

Geology & Planetary Science Newsletter

Faculty

Mark Abbott
Associate Professor

Thomas Anderson
Department Chair and Professor

Daniel Bain
Assistant Professor

Rosemary Capo
Associate Professor

Mark Collins
Lecturer

Emily Elliott
Assistant Professor

William Harbert
Associate Professor

Charles Jones
Lecturer

Michael Ramsey
Associate Professor

Michael Rosenmeier
Assistant Professor

Ian Skilling
Assistant Professor

Brian Stewart
Associate Professor

Staff

Dolly Chavez
Department Secretary/Purchaser

Shannon Granahan
Academic Affairs Secretary

Lorrie Robbins
Department Operations Manager

Student Profile

Relying on Principle: Sony Rane

"These are my principles," Groucho Marx once said—"and if you don't like them...well, I have others."

As a group, the department's Environmental Studies students are a principled bunch—the problem is making those principles work. For four years, Devshree (Sony) Rane of Solon, Oh., has put her principles into practice. The senior Environmental Studies/Business double-major worked with several campus groups—including Free the Planet and the Student Government Board's environmental committee—and now serves as the first-ever sustainability student-employee in Pitt's Department of Housing and Food Services, under the direction of Assistant Vice Chancellor for Business, James Earle.

Since her selection for the new, part-time position in Fall 2009, Ms. Rane has helped spearhead a variety of projects, including Recyclemania, a national collegiate recycling competition. To encourage recycling, Ms. Rane placed more than 200 recycling receptacles around campus. At the end of the competition, the receptacles were repurposed and/or recycled.



Pitt's goal was ambitious: 15 pounds of recyclables for every faculty, staff and student at the University. The effort came tantalizingly close—14.94 pounds, just short of their goal by a couple of empty Diet Coke cans, give or take.

Ms. Rane is also working with Sodexo, the University's dining-service contractor, to bring an industrial-size composting system to Pitt's largest dining facility, Market Central. Once in place—no small feat for a service that provides thousands of meals a day—the composter may reduce the cafeteria's organic-material waste-stream by 90 percent. The compost can then be used to fertilize local grounds, including, perhaps, Phipps Conservatory and Pitt's campus.

"As a large institution, Pitt has a considerable impact on the local environment and community," Ms. Rane notes. "This position has allowed me to make that impact a more positive one by reducing Pitt's waste-stream and energy consumption. My environmental studies classes gave me the skills I needed to help Pitt become a more sustainable university."

Letter from Department Chair Thomas H. Anderson

Dear Alumni and Friends,

As promised, this is my last term as Chairman! In fact, I have decided to step down at the end of August, a year early, in order to more aggressively pursue unfinished research projects. Thought that I could get the research done, but it is not happening as fast as necessary.

The office (200 SRCC) staff—including **Shannon Granahan**, Academic Affairs Secretary, who focuses upon student issues and other things such as this newsletter, and **Dolly Chavez**, Department Secretary/Purchaser, and chief welcomer—is anchored by Department Administrator **Lorrie Robbins**, who has done an outstanding job of keeping me on the straight and narrow. Lorrie also is the prime architect behind the revised Web page that may be reached via <http://www.geology.pitt.edu>.

Departmental Research

Our graduate program continues to attract high-caliber students who are very active in research and the department. Support for research programs continues to be strong. As I noted last year, each of us pursues research, some aspect of which applies to societal issues. Among the research topics that pertain are CO₂ sequestration (**Bill Harbert**), acid mine drainage and soil formation (**Rosemary Capo and Brian Stewart**), paleoclimate from global glacial records and metal in Peruvian lakes (**Mark Abbott**), landscape dynamics and agricultural sustainability in rural France (**Mike Rosenmeier**), volcanic activity and wind patterns (**Mike Ramsey**), volcanic eruptions under ice (**Ian Skilling**), atmospheric contamination (**Emily Elliott**), metal in flood plain deposits (**Dan Bain**), and the relation of faults to fast groundwater pathways near the Nevada nuclear waste repository (**Tom Anderson**). During the past year G&PS faculty were notably successful in attracting funds in support of research, including funding under the American Recovery and Reinvestment Act of 2009. This support brings the total active grants for the Department to \$4,623,467. In addition to the faculty successes, three graduate students were awarded Mellon Fellowships, one of the most prestigious internal awards of the University. This is the most Mellon Fellowships ever for G&PS. As always, student involvement in faculty research is critical to the success of both our teaching and our research mission.

Undergraduate Programs

Our undergraduate programs are going strong. Under the able and tireless leadership of Lecturer/Coordinator **Mark Collins**, the Environmental Studies BA program continues as one of the best interdisciplinary majors at the University of Pittsburgh. At present, we have about 115 declared Environmental Studies majors and have been graduating about 30 per year. About 50 percent of the ES students earn *cum laude* honors or better.

Charlie Jones, who guides the Geology and Environmental Geology BS programs, continues to strive to improve the core curricula of the Department while providing insightful student mentoring and inspiring teaching. We currently have 50 declared majors in the Bachelor of Science programs, and one of our primary goals is to increase that number substantially. This year 60 percent of geoscience grads will pursue graduate degrees. Students in all of our programs continue to take advantage of internship opportunities and participation in research projects with our faculty. This year Tim Gallagher, Amelia Johnson, and Allie Tessin received scholarships to present their undergrad research at the 24th National Conference of Undergraduate Research at the University of Montana. Amelia is working with Dan Bain; Tim is working with Brian Stewart and Rosemary Capo; and Allie is working with Mike Rosenmeier.

What About You?

From our contacts with you on an individual-to-individual basis, we learn about accomplishments of graduates of G&PS programs. But to get the word out to everyone, we ask that you send us updates at <http://www.geology.pitt.edu/alumni/update.html> on any aspects of your professional and personal life you wish to share with your fellow G&PS alumni. Our program is only as strong as the graduates it sends out into the world, and we hope you will keep in touch and stay connected with us as you get about the important business of your life



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Undergrad Wins National Science Foundation Award



Allyson Tessin, a senior Environmental Studies/Geology major from Hollidaysburg, Pa., was one of five Pitt undergrads to be recognized by the National Science Foundation Graduate Research Fellowship Program.

The program supports outstanding individuals in science, technology, engineering, and mathematics disciplines who are currently pursuing or will pursue research-based master's and doctoral degrees in the U.S. and abroad. After spending the upcoming year in Norway studying at the Bjerknes Center for Climate Research, Ms. Tessin will be attending the University of Michigan for a PhD in geology, where she will join fellow geology alums Richard Fiorella and Tim Gallagher.



Ms. Tessin also received an Outstanding Undergraduate Student Poster Award at the 2010 Joint Northeastern-Southeastern Sections Meeting of the Geological Society of America in Baltimore.

Of the 253 undergraduate students who presented posters at the meeting, awards were given to 15 students.

Later this summer, Ms. Tessin will present her BPhil thesis, "A Recent Pollution History of Lakes Koronia and Volvi in Northern Greece," under the advisement of Dr. Michael Rosenmeier.

Phi Beta Kappa

Pitt's Xi Chapter of Phi Beta Kappa—the national collegiate liberal arts honorary society—inducted 78 members into its 2010 class, including the six below from Geology and Planetary Science. PBK seeks to promote and to recognize high levels of academic attainment in undergraduate studies that lead to a liberal education.

- Rhiannon Cook
- Richard Fiorella
- Amelia Johnson
- Emma McAuley
- Michael Muder
- Carrie Stem



History of the Earth class field trip found this lovely monument just west of Gettysburg, Pa., on U.S. 30. Spring 2009

Faculty News

Mark Abbott

Nathan Stansell and Broxton Bird both graduated with PhDs during the spring and summer of 2009 and started postdoctoral research fellowships at the Byrd Polar Research Center at Ohio State University under the direction of Drs. Brian Mark and Lonnie Thompson, respectively. Byron Steinman completed his comprehensive exams and overview and two new graduate students, Aubrey Hillman and David Pompeani, begin their graduate research. As usual, undergraduate research played a prominent role with nine students working on projects related to climate change and pollution history including Molly Kane, Kat Wilson, Julia Pedrotti, Michelle Gilmore, John Swartz, James Cwiklik, Matt Cwiklik, Erin Roehrig, and Chilisa Shorten, many of whom are doing undergraduate theses. This was an active year with fieldwork focused on collecting sediment cores and water samples in Alaska, the Canadian Rockies, the Peruvian Andes, southwestern China, New Zealand, coastal Oregon, the Cascades of Washington, and Austria. The focus of much of this work is to document the drought history of the Pacific region to better understand the mechanisms causing changes in water dynamics.

Thomas Anderson

In light of faltering in my effort to complete a number of long-term research activities, I will step down from chair of the Department after two years. I am determined to maintain sufficient research momentum to finish up some major writing projects. Daniel Lao-Davila defended his dissertation and after a year as a post-doc in Puerto Rico he has accepted a tenure-track position as structural geologist at Oklahoma State University. His kinematic analysis of serpentinite structures in southwestern Puerto Rico is published in the *Journal of Structural Geology*. Concurrently, projects in Nevada, New Mexico, and Pennsylvania progress. I also work with G&PS alum



Patti Campbell and her students to finish research in the East Potrillo Mountains of southern New Mexico. Sarah Morealli defended her thesis about the structural history of strongly extended rocks near Beatty. Lindsay Williams is in the midst of characterizing detached units in the western Specter Range within the zone of transpression along the Las Vegas Valley shear zone. Mary McGuire continues studying iron-ore deposits and fractures in Ohio and Pennsylvania. Nick Orsborn has begun studying the Morgantown Sandstone with an eye toward understanding the implications of deformation and debris at its base. Two papers with Gordon Haxel (USGS) about Late Jurassic faults appeared in *Arizona Geological Society Digest* Volume 22. I continue to work with Bert Struik and Jim Ryan of the Canadian Geological Survey on Eocene extension. I am excited by USGS mapping in southern California that may show a remnant of the Mojave-Sonora megashear (my favorite fault!). Sara Lee (Florida) with Joe Guido and Garrett (California) with Qin Hong are fine and rearing one and two grandsons respectively.

Daniel Bain

It's been a tough year, with Dr. Elliott's battle with cancer. Thankfully the department (and Pittsburgh) is filled with very supportive people, making a bad situation much easier. Miss Maggie is growing and sometimes flirts with the terrible twos, but in general is a real sweetheart.



Things are picking up steam. At least two graduate students will be joining my group in the fall. Amelia Johnson, an undergraduate who has been working with me most of the time I've been here, is finishing up a beautiful undergraduate thesis. She's measured the trace metal concentrations in a 120-year-old oak tree from Schenley Park and compiled a wide variety of national and local industrial records to understand patterns observed in the tree. Former undergraduates from the lab have done well—Katelyn Fisher joined the graduate program at IUPUI and Andy Wreschnig the program at Washington University (St. Louis, Mo.). Erin Wozniak will be soon graduating after spending many Fridays sampling Nine Mile Run. It's been a pleasure to work with all of them.

We also recently found out that we will be receiving funding from the National Science

Foundation to purchase an ICP-MS, allowing many more opportunities in examining water and other dilute materials.

Looking forward to next year.

Rosemary Capo

Doctoral student Liz Chapman had great success applying natural strontium isotopes to quantify the interaction of aquifer minerals with Devonian brines and shallow acidic coal mine waters in iron-contaminated abandoned gas well discharges in collaboration with Bob Hedin, former MS student Ted Weaver (Hedin Environmental), and NETL researcher Hank Edenborn. PhD student James Gardiner is hard at work on an NETL-funded project centered on a natural analog for geologic carbon dioxide sequestration near Chimayó, New Mexico. We sampled well waters, a high-CO₂ geyser and rocks with Brian Stewart, NETL researcher Ale Hakala, and scientists from Los Alamos. James and Liz presented their results at the Fall AGU meeting in San Francisco. At the intersection of those projects, I'm continuing work with Hank and with Dorothy Vesper of WVU on another high CO₂ discharge that empties in to the Youghiogheny River. All three projects will be featured at a special session Brian Stewart and I are convening for the June Goldschmidt Conference in Knoxville. Brian and I also did some fieldwork in Wyoming with BPhil. candidate Tim Gallagher, focused on the dinosaur-bearing Morrison Formation at Pitt's Cook Ranch property. Undergrad Isaac Johnson is working with Hank and me on a project synthesizing carbonate microspheres for gel probes to determine subsurface redox conditions. The joint CMU-Pitt-Duquesne initiative funded by the Heinz Endowments completed its second year, and I helped Mark Collins and Ward Allebach with the Student Sustainability Conference held downtown at the Regional Enterprise Tower.

Mark Collins

The Environmental Studies program enjoyed a banner year, reaching 115 majors, a record number. Fortunately the volume did not dilute the quality of students nor diminish their many accomplishments.

Of 26 students graduating in AY 2008-2009, 17 graduated with honors—seven cum laude (greater than 3.25 GPA), three magna cum laude (greater than 3.5 GPA), and seven summa cum laude (greater than 3.75 GPA). A number of students combined their degree with a certificate in Geographic Information Systems (GIS) and Global Studies. Double/dual degrees include political science, anthropology, biology, economics, geology, and English.

This year, 26 students worked at internships, and another two dozen studied abroad (which also appears to be a record number). We also found

out recently that Allie Tessin, a dual Geology/ Environmental Studies senior, received a National Science Foundation study grant, which will help fund her upcoming research in Norway.

This year also marked my tenth year as coordinator. I have been enormously fortunate to work with an outstanding group of committed faculty (which, in addition to the full-time folks, includes Ward Allebach, Patricia DeMarco, Don Hopey, and Del Kubeldis), and an office staff that makes the rest of us look good: Lorrie Robbins, Shannon Granahan and Dolly Chavez. Last but not least, I have been blessed with an amazing cadre of undergrads who constantly surprise and inspire me. It's been a wonderful run, and I look forward to many more years here. Please keep those cards and letters coming in.

Emily Elliott

This year has been a busy and fruitful time for the Biogeochemistry group. We welcomed a new PhD student this fall, Lucy Brudnak, who joined us with an MS degree from University of Illinois-Urbana-Champaign. Two new grants were awarded from the National Science Foundation. One award, jointly funded by a new interdisciplinary initiative



called "Emerging Topics in Biogeochemical Cycles," examines the use of mass-independent nitrate isotopes as a new tool for diagnosing nitrogen saturation in watersheds receiving high rates of acidic deposition. The other grant, awarded by the NSF Division of Earth Sciences, Instrumentation and Facilities, provides support for the development of the Regional Stable Isotope Laboratory for Earth and Environmental Science Research. Specifically, funds from this grant provide three years of partial support for a stable isotope laboratory manager. Since the award was funded, the University of Pittsburgh's School of Arts and Sciences has agreed to kick in additional funds to extend the position for five years. We've since hired Katherine Middlecamp as our laboratory manager. In other news, Marion Sikora and Katherine Middlecamp gave oral presentations at the Fall 2009 Meeting of the American Geophysical Union. Additional grants in 2009 included awards from the Electric Power Research Institute and the Maryland Department of Natural Resources.

William Harbert

This year has been especially busy. The new seismograph is working well and on the national network. The station is UPAO, you can find it here: <http://www.iris.edu/mda/PE/UPAO>



This is a three-component seismograph that we manage in collaboration with PSU. The rates of motion are in fractions of nanometers per second. The device is enormously sensitive and feeding data into national and international networks in real time.

Our National Geodetic Base station has been the first in the state of Pennsylvania upgraded to record and log for the United States GPS satellites and the similar system in orbit by the Russians. The simultaneous reading of both systems makes space-based survey activities much more accurate.

The Professional Masters in GIS is going well with hard-working graduate students finishing their degrees.

Graduate students Bob Karimi, Alan Mur, and Chris Purcell continue to make progress in their PhD programs. Alan and Chris gave excellent presentations at the American Geophysical Union meeting in San Francisco.

I co-chaired a session in CO₂ sequestration geophysics with a friend and colleague from Los Alamos National Laboratory. In addition, Dr. Vladislav Kaminski made an excellent oral presentation to this session about an exciting new airborne electromagnetic instrument.

Best regards to everyone!

Charles Jones

This year I won a major award: Most Likely To Be Mistaken for an Undergraduate. I am humbled and honored, but I note that the person who nominated me received the award for Most Extreme Nearsightedness. It is fitting that he has a future career in seismic interpretation.

Some of you might remember what a zombie I was when our twins were born. Well, they are now 7 years old and, despite



my major award, I have, um, aged. Considerably. What makes this worse is that Mike Rosenmeier has recently also become the father of twins, and he is not tired at all!!! He actually looks younger! And happier!

And now some department news: The number of geology and environmental geology majors has reached a 10-year high! In July 2000 we had about 20 geology majors, and now we are up to 50. Of course this is all because of our fabulous faculty and my awesome advising. I am also pleased to report that we have a very active GeoClub, which this past year ran a number of field trips and held a thousand delicious bake sales [featured on the back page]. Since our faculty are so very generous supporting these bake sales, we are indeed lucky that fat is the new black. Wafer-thin mint, anyone?

Michael Ramsey

The 2008-2009 year was a very busy and very productive one for me and my research group. In late 2008, I was invited to Krakatau volcano in Indonesia to participate in the filming of a Discovery Channel episode on volcanic activity called "Raging Planet."



That, in addition to my work on two NASA instrument science teams (for Earth and Mars observations), has continued to strengthen the high research profile of the work we do here at the University of Pittsburgh. During that time, this research took me and my graduate students around the world from Nicaragua to Tenerife and from Moscow to Tokyo. I use the results of my NASA- and NSF-funded research in my classes as well. The Natural Disasters course continues to be a great success with more than 300 students enrolled every spring!

My graduate students have continued to excel at a high level. My first PhD student (Adam Carter) stayed on as a post-doc last year and has now taken a job at ExxonMobil. Stephen Scheidt defended his dissertation in December 2009 and continues his work here as a post-doc. My other PhD students (Topher Hughes, Rachel Lee, and Shellie Rose) have all published their first papers and are on track to defend their dissertations by the end of 2010. I have also welcomed a new MS student (Kevin Reath), who is working on data analysis. I assumed the primary advisor role for two existing students in

the department (Jefferson Hungerford and Redha Mohammad). In addition to writing papers, the group has presented numerous abstracts at national meetings during this time, with Rachel Lee being awarded an "Outstanding Student Presentation" at the fall 2009 American Geophysical Union meeting (one of only eight in the entire Volcanology, Geochemistry, and Petrology (VGP) Section)! Rachel will also stay on as a post-doc under a newly funded \$350,000 grant from the NSF.

I am looking forward to an even more productive year in 2011.

Michael Rosenmeier

Another busy year, albeit not entirely in the academic sense! Stacey and I welcomed two boys,



Alexander Isaac and Sebastian Charles, into our family on March 26, 2010, at 12:47 and 12:48 PM, respectively. Alexander and Sebastian joined us a bit earlier than expected (at only thirty-three weeks) but we couldn't be more delighted! Both

boys are healthy and happy, and we're looking forward to a quiet summer at home...

In other (academic) news, PhD student Tamara Misner expanded her study of changing land-use and physical geography in Burgundy, France. Tamara was also selected as a participant in a recent AIMES (Analysis, Integration and Modeling of the Earth System) Young Scholar's Network Workshop focused on integrating biophysical, historical, and ethnographic data at the landscape scale. Tamara's contribution to the meeting included visits to her field sites in France and lectures on her work, and now appears to have stimulated a number of additional project collaborations!

Undergraduate student Allie Tessin also continued her research on the impacts of recent agricultural and industrial activities on lakes in northern Greece. Notably, Allie received an Outstanding Undergraduate Student Poster Award for the presentation of this work at the 2010 Joint Northeastern-Southeastern Sections Meeting of the Geological Society of America in Baltimore, Maryland.

Ian Skilling

My research group of two PhD students (Emily Mercurio and Alison Graettinger) and one MS student

(Holly Kagy) are all focused on understanding volcano-ice interaction. This is a topic that has been much in the news recently with the unprecedented airspace shutdown over Europe due to the eruption of the Eyjafjallajökull volcano beneath ice in southern Iceland. My group has never had so much interest from radio, TV, and newspapers!

Emily's research is focused on understanding the construction and evolution of Sveifluhals, which is a complex of formerly ice-confined fissure-erupted volcanoes in SW Iceland. Alison is researching the origin of the products of volcano-ice interaction at the famous Askja caldera volcano in central Iceland. Holly will also undertake the first field season in 2010 and will be studying dike interaction with wet sediments in Iceland and on Mars.

Emily was awarded a prestigious Mellon Fellowship from the University of Pittsburgh for her research in Iceland. The research group has been funded by two National Science Foundation grants. I co-edited and published two papers in a volume of *Journal of Volcanology and Geothermal Research* on volcano-ice interaction. I was also invited to and led a field trip at a Nordic Volcanological Institute Summer School on Volcano-Ice Interaction in Iceland in summer of 2009.

Brian Stewart

This has been a fast-paced year, with some exciting new projects coming on line. In addition to working on projects related to coal fly ash leaching and disposal with graduate student Tonya Brubaker (an area of particular importance in our coal-dominated energy environment), I have begun additional collaborations with the National Energy Technology Laboratory (NETL) in Pittsburgh focused on the geochemistry of carbon capture and sequestration in geological formations. This work, carried out in conjunction with Professor Rosemary Capo, will focus on the geochemical effects of injecting large volumes of CO₂ into underground storage formations. I've had the pleasure of working with Dr. Capo's students James Gardiner and Elizabeth Chapman, who have obtained exciting new radiogenic isotope data from field sites ranging from Pennsylvania to New Mexico.

I continue to teach Mineralogy (along with Geology 0800 and Isotope Geochemistry), and continue to be impressed with the abilities of the Geology and Environmental Geology majors in our department. Dr. Capo and I had the opportunity to do some mapping at the University of Pittsburgh Cook Ranch in Wyoming with undergraduate Tim Gallagher, who is one of many undergraduates doing cutting-edge research with faculty in our department. An impressive group indeed.

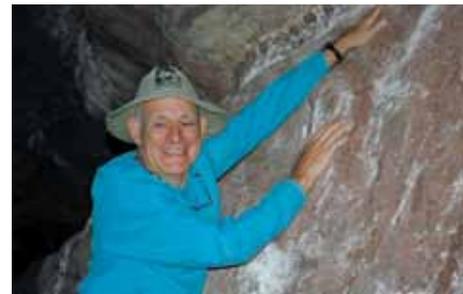
Emeritus News

Michael Bikerman

January—a last-minute invitation to go as a replacement lecturer on a Holland-America cruise to French Polynesia. Three days to get ready to fly to Honolulu to meet the MV Ryndam which had started the cruise from San Diego a week earlier. The experience was wonderful – good attendance at the lectures with many probing questions, fine staff to deal with, and pleasant passengers with whom we shared the lovely islands of that "paradise." The lectures were well enough received so I did the equivalent cruise on the MV Rotterdam in 2010 and, again, it was an exceptionally nice way to miss some pretty bad weather in Pittsburgh!

March—we did a superb OAT trip to Jordan and Israel seeing many fascinating sites—from Gerasha and Petra in Jordan to many holy and historical places in Israel. The tours were led by two knowledgeable guides, and followed an excellent itinerary.

August—The highlight of the year was an unforgettable six-day raft trip down the Grand Canyon, camping out on sandbanks every night,



running all the rapids from mile 0 to mile 187, good food and an agreeable contingent of 28 participants and four crew for the two big rafts. Seeing the fascinating geology at raft speed under blue skies...

William Cassidy

I am involved in assembling a paper titled "Comparison of Four Meteorite Penetration Funnels



in the Campo del Cielo Craterfield, Argentina" with five Argentine and three U.S. authors. The report summarizes results from three field seasons in northern Argentina, during which we made topo maps of the impact scars, carried out magnetic

surveys over them, and trenched across the features to reveal their original structures. Multi-ton meteorites were recovered at each site.

Harold "Bud" Rollins

Jude and I have spent most of our time over the last few years in north-central Florida, close to the Withlacoochee River and only a dozen or so miles from the Gulf. We are only a scant four hours away from St. Catherines Island, Ga., where we still maintain a research presence. I am a member of the St. Catherines Island Foundation Research Advisory Board. My published research over the last couple years has taken a definite geoarchaeological slant, with a modest amount of molluscan ecology thrown in. Articles published in 2008-2009 include a contribution to an edited volume dealing with the history of mollusk over-exploitation (EHIM conference in Venezuela), several chapters in the three-volume AMNH Anthropological Paper No. 88 (2008), entitled "Native American Landscapes of St. Catherines Island, Ga.," and co-editorship of another AMNH volume in press, "Geoarchaeology of St. Catherines Island, Ga." Published AMNH papers are available online (open access) at <http://research.amnh.org/scipubs/>. In addition, I have been most recently working with Frank Vento (a Departmental alum) on genetic stratigraphy of coastal paleosols. Jude and I keep in touch with several graduates of the Department and always look forward to hearing from you. Please email us at haroldrollins@att.net.



Alumni News

John R. Boulanger (BS '01) I am currently employed with GAI Consultants, Inc. located in Homestead (Pittsburgh), Pa., as Senior Lead Hydrogeologist. I am a licensed Professional Geologist in the Commonwealth of Pennsylvania. My workload at GAI generally includes environmental site characterization and remediation evaluations; abandoned mine drainage monitoring and treatment; and ground water resource evaluations and production well design.

I am currently living in the North Hills of Pittsburgh with my wife, Maggie, of six years and my daughter, Lyla, born on September 10, 2008.

M. Adel El-Emam (MS '83) is a senior specialist geophysicist with Kuwait Oil Company, Exploration Group. He has a BSc in Geology from the University of Cairo, 1975, and MSc in Geophysics "Attenuation of Seismic Waves" from the University of Pittsburgh, 1983. Adel has more than 30 years of experience with local and international oil companies.



He joined KOC in 1995 and is currently responsible for seismic data acquisition and processing. He is also an advisor to deputy managing director, KOC. He previously held the position of data processing department manager with GPC, Cairo, Egypt. Adel presented and published several technical papers in local and international conferences. He has been awarded "Best Poster" presented at 2005 SEG annual meeting. He is an active member of SEG, EAGE and SPE.

Kari (Cavada) Maszle (Pro-MS GIS/RS '06, BA Anthro '99) Since March 2007 I have been working as a GIS specialist for Hatch Mott MacDonald, an environmental engineering company on the Southside of Pittsburgh, Pa. I have been working with the Stream Monitoring Program and recently have had the opportunity to work on other new projects within the company.

In 2008 I entered an essay contest within HMM at their annual graduate weekend and was selected for the Northeast region to represent HMM at the Mott MacDonald Graduate Weekend in the UK. It was an incredible experience for me and only added to my already growing respect and enjoyment of working for Hatch Mott MacDonald.

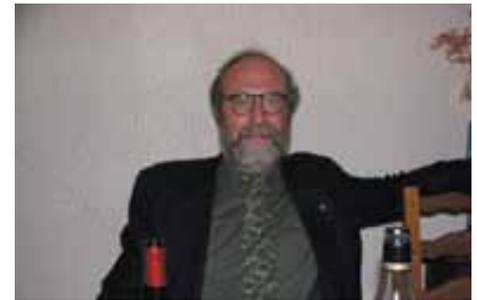
Since graduating from Pitt in 2006 I was married in November of 2007 to the love of my life and high school sweetheart, Adam Maszle



(also a Pitt graduate from the Anthropology). We just celebrated our two-year anniversary (15 years together overall).

Dan Nelson (MS '04) Currently living in Seattle and continuing work towards my PhD in the Chemical Oceanography program at the University of Washington. My research is focused on testing and applying molecular isotopic techniques to sedimentary deposits to understand past climates. In particular, I focus on the hydroclimate of the last ~2000 years in the tropics.

Robert M. Nelson (PhD '77) continues his work with NASA as a Senior Research Scientist at Jet Propulsion Laboratory in Pasadena. He has been actively involved, as a NASA selected Team Member with the work of the Visual and Infrared Mapping Spectrometer (VIMS) on the Cassini Saturn Orbiter currently in orbit about Saturn. He has led a recently



published research paper suggesting that VIMS data show that Saturn's Moon Titan has currently active volcanism.

Elizabeth "Liz" Ondeck (BS '05) Currently living in San Francisco, California, I will be making the move back east in the fall of 2010 to attend the Nicholas School of the Environment at Duke University. After working in environmental and geotechnical consulting for several years, I shifted my focus to policy, took a role as a community organizer in San Francisco, and I will now be redefining my focus to environmental policy. My Master of Environmental Management will be specialized in the Environmental Economics and Policy concentration at the Nicholas School. I am excited to start finding effective policy options for environmental problems by studying the science behind environmental problems, as well as the social, political and economic factors.

Tell us your news!
<http://www.geology.pitt.edu/alumni/update.html>

Graduate News

Graduate Fellowships

NASA Earth System Science Graduate Student Fellowship

Stephen Scheidt

Competitive Research Grants

Geological Society of America Student Research Grant

Holly Kagy

The University of Pittsburgh International Studies Fund

Emily Mercurio

The Evolving Earth Foundation

Emily Mercurio

Henry Leighton Memorial Scholarship

Elizabeth Chapman

Tamara Misner

Jefferson Hungerford

Byron Steinman

Emily Mercurio

Amy Wolfe

Katherine Middlecamp

Excellence in Presentation of Research

American Geophysical Union Outstanding Student Presentations

Rachel Lee



Byron Steinman and David Pompeani using the UWITEC corer at Harding Lake, Alaska, March 2010.



Adam Carter (PhD '08), Alan Mur, and Christopher Purcell at SEG Houston, Texas, 2009. Reprinted from *The Leading Edge*, a monthly publication of the Society of Exploration Geophysicists. Photo by Barchfeld Photography



Emily Mercurio collecting data at the Sveifuháls volcanic ridge in SW Iceland, 2009.

Recent Graduates

PhD Graduates

Broxton Bird (2009) - *Millennial- to Annual-Scale Holocene Climate Change in the Alaskan Arctic and Tropical Andes Inferred from Physical Sedimentology and Geochemical Indicators Preserved in Finely Laminated Alpine Lake Sediment Archives*

Stephen Scheidt (2009) - *Aeolian System Dynamics Derived from Thermal Infrared Data*

Master of Science Graduates

Sarah Morealli (2010) - *Extension-Related Breccias: Implications for Groundwater Flow from Pahute Mesa to Near Beatty, Nevada*

Professional Master of Science Graduate

Amanda Wasielewski (2009)

Undergraduate News

Geology and Environmental Geology Graduates: August 2009 through April 2010

Thomas E. Antonacci (*cum laude*; GIS cert.)

Jessie Lynn Bobrzynski (*magna cum laude*; GIS cert.)

Jonathan Kuntz

Melissa C. Hill (French minor)

David P. Pompeani

Carrie A. Stem (*magna cum laude*; Phi Beta Kappa; GIS cert.)

Andrew James Wreschnig (*cum laude*; Anthropology and Economics double major)

Environmental Studies Graduates: August 2009 through April 2010

Adams, Margaret Ann

Bailey, Stephen D. (*cum laude*)

Bartram, Neal Patrick

Beck, Cory Matthew (*cum laude*)

Blotzer, Lindsay Bailey (*summa cum laude*; French minor; Global Studies cert.)

Bonasso, Christina Elizabeth (Chinese double major; Asian Studies cert.)

Brooks, Ian M. (Architectural Studies double major; Studio Arts minor)

Celaschi, Michael

Cook, Rhiannon Nichole (*magna cum laude*; Phi Beta Kappa; Communication double major; Global Studies cert.)

Cupitt, Brian T.

Echelmeier, Andrew M.

Fazzone, Chelsea Allyn (*magna cum laude*)

Fiorella, Richard Pascal (*summa cum laude*; Phi Beta Kappa; Chemistry double major)

Good, Sophia Christy (Anthropology double major; Applied Statistics minor)

Hudzik Jr., Thomas Bernard

James, Jessica Louise (*magna cum laude*)

Jenkins, Miriam C. (*cum laude*; French double major; GIS cert.)

Lawry, Christie J.

Lyons, Nicole Irene (Anthropology double major)

MacBride, Kristen L.

Mamakos, Rocco William

Marion, Nathan R. (*magna cum laude*; GIS cert.)

McAuley, Emma Catherine (*summa cum laude*; Phi Beta Kappa; Latin American cert.)

Merