on our journeys whether it is Andean volcanoes dormant and active, large-scale thrust sheets and really high peaks in Nepal, the limestone depositional facies of the Great Barrier Reef, and more volcanoes in the Mediterranean. As promised, attached are a few 'geology' photos from our recent jaunt to Greece which included staying a few days on the island of Santorini – one formerly very large volcano that exploded about 3600 years ago

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in an event that dwarfed that of Krakatoa many

times over. Some believe the downfall of the Minoan Civilization was related to the explosion as a very large tidal wave resulting from the blast hit Crete straight on, wiping out the centre of the Minoan culture. Others theorize that the fabled City of Atlantis was destroyed during the eruption. From some of the photos you can get a sense of the scale of the crater circumference (~7.5x4miles), the height of the caldera walls (980 feet), and the emerging 'new' cone. The water in the caldera is over 1300 feet deep. In one photo we are standing on the emergent cone where some steam vents are spewing forth – and they are not roped off like you might see in the US. You can really feel the heat through the soles of your shoes as you skirt the vents and the edge of the 'active' crater.

Teresa McConnell '80

For six years Teresa worked in Colorado for Martin Oil Service as an Exploration and Wellsite Geologist. This work included subsurface and geological mapping, wellsite geology, economic and well log analysis, prospect generation and lease evaluations.

Teresa started working full time at Pitt-Johnstown in the Geology and Chemistry Departments in 1987. She has been a part-time faculty member in the Geology department since 1995. Her courses taught include Environmental Geology, Exploration in Geology, Physical Geology, Oceanography, Inorganic Chemistry 1 lab and Soil Geology lab.

During the summer Teresa works with the Boy Scouts of America, local school districts, the Learning Lamp and the Pitt-Johnstown Continuing Education department teaching geology and earth sciences to elementary and junior high school children. Teresa is married and has 3 children. She is also a part-time figure skating coach and a United States Figure Skating Gold test medalist.

Gary Neuder '82

My wife Sherry and I returned to Nigeria with XOM in May 2005 and stayed until February 2008, when I decided to retire (amazing how ~25 years goes by). Working overseas, except for a stint in Houston, for most of my career from 1992 helped with the early retirement. Officially retired April 2008. In June 2008, we returned to Nigeria for another 3 years. This time as missionaries for The Church of Jesus Christ of Latter-day Saints. We returned to the USA June 2011. We're living in Utah, enjoying grandchildren and retirement. Geology is now something I talk to the grandkids about. Consult? Maybe in the future.

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Wilson Taylor '82

This coming year will mark the 30th anniversary of my graduation from IUP with a BS in Geoscience. I got out of there just in time for my brother to return and become a faculty member. The next eight years were taken up with graduate work in paleobotany/palynology at THE Ohio State University, then it was on to my first and likely last faculty position in the Department of Biology at the University of Wisconsin-Eau Claire. After 20 years in the trenches with the students alternately; 1) working with wonderful undergraduates on faculty/student research collaboration and 2) telling pre-med wannabes that their 2.6 GPA is just not going to get them into that medical school, I accepted the responsibilities as Department Chair, overseeing the 30 faculty and staff. This is a position that, four years ago, I stated publicly (and in the presence of the Dean) that "I'd rather take a bullet in the brain than be Department Chair!". I have actually come to quite enjoy the extremely varied activities; chatting with prospective students/parents ("Why, yes, we do have a very good record of preparing qualified students for medical school"), courting prospective donors ("Why, yes, we'd love you to give us a large sum of money in support of our efforts to get qualified students into medical schools!"), and still "I'm sorry but that 2.6 GPA is not going to get you into that medical school".

One of my greatest challenges is keeping my research program alive while serving as Chair. I was determined to do so, and am happy to report that this coming summer (at the beginning of a glorious and long awaited sabbatical) I will be delivering an oral presentation on my 5th continent. For those of you considering a career as a faculty member, I highly recommend it. I can think of no better job. All you have to do is stay in school for 8 years beyond your undergraduate degree. It's a marathon, but well worth it.

As a final note, imagine the stress of living in the shadow of a sibling who has achieved so much, been lauded by so many, and been held in such high esteem by a long series of students and colleagues. If you're having trouble, just ask Dr. John Taylor; he knows what it's like. (Just kidding, bro)

Keith Rittle '91

I'm still braving the winds and enjoying the great cross country skiing in Laramie, WY. I went to the

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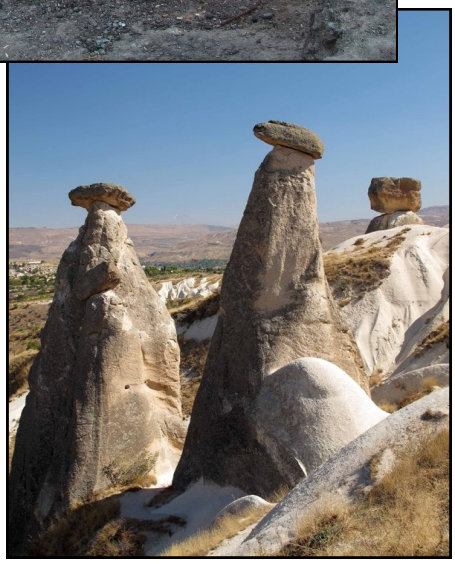
University of Wyoming for a Masters in Geology in '91 and never left. Have been at Trihydro Corporation, an environmental and engineering consulting firm coming on 18 years now. Most of my work has been in cleanup and redevelopment of closed industrial sites, mostly former petroleum refineries. That entails a fair bit of travel. For a project near Morro Bay, CA I was able to entice the family along for a four-month stint earlier this year, for a site in a particularly nice place to visit. We enjoyed living by the ocean and exploring California's spectacular Central Coast.

The photo is of my son Ted and I and our two dogs on Sand Dollar Beach north of Hearst Castle. I enjoyed a visit back to IUP last May for Geoscience Day. And I was pleasantly surprised to see Jeff Miller again after several years when he was passing through Laramie a couple of months ago. Made me think about those great Geology of the Rockies, Newfoundland etc… trips, which I hope are still going strong.



Ron Dowey '91

Currently I'm an Associate Professor of Physical Science and Science Department Chair at Harrisburg Area Community College. I'm teaching Meteorology and Astronomy in the Virtual Campus along with being the department chair for the Science department for our 5 campuses. I'm living in Annville Township, which is near Hershey PA. I'm in my 8th year as a full time faculty member and spent 3 years prior to that being an adjunct at the college.

Jeff Miller '93

The highlight of my year was a trip to Turkey. Geologically speaking, the coolest sights we took in were the eternal flames of Olympos and the eroded tuffs of Cappadocia. The flames of Olympos have apparently been burning for thousands of years and originate from 'natural metamorphic gases' (mostly methane) that spontaneously ignite when exposed to air. (An alternative, much cooler theory is that the monster Chimera --with the head of a lion, the body of a goat, whose tail is a snake and who spreads fire from its mouth-- lives beneath the mountain).

Cappadocia is an historic area in central Turkey most widely known for its houses, churches, monasteries and whole underground cities that have been carved from thick ignimbrite deposits since about 300 AD. The churches have well-preserved frescoes dating from the 9th century AD.

Glenn Smith '94

I am currently employed by the Bentworth Area School District as an Earth/Space Science teacher. I also teach Astronomy, Geology and Earth Science (online) for Westmoreland County Community College. I also manage to find time to serve as the Head Tennis Coach for the University of Pittsburgh at Greensburg. I am married and live in Latrobe PA.

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Scott Mutchler '94

I just wanted to pass along some pictures from a recent trip I took with my wife and daughter. I took them to the Cotton Patch Gold Mine in New London, NC to do some placer mining. My daughter finally found something she likes more than princesses :) I'm heading to Nome, AK this July for a week of prospecting. I can't wait! My life couldn't be richer with a beautiful family and job I love.

Pat Perfetta '96

I'm currently in Houston, TX, and am still working for Conoco-Phillips (hard to believe after almost 14 years). This year brought change, in that I've made the jump from conventional reservoirs, to the new world of unconventionals. I'm working as a subsurface team lead on one of our unconventional reservoir appraisal projects. Prior to making this move I was working deep water deposits in the Gulf of Mexico. The photo included is from a field trip that I attended earlier in the year, to look at deep water systems in Patagonia, Southern Chile...although the geology was spectacular, arguably the best part of the trip was the stop-over in Mendoza, Argentina (wine country) after the field trip!

Jocelyn Swentosky Niedziela '01

Andrew and I are here in Fort Yukon, Alaska, enjoying the beautiful geography while I serve as School Counselor for Yukon Flats School District. Andrew gets much more time to explore the surroundings than I do but I get the chance to go to other villages while he has to stay here in the village. It is so beautiful here in the interior and the auroras are spectacular! Dr. Taylor was correct in his assessment of the mosquitoes but luckily they have long since gone away. It's October as I write this — we have several inches of snow and it is now -10 to 10 degree on average.

Steve Smith '01

Hello again friends! A month and a half from the end of the year here in Virginia after another crazy year. Unfortunately for myself and my wife, we both lost loved ones this past year. Kate's mom passed away in early September. She was 83. She was there for the funeral and burial, and was able to spend time with all of her siblings. The family also lost our beloved dog, Dante, in March. He was 14, but he had a great life and we had a lot of fun with him in those 14 years. Both will be missed.

As for other things, the job with the National Geospatial-Intelligence Agency (NGA) is going well. Still doing more GIS than geology. I am coming up on the six year mark with the agency, at the time of this writing. With my military time, I'm almost at 13.5

years of federal service time for retirement - or at least on to hopefully some geology job. The big thing this year was the move into the brand new building. This was nice for me since it meant that my commute was anywhere from 20 minutes in the morning shorter to almost an hour in the afternoon shorter.

Outside of work, this year was filled with two really long trips for the family and several smaller ones. We started it off with the first of the two big trips with a March trip to Pirates Spring Training in Bradenton, Florida - our first one. We attended three games and saw some sights in the area that week. The second week, we headed to Disney World to see a lot of the characters for our daughter, Aurora. Everyone had a great time.

May found us doing some volunteer greeting of Honor Flights (they fly in World War II Veterans to see the World War II Memorial and other DC Memorials). I got the first chance to be a guardian to one of the World War II Veterans. This meant I got to be his escort around DC for the entire day. It was an awesome experience, and one I would suggest to everyone that can do it. The end of May also found us taking Aurora on her first camping trip to Shenandoah National Park. We stayed at the good old Big Meadows Campground. We drove the entire Skyline drive from north to south and was aided by the "Geology Along Skyline Drive" book that I got when the Historical Geology class took their field trip there in 1999.

July found me having the opportunity to be in the 150th Reenactment of the First Battle of Manassas in Virginia. A friend of Kate's from high school does reenacting and asked if I wanted to participate. It was very hot, especially in the all wool uniforms, but an awesome experience to be with the almost 9000 reenactors.

August was the month of the second long trip of the year for the family. We visited the upper Midwestern states of Michigan, Wisconsin, Minnesota, and North Dakota. Kate needed these four states to be able to say she was in all 50 states. I only needed North Dakota to say the same thing, so that was why we waited to do North Dakota last - didn't hurt that we had to go through the other three on the way. We stopped at several National Parks/Lakeshores, State Parks, and cities along the way. Highlights were the Mackinac Bridge (Michigan), Tahquamenon Falls State Park (Michigan), Amnicon Falls State Park (Wisconsin), Theodore Roosevelt National Park (North Dakota), Mall of America in Minneapolis (Minnesota), and Devil's Lake State Park (Wisconsin). Aurora also got some more camping under her belt. For a 4 year old, she ended the trip with having been to 27 states and the District of Columbia already.

The only other trips since then have been to White Sands National Monument in New Mexico for work, the Air Force versus Navy football game in Annapolis, Maryland, and the upcoming Army versus Navy football game in Washington, DC this December.

On the home front, Aurora will be coming up on 4 and a half in December. She has been going to preschool for three hours on Monday-Wednesday-Friday since September. Next year is Kindergarten! Kate is also doing well, and usually spending her time with Aurora and friends.

This coming year will be a little less busy, compared to the past year, but we are planning our big excursion to Alaska in August for a friend's wedding and to show Aurora where she got her name. Our fingers are crossed for dark enough skies to see some auroras with her. Unlike this past year, I really hope to get to Geoscience Day this coming year, so I hope to see you all there this time. unexpected events kept me from being at the past one. Take care and have fun!

The attached photo is a family shot from Theodore Roosevelt National Park, North Dakota from August 10, 2011. The Badlands Topography is just awesome.

Greg Anthony '01

Well, it has been an eventful year. I left my job at the PA Dept. of Environmental Protection where I was training to be a Surface Mine Conservation Inspector. However, an opportunity to become Full-Time National Guard arose and I was hired for that in Johnstown, PA. I attended the Instructor Pilot course for my aircraft which could open even more doors in the future. I have served in the military for 20 years now, and I have a few more before I can

retire. My wife Kristy continues to work with Dr. Barathan in the Biology Departmen at IUP. Our son, Hayden, is growing fast. It won't be long before he is off to school. How time flies.

Katie (Watt) Barber '01

I have an update for the newsletter—I got married! My husband is Benn Barber. We are currently living in York, PA, where I am in my 10th year teaching 7th grade science at Eastern York Middle School.

Shawnda (Whittenberger) McGroarty '02

I am still teaching Oceanography/Geology, Environmental Science, and Physical Science at Wesley Spectrum Academy in Upper St. Clair. I will be finishing my M.Ed. in Special Education this December. On April 25th, my husband and I welcomed a baby girl to our family. Her name is Brynn Lee.

Jeremy Bader '05

Wow, how time flies! I have never updated most people at IUP as to what I have been up to since I graduated, so here goes!

After graduating from IUP with my Bachelor's in Geology in 2005, I went off to Texas for graduate school at Texas Tech University in Lubbock, TX (yes, there was a sort of culture shock going from mountains and forest to flat desert!). I graduated from there in 2007 with my Masters in Geoscience. My thesis was working the biostratigraphy of Early Silurian conodonts taken from well cores from wells drilled in north-central Oklahoma. So yes, that means that I have joined that illustrious group of paleontologists that work conodonts! (I know fellow IUP alum John Repetski is so proud!). But never fear, my fondness for the trilobites has not wavered, in fact they are still a part of my research now (but more on that later). During my time at TTU, I worked summer geologist internships with two companies in Houston. They were Dominion E&P (2006) and El Paso E&P (working with IUP geology alum Bob Kervin) (2007). The time spent there really helped me land my present job, and I learned a lot about the oil and gas industry (along with corporate life!).

After I graduated from TTU with my degree, I was hired by Halliburton Energy Services and am still with them today. Due to my carbonate experience (thank you Dr. Taylor and Dr. Hovan!), I was hired as a geologist/image log analyst at our office in Midland, TX so off to the even more remote desert I went. Image logs are tools that are sometimes run in the wellbore (along with normal logs) that take a resistivity-based continuous "picture" of the rocks that have been drilled through. A geologist is needed to then interpret the geology that is displayed and then present that interpretation to the clients. Since the Permian Basin area of West Texas and New Mexico is very well known for the carbonates found there, I was a perfect fit. Working image logs is actually a geologically fun thing to do, albeit, it was hard transitioning at first from paleo/biostrat/real rock to geology on a computer screen, but after a while I found that it is not all that bad. After about two and a half years in Midland, I was then transferred in 2010 to my present location in Fort Worth, TX. I still work all of the Permian Basin, but I also now work wells from East Texas and the southern U.S., mostly from Louisiana, Alabama and Florida.

Working at Halliburton also allows me to continue my pursuit of fossils and researching biostratigraphy. Currently my research is focusing on the

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macrofossil (trilobites included!) biostratigraphy of the Pennsylvanian (Moscovian-Kasimovian boundary) in north-central Texas and will soon move over into the Appalachian Basin. My research partner happens to be my good friend and former office-mate from TTU and current professor at Hardin-Simmons University in Abilene, TX. His focus is on researching the conodont biostratigraphy from the same interval which is a continuation of his PhD dissertation. Our research/field area is west of Fort Worth, so it is nice and close. We are finishing up the field work and the arguing/writing is about to begin!

Professionally, that is about it. Personally, I still travel to the Caribbean islands every chance I get, but this year I had the opportunity to spend two weeks in Hawai'i, so you know off to the volcanoes I went! It was an awesome trip and the picture included is of me on the smoking caldera of Kilauea. First time on an active volcano, and take it from me, if you call yourself a geologist of any kind, you MUST at least once in your life, stand on a volcano!

Lauren (Birch) Bell '07

After leaving IUP and spending a few months student teaching abroad in England, I landed a teaching job in my hometown of Johnstown, PA. I teach 7th grade life science and 8th grade earth and space science. I couldn't be happier with my decision to become a teacher! My kids are amazing, and I hope to teach them as much as I learned from all of you guys! I just received my Masters in Education from Capella University and I am considering a Doctoral program in Educational Psychology. I'm also married now and looking forward to starting a family soon. My husband and I have recently traveled to Alaska and fell in love with it. We are contemplating a future there with a crazy dream of someday mining for gold and striking it rich!

Joe Biondo '07

I was teaching Earth Science for the last 3 years in New Jersey, but I recently moved back to my home in Pittsburgh as I have a new job as a Site Safety Specialist for a Natural Gas & Oil drilling company "Shaft Drillers International". In addition to my bachelors degree from IUP, I also hold a Masters in Administration. Both degrees have helped to attain and do well in this new adventure with natural gas.

Justin Reed '07

I'm writing to let you know that I'm still teaching English as a foreign language in Taiwan. I also plan on being in grad school next fall semester.

Jeff Dereume '08

After relocating from Fort Collins back to Pittsburgh a little over a year ago, I've continued to work for EQT petroleum corporation as an operations geologist in the exploration and production department. I'm part of the Huron team which focuses on the development of Upper Devonian Huron shales and Mississippian tight gas sands. I currently watch over two horizontal drilling rigs which run 24 hours a day 7 days a week and take up a good chunk of my spare time. Additionally, over the course of the year, I have been working on numerous exploration projects throughout the A-basin that have refined our operational procedures in eastern Kentucky. In November, I had the pleasure of visiting IUP and presenting my current work and the role of an operations geologist to many of the students and faculty. Along with my coworker Scott McCallum, we have begun to establish and build a working relationship between EQT and the students and faculty of IUP.

Chad Paronish '09

I'm currently working as a Geological Technician for CME Engineering in Somerset, Pa. I have been working for CME Engineering for over a year now. While at CME I have been able to utilize my degree while working on coal and non-coal mine permits. One of my most memorable experiences this

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past year was overseeing the geotechnical drilling for a future waste water treatment facility. I also picked up a new hobby this past year, down hill skiing!

Dan Saftner '11
I am a Peace Corps Volunteer in Dschang, Cameroon. I teach Physics at the local Lycee Bilingue (Government Bilingual High School). I am currently teaching Form 3 students (equivalent to 8th grade). When I am not working at the school, I teach "Life Skills" at the local prison. I work there with another volunteer. We teach the prisoners facts and myths about HIV/AIDS, decision-making processes, passive/assertive/aggressive behaviors, and so on.

MARK YOUR CALENDARS!

The 38th Annual Geoscience Day will be held on **Friday, April 27, 2012**. Eleven graduating seniors will present their capstone research projects in the morning, followed by a featured alumni seminar. In the evening, the Geological Society of IUP welcomes all alumni to join faculty and students at the Rustic Lodge for the Geoscience Banquet, where we will present a variety of awards, scholarships and honors to our students.

— Miscellaneous Notes —

Steve Rupert '75 began a new phase of his career on October 3, 2011, when he took on the position of both President and Chief Operating Officer of Texas Keystone Inc. in Pittsburgh. Steve tells us, "I'm excited to be accepting this new challenge. Nancy, Cheri and I are still living in Peters Township, so it's a bit of a commute, but well worth it."

Wendy (Metcalf) Straatman '92 was recently promoted to Vice-President of the Marcellus Delivery Unit at Talisman Energy USA. The company announcement noted that Wendy brought over 15 years of significant oil and gas experience in multiple plays and leadership roles to the position. Prior to joining Talisman Energy USA, Wendy was the Vice-President and General Manager for the Appalachian Division of EXCO Resources.

The department sends a double congratulations out to **Jayne Park '97** (daughter of Professor **Fred Park**) for the defense of her Ph.D. thesis three days before the birth of her daughter.

Shane Shipley '98 was the subject of an in-depth profile in the Indiana Gazette, highlighting his former career as a professional motocross racer, his recovery from a devastating crash and his new focus on training and mentoring other professional athletes in the Indiana area. Get all the details here: http://bit.ly/sqnck5.

Congratulations to **Charlie Burger '05** on the recent birth of his daughter, Hadley Rae.

Christina Ritter '09 has begun working for Arcadis in South Carolina and is scheduled to defend her thesis sometime in January.

FACULTY NEWS — JOHN TAYLOR '75

John had a productive year, finishing off one manuscript on Upper Cambrian trilobites near the base of the Eoconodontus conodont Zone throughout North America (Miller et al., 2011 –Bulletin of Geosciences of the Czech Geological Survey), another describing a new genus and several new species of trilobites near the Cambrian-Ordovician boundary (Loch & Taylor, 2011 – Memoir of the Association of Australasian Paleontologists), and a third forwarding an unconventional interpretation of meter-scale, upward-coarsening, shale-based, carbonate-capped cycles in the Upper Cambrian of the Northern Rockies as the products of rises rather than falls in sea level (Myrow et al., 2012 – Journal of Sedimentary Research). This was also a busy year in the classroom, as the 2012 schedule included Sedimentation & Stratigraphy in the spring and Paleontology in the fall – the latter with a record-setting 22 students enrolled! John predicts that the last items will be graded somewhere in early January --- of 2014.

Dr. Taylor using high-tech research equipment to wrap up the trilobites he collected in Alaska this year.

However, John's most noteworthy adventure in 2012 was sandwiched between the spring and fall semesters. Never one to yield to common sense, he accepted the invitation of his (much) younger and (much) more physically fit colleague Justin Strauss to join him for a week of field work in east central Alaska in late spring of 2011. After all, he had Justin's assurances that it really wouldn't be that physically challenging, and that all the horror stories about grizzlies, mosquito hordes, incessant rain and/or snow on Jones Ridge were just exaggerations conjured up by Alaskans to discourage interlopers from the lower 48. So John caught the flight to Fairbanks in late May, thoroughly enjoyed the scenic drive to Dawson City, Yukon, and climbed aboard the helicopter, excited at the prospect of coaxing the Jones Ridge Limestone to yield enough trilobites to (almost) overload the chopper on the return trip. As promised, the forty-minute flight in was breath-taking and the campsite on the saddle (see tents in first photo) near the base of Jones Ridge was downright idyllic. More importantly, being above tree-line, it also proved to be grizzly-free. But the euphoria faded when, after the helicopter had departed, Justin pointed out the base of the measured section (see red arrow in first photo) at the top of the ridge. The lung-searing, half hour climb straight up the near vertical slope the next morning, followed by half a mile or so across treacherous talus slopes did little to rekindle the enthusiasm, but the bounty from hours of diligent sampling and

FACULTY NEWS — JOHN TAYLOR (con't)

the spectacular view from the ridge crest did. (See second photo of John with long-time partner-in-crime Paul Myrow and Justin's field undergraduate field assistant Esther Kennedy. And no, those aren't just safety glasses if you must ask! The trilobites, it seems, have been shrinking in recent years.) Although a bit chilling, the persistent wind on the ridge crest did provide some respite from the mosquitoes (see John's hat in the third photo), which welcomed the weary field party back to camp as they staggered in for dinner somewhere around 11PM to midnight. When you're barely south of the Arctic Circle, darkness never arrives to force you into conceding that it's time to quit for the day.

The question is, why are they on his hat and not his nose?

But in the final analysis, it was all very much worth it. The rocks proved to be both interesting and productive, and a few days birding on the tundra in the Alaska Range before returning home allowed John to add some delightful new species to his life list as icing on the cake. Among them was the Bohemian Waxwing, which brother Wil had seen for the first time earlier in the year in Wisconsin. But don't mention the Arctic Warbler to John; he's still terribly surly about having to leave only days before that species arrived back on its breeding grounds in the Alaska Range.

FACULTY NEWS — KAREN ROSE CERCONE

Karen Rose was re-appointed as IUP's Provost Fellow this year, continuing her work with accreditation and assessment for the Academic Affairs Division. The Periodic Review Report she wrote last winter was recently approved by Middle States, confirming IUP's accreditation status for another five years. She is now helping other departments and offices at IUP learn how to use a new relational database called TracDat to report on their strategic planning and student learning outcome data. While Dr. Cercone has enjoyed working as a part-time administrator, she's looking forward to returning to the department in 2012 -2013 … just in time to start gearing up for our next five-year program review!

Karen Rose is still teaching many introductory classes for the department, along with Hydrogeology in alternate fall semesters. She has begun to upload her lectures to the internet so that students can log in from across the state and still participate in class discussions and groupwork with their peers.

This coming summer, Karen Rose will team up with Dr. Katie Farnsworth to offer the Carbonate Geology field workshop. Details of the trip will be posted on Facebook in case any alumni are interested in participating, either virtually or in real life.

Karen Rose not only painted these orchids, she grew them!

In her spare time, Karen Rose still does agility and other dog sports with her border collie, Kyanite. She has also started to dabble in watercolor painting. Ironically, she says that she has found rocks to be one of the hardest subjects to paint!

FACULTY NEWS — STEVE HOVAN

Although feeling more like an administrator than a scientist these days, Dr. Hovan still manages to squeeze in some research time with ocean sediments. Hovan and colleagues from UC Santa Cruz recently submitted an article summarizing their work on characterizing the thermocline depth in the tropical Pacific throughout the past 5 million years. These data will make a fantastic companion data set to compliment the Trade Wind studies that Hovan and several of you have worked on over the past decade!

Dr. Hovan will continue mapping tropical wind patterns next spring with a newly funded expedition to core sediments near the Line Islands in the western Pacific Ocean. A team of faculty from several universities will collaborate on a geophysical and sediment coring survey of this area in preparation for an future expedition in this area proposed aboard the U.S. drillship *JOIDES Resolution*.

The JOIDES Resolution

Steve Hovan and Heather Renyck '99 share the joys of studying deep sea mud.

Last summer, Dr. Hovan also teamed up with IUP geosciences alumnus Heather Renyck (B.S., B.S.Ed.'99) to teach a workshop aboard the U.S. scientific drilling vessel *JOIDES Resolution* for the U.S. Ocean Drilling Program's School of Rock. The School of Rock is an intensive training program for formal and informal educators to learn about ocean sediments and how they are used to learn about the fundamental geological processes in Earth's history. Each year since 2006, a School of Rock has been held at sea aboard the drilling ship or at the main U.S. repository for ocean sediment cores at Texas A&M University. Educators are able to examine cores (columns of rock and sediment collected by the drilling ship) to learn about important topics in marine geology such as global climate change, plate tectonics, and earthquake hazards. Educators then develop and share curricular materials about these processes to help others learn about them, too.

The *JOIDES Resolution* is fitted with a drilling derrick that rises 205 feet above the water line, making it easy to find when it is in port. The derrick can suspend drill pipe down 27,000 feet (about 6 miles!) below the ocean surface and find a predetermined drill site with amazing precision even while being pulled by strong ocean currents and knocked around by waves. The *JOIDES Resolution* is the only American ship dedicated solely to scientific ocean drilling. Dr. Hovan plans to be aboard again for a research voyage in the spring of 2012 — stay turned for more news and updates!

FACULTY NEWS — MICHAEL POAGE

Dr. Michael Poage spent the spring of 2011 on sabbatical in Hanover, New Hampshire as a Research Fellow of Dartmouth College's Institute of Arctic Studies. His sabbatical involved continuing research with Dr. Ross Virginia (Dartmouth Environmental Studies Program) and others from the National Science Foundation's Long-Term Ecological Research Program in the Dry Valleys of Antarctica; his sabbatical included a six-week field season from December 2010-January 2011. Current and continuing projects in Antarctica include studying the distribution and cycling of soil phosphorus, and soil salinity variations in Dry Valleys soils and the effect of salinity on soil ecosystems.

At the forefront of fashion in Antarctica. All the cool kids keep their iPod speaker in an Altoids box!

In October, Dr. Poage attended the Geological Society of America Annual Meeting in Minneapolis, presenting a paper entitled, "Relationships between soil geochemistry and nematode habitat suitability, Taylor Valley, Antarctica". This work stemmed from the 2010-2011 field season as well as a student project with Dartmouth undergraduate Kelsey Johnson, and shows the highly variable scale on which nematode habitat suitability can vary in regions previously influenced by changing lake levels in Taylor Valley.

He currently has a proposal pending with the National Science Foundation, teaming up with researchers from Dartmouth College, Virginia Tech, and the University of Tennessee to study phosphorus dynamics in the linked soil and lake ecosystems of the Antarctic Dry Valleys. This work will focus on the influences of landscape history and contemporary microbial processes on phosphorus availability, the subsequent influence of phosphorus availability on microbial communities, and the influence of microbial communities on apatite weathering and mobilization of biologically available phosphorus. On December 1, 2011, Dr. Poage will return to Antarctica for his seventh field season with MCM-LTER continuing research on soil phosphorus and participating in the initiation of new field projects designed to understand the impacts of climate change on soil ecosystems in the Dry Valleys.

During the summer of 2011, he accompanied Jon Lewis and ten students to the San Juan Mountains of Colorado, co-teaching a department field course on the geology of the Southern Rockies. The course focused the regional geology of the Colorado Plateau, development of field mapping skills, and the structural geology of the Molas Lake area along US Highway 550 between Durango and Silverton. He is currently teaching Foundations of Geology and Physical Resources of the Earth; in the spring he will teach Geochemistry and Research Methods.

Winning the award for 'Best Camp Hair'

FACULTY NEWS — JON LEWIS

Dr. Jon Lewis is wrapping up his research on great earthquakes following his participation late in 2007 on Expedition 315 of the Nankai Trough Seismogenic Zone Experiment (google 'Nantroseize' for more information). He has not convinced himself that the core-scale faults observed during the expedition reflect the seismic cycle. Instead he interprets the structures as a response to the formation of a major out-of-sequence thrust fault. Look for this to eventually show up in a Nantroseize themed issue of G-Cubed. His student Matt Harding ('12) is wrapping up his efforts to characterize dewatering 'vein structures' and microscopic scale faults observed in core samples. This work caught the attention of the Pittsburgh Geological Society and the Association of Engineering and Environmental Geologists which asked Matt to give a talk at their April 20, 2011 meeting. Kudos to Matt for doing such a great job presenting his work and for representing the Department in fine fashion!

Jon continues to work with his collaborator in Costa Rica, Walter Montero. The manuscript they authored with Jeff Marshall (Cal Poly Pomona) and Sarah Kruse (University of South Florida) is in the final stages of revision so it should soon be "in press" at GSA Bulletin. Jon also still serves on the 12-member U.S. Advisory Committee for Scientific Ocean Drilling (USAC). The committee helps plan U.S. participation in the Integrated Ocean Drilling Program (IODP). This is Jon's last year serving in this capacity and he remains in awe of what it takes to maintain this ambitious and critical research program. The renewal of the IODP (with a slightly modified name) is slated for 2013 and the Science Plan has recently been examined by the National Research Council of the National Academies of Science. The goal is strong support from the National Science Board. To learn more, check out the IODP website (http:// www.iodp.org/) and click on the New Program 2013-2023 tab.

Jon currently mentors five undergraduate students working on his NSF-funded Taiwan Project (officially known as: Collaborative Research: Reactivation of continental margin fracture zones: Insights from seismicity, strain patterns, and numerical modeling of modern and ancient orogens). Ellen Lamont (now '12 thanks to her double major in Geography & Regional Planning) continues unraveling earthquake-related deformation in the rocks of central Taiwan. She presented her findings in a poster at the Fall 2010 AGU meeting in San Francisco and then in Spring 2011 was asked to give a talk at the Northeast/North Central GSA meeting in Pittsburgh. Congratulations to Ellen for giving a great talk! Not one to rest on her laurels, Ellen then applied for and was awarded an Undergraduate Research Fellowship from Academia Sinica. This is part of the very strong Taiwan International Graduate Program (check out http:// tigp.sinica.edu.tw/ for more information). She spent most of Summer 2011 in Taipei working with Dr. Jian-Cheng Lee on active deformation in western Taiwan. All of this has further enhanced our collaboration with Dr. Lee and in fact other students are currently enjoying the fruits of that in the form of rich datasets for new analyses. Well done!

Ellen with a clearly jet-lagged advisor at AGU.

Also working on Taiwan is Dan O'Hara ('13). Dan has shown that earthquakes offshore SE Taiwan accommodate plate motion by distributing deformation into two strain domains, margin-normal shortening and margin-parallel shearing. His findings caught the attention of the AGU organizers and Dan was asked to give a talk at the Fall AGU meeting this December. Congrats, Dan! Jon will present a talk right before Dan in a sort of tag-team performance.

Thanks to the continued growth of our collaborations in Taiwan with Dr. Lee and Dr. Ruey-Juin Rau, Jon has pulled students Paul Good ('13), Joy Kiefer ('13), and Tom Paronish ('14) into his Taiwan Project. Paul will build on Ellen's efforts to explore a strange earthquake swarm that was centered at the southern end of her Luliao study area. Joy will build on Dan's offshore work, focusing on deformation deeper in the plate boundary system. Finally, Tom will work on a very rich outcrop-scale fault dataset from the region on the surface above the crustal earthquakes that Ellen has studied. All of these efforts promise to be fruitful and will no doubt appear on Geoscience Day!

FACULTY NEWS — KEN COLES

After teaching astronomy through Spring of 2011 and during the June summer term, Ken Coles is on sabbatical during 2011-2012. That means existing projects are on hold, but it also represents a great opportunity to dig into some new science. Fall 2011 finds Ken at the Astrogeology office of the U.S. Geological Survey in Flagstaff, Arizona. This was the center of the geologic training of the astronauts who went to the Moon in the 1960s. Ken's opportunity developed from a chance contact with U.S.G.S. research geologist Kenneth Tanaka, who coordinates the planetary geologic mapping program and has published numerous planetary maps and articles, including the Geologic Map of Mars and the formal definitions of the Periods of the Martian timescale (Noachian, Hesperian, and Amazonian, for those of you who have forgotten your stratigraphy). Astrogeology-Flagstaff has developed many GIS datasets for the Moon and planets, including several used by Jason Ames '11 for his Geoscience Day project on classifying lunar impact craters. The computer and GIS support and access to research literature at this office are also outstanding. The current project is to assemble maps to create a new atlas of Mars (the last one was published by NASA in 1979). This project, if it proves feasible, will take several years to complete. Anyone attending the Lunar and Planetary Science Conference near Houston, Texas in March 2012 can see the first mockup pages and sample maps.

Standing in the lobby of the USGS Astrogeology Office in Flagstaff.

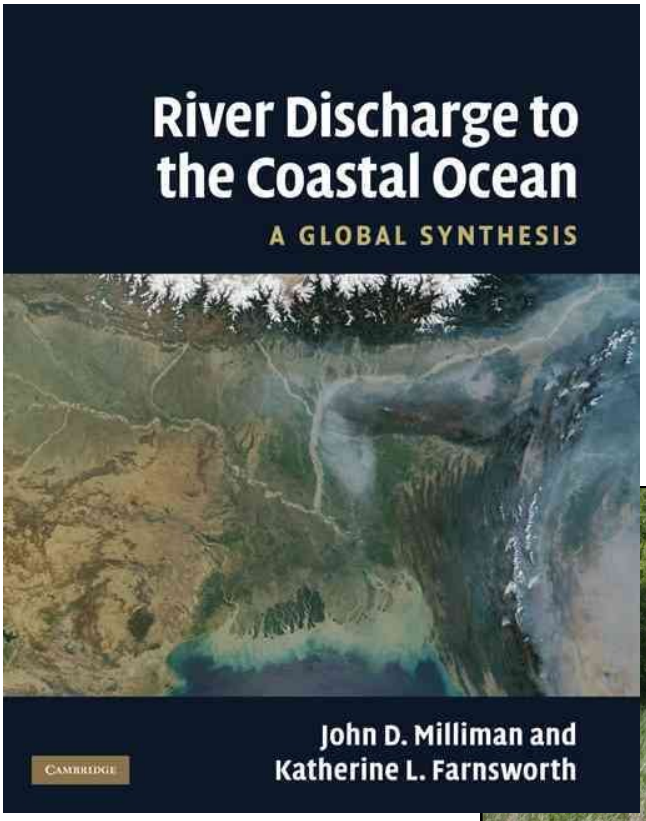
Spring 2012 will find Ken at the Novins planetarium of Ocean County College in Toms River, N.J. This state-of-the-art community college facility has both digital and optical dome projectors (as well as a laser system suitable for illustrating rock music). The director, Gloria Villalobos, is a former President of the Mid-Atlantic Planetarium Society (MAPS). In addition to learning to run the equipment, Ken will put together a new show intended for free distribution through MAPS to other planetariums. The tentative show topic is the timing and cause of the early asteroid bombardment of the Moon. Ken will also assist Gloria with hosting the annual MAPS conference in May at Novins, a conference he hopes to bring to IUP in a future year.

Here I am at the gate to the Community School in Pinon, Arizona. I lived here in Fall 2000 while teaching Grade 3 at the nearby Pinon Elementary School on the Navajo Reservation.

Driving west this past summer gave plenty of chances to look at outstanding geology, and Ken has had company along the way. He married his wife Priscilla in July, and they have been on their (year-long!) honeymoon ever since. (Now you know the real reason for a sabbatical.) Priscilla is the niece of the late Gene Richardson, paleontologist for many years at Chicago's Field Museum and noted for his studies of the fossils of Mazon Creek, Illinois. No doubt this contributes to her new, innate sense for rocks and geology. She reports after her first visit to the Grand Canyon that it indeed lives up to the hype, and she even broke in her first pair of hiking boots there on the Bright Angel Trail.

FACULTY NEWS — KATIE FARNSWORTH

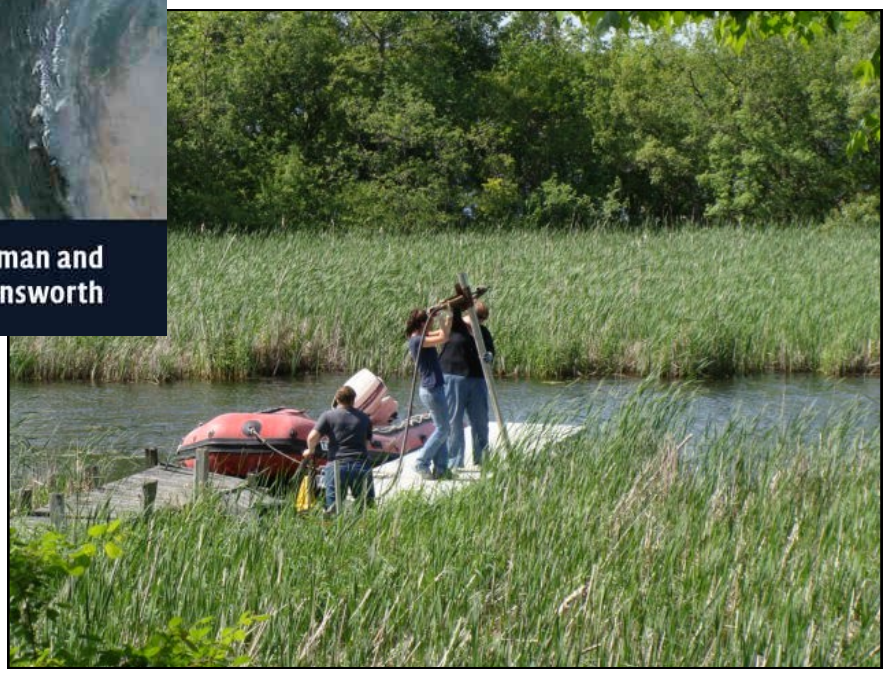
Well it has been another busy, and exciting year. Spring was taken up with fieldwork on abandon mine drainage in Bear Run, Indiana County and the beginnings of a water quality datalogger with the local Pennsylvania Senior Environmental Corp and students. My research student Heather McGinnis presented part of her work at Bear Run at the regional GSA meeting in Pittsburgh. It was also great to see familiar faces and meet new folks at the IUP Geoscience Alumni gathering at the meeting.



The spring also saw the publication of a book I had been working on for a while, “River Discharge to the Coastal Ocean” with Cambridge University Press. My co-author, John Milliman, and I are extremely proud of this book, and hope is helpful to those studying fluvial discharge of dissolved and suspended material to the oceans.

I was also able to get a couple of publications completed from work with a colleague in the Biology Department on the way that students learn cause and effect relationships in science.

This summer was full of fieldwork with Dr. Ben Ford in the Anthropology Department. We had a National Geographic / Waitt Foundation Exploration grant to conduct a survey in Black River Bay, Lake Ontario. We spent much of June in the field, where my research student Kellie Kerner learned the ins and outs of shallow marine surveys – all of the students were quite surprised that it entails much sitting around and watching squiggly lines on a computer screen. There was also some small gravity cores taken as well as an attempt at vibracoring one of the marshes on the bay. We are still processing some of the data and plan on returning for more coring this coming summer. The best part of the work was the interdisciplinary aspect of it, combining archaeological and geological fieldwork together. I think both the students and the faculty involved learned a lot.



Katie and her students take advantage of a strategically-placed dock to core marsh sediments along Lake Ontario.

FACULTY NEWS — TOMMY GERBER

The past year was an eventful one for me. Lisa and I welcomed our son Wesley to the world on April 12th, less than two weeks after I accepted IUP's offer to join the Geoscience Department as Assistant Professor. Needless to say, the following months were sleepless and a bit stressful, but by early August we were feeling settled in our new Indiana Boro home.

Thanks to the tireless effort of our department chair (thanks again Steve!), I was able to secure a large room on the 3rd floor of Weyandt for my office and workspace. With room to spare, we decided to locate our new large-format department plotter there too. Carrying Wes around and making multiple trips a day to the department office in Walsh is keeping me fit.

Wesley Gerber helps Dad do field work.

Unsurprisingly, I have spent most of my first semester here preparing for courses. I expect this to continue into spring, when I'll be teaching a brand-new course offering for our energy track on the "Geology of Oil and Gas". I have, however, managed to carve out some time for research. I am finishing up a study I began at Chevron looking at the evolution and stratigraphy of incised-valleys in a reduced-scale experimental basin. I will present the results at the AAPG Annual Convention (CA) in April as well as the Chevron Subsurface Characterization Forum (TX) in May. I hope to have a manuscript on the study submitted to Basin Research by early 2012.

I have also continued a fruitful collaboration with colleagues at the University of Barcelona (ESP) focused on the evolution of submarine canyons. Much of this work is based on a spectacular digital terrain model of the NW Mediterranean seascape built from years of multi-beam surveying by the Barcelona group. We've published two studies on the geomorphology of submarine canyons and are currently revising a third. Meanwhile I am pursuing a new international collaboration with colleagues at the National Taiwan University. They've done some very interesting reduced-scale laboratory experiments on the formation and evolution of submarine canyons. Recognizing an area of mutual interest, we – along with the Barcelona group – are planning a ~10-day workshop in Taiwan for summer 2012 that will include some new experiments and what I hope will be some interesting discussion.

On another front, I've been sending out requests for energy-industry datasets to use in teaching and student-led research. CGGVeritas, a global geophysical acquisition company, has expressed interest in loaning multiple 3D seismic data volumes to our department. And soon we will have access as an educational institution to the PA*IRIS digital well database managed by the PA Survey. To help us make sense of these great datasets, Paradigm, a leader in geophysical software development, has agreed to donate some software packages for 3D seismic and log interpretation.

I have also been in touch with department alumni at EQT and Talisman Energy. Scott McCallum and Jeff Dereume visited us in October to present some of their work and interview students interested in a summer internship. Wendy (Metcalf) Straatmann is helping me coordinate a similar visit by Talisman in February. All in all it's shaping up to be a busy and fun 2012.

FACULTY NEWS — YVONNE BRANAN '01

Things have been continuing along the same lines for me here at IUP. I continue to enjoy teaching classes on a fairly regular basis and have really loved having the chance to teach some elementary education majors during the past year.

I joined the department for a few days in Pittsburgh at the Northeast GSA Meeting in March. It was a great meeting with many of our students doing a terrific job with presentations. I enjoyed many talks on the Marcellus Shale and the issues surrounding it. This subject has become quite the topic in my house these days, as I have continued to keep up with water quality issues in the area and my husband is now working as a Gas & Oil Rig inspector for DEP (after having worked many, many years in the industry itself). It's a very interesting time to be living in this area!

Kiley Branan (IUP '26?) finds her first Herkimer diamond.

We based our family vacation this year around the Herkimer Diamonds of New York. It was actually my first trip there and it was tons of fun to dig for the 'diamonds' with our daughter Kiley who turned 6 this year. We also stopped at Penn's Cave on the way home – Kiley's first trip underground. Though she certainly enjoys her rocks, she seems to be leaning toward a love of the ocean at the moment. She especially enjoys helping me to mix up salt water for our labs, helping with measuring densities and salinities. We're starting them young at IUP!

FACULTY NEWS — JOE CLARK

I greatly enjoyed attending the Northeast Section of the GSA Meetings in Pittsburgh in March and was impressed by the quality of our IUP student Posters.

John Taylor gave me the opportunity in the spring to teach subsurface for two weeks in his Stratigraphy Course, and I realized that I first taught a similar lab course in 1957, which dates me. Our Pescadero felsite paper with Stanford and USGS colleagues was published in the Geological Society of America Bulletin in February, but don't tell Professor Taylor that with zircon U-Pb dating that we don't need trilobites any more!

Believing that you should practice what you preach, our Susquehanna Exploration and Production Company drilled five Upper Devonian wells this year and plans to drill ten in 2012 with Jeffery Greenawalt (IUP 1980) and Bill Hoover (IUP 1975) as part of the team.

Joe sends out good wishes to all former students for another successful year.

FACULTY NEWS — CONNIE SUTTON

In early November, my husband, Chuck, and I traveled to Hawaii to celebrate his retirement. He had worked 8 years longer than I so deserved a bonus! We spent a wonderful day with Darlene Richardson. After having breakfast at her home with her Mom, the three of us headed east from Honolulu. We followed the coastline, looking at the beaches and surf, and stopping at many interesting geologic sites.

Our destination was the North Shore to snorkel in a sunken quarry. There were only a few people there but hundreds of fish visited with us. There was to be a surfing competition at a nearby beach but the waves were not large enough. There were a few practicing when we stopped to watch. We topped off our activities with a stop to enjoy some shaved ice.

Chuck and I left the next day for the Big Island. We were supposed to take a helicopter tour of Volcano National Park. We were standing on the runway, waiting to board, when one of the pilots radioed in that the weather had turned bad. Our tour was cancelled. (One week later a couple from Pittsburgh was killed in a helicopter crash on another island, flying with the same company.) We toured by car through the park on our way to the Kona side (west), stopping at the famous Black Sand Beach. There taking an afternoon siesta on the beach were eight sea turtles. We snorkeled the next two days and toured around before heading to Maui and then home.

Connie and Darlene touring the North Shore.

Darlene never gives up trying to teach Connie about grain size!

STUDENT FIELD COURSE MADE POSSIBLE BY ALUMNI AND FACULTY DONATIONS

Summer 2011 Geology of the American Southwest : Mapping in the San Juan Mountains of Colorado

Last summer, IUP Geoscience professors Jon Lewis and Michael Poage accompanied ten students to Southwest Colorado to introduce them to basic field geology practices. The class was designed around four specific modules, each with a deliverable due soon after completion of the field work.

The first component was a measured section. For this we focused on a nice exposure of Cretaceous sedimentary rocks at Carbon Junction, just south of Durango. The students worked from the upper part of the Lewis Shale through the Pictured Cliffs Sandstone and finished at the base of the Fruitland Formation.

The second project was to generate a geologic map of the area around the entrance to Horse Gulch, also on the south side of Durango. The area is dominated by the Cretaceous Point Lookout Sandstone cut by minor faults and overlain by a veneer of Quaternary sediment. The work required the students to struggle with how to correctly depict faults across locally steep topography, and to wrestle with the configuration of the bedrock-cover contact.

The third project was considerably more challenging in both scope and terrain. This work was done in the area above Little Molas Lake, at elevations approaching 11,600 feet. The terrain was not terribly rugged, which was good because there wasn't much oxygen to be had. Here the students developed a working field stratigraphy and used that as a basis for generating a rather large geologic map. The structure isn't horribly complex but there are some intrusive units that had to be contended with.

The fourth and final project involved mapping around Molas Lake in faulted Paleozoic sedimentary rocks deposited on Paleo-Proterozoic gneiss and granite. Unlike at Little Molas Lake, for this work we started by looking at the stratigraphic section exposed along Sultan Creek so that everyone was comfortable with the characteristics of the units. This was important because there are some look alikes, and the section is dissected by faults. In the end the students did brilliant work on the increasingly difficult assignments. During the course of the 3-week trip the students took the Durango-Silverton Railway up the Animas River Canyon, hiked the Ice Lakes Basin trail (to ~12,500 feet), and took a leisurely late afternoon stroll around Ouray.

Chair's Note: we offer field workshop classes every summer for our students, but many of them would be unable to attend in today's economy without the support our alumni have given to the Geoscience Foundation. We wish to take this opportunity to say a heartfelt 'thank-you' to all the alumni who have contributed on behalf of the students who have benefited from your generosity.

We Hope You'll Stay in Touch….

Mail:
IUP Geoscience Department
Walsh Hall, Room 111
302 East Walk
Indiana, PA 15705

Phone: 724-357-2379
Fax: 724-357-6208
Email:
geoscience-info@iup.edu
Website:
www.iup.edu/geoscience

Social Media:

GeoTidings
Interesting geology news and department updates delivered to your Facebook wall

Geological Society of IUP
Facebook updates for student club projects such as t-shirts and field trips

… And We Appreciate Your Support!

In these times of tight state budgets, the Geoscience Department is very grateful for continuing financial support from our alumni. Generous supporters have helped current students do research, attend professional conferences and enroll in field camp. We would like to thank you in advance if you plan to make a year-end donation to the department. Please include one of the four codes shown below so that the Foundation for IUP can process your donation correctly. Click on **www.iup.edu/supportiup** for more information on donations.

- **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 Walt Granata is used to support students in all fields of Geology.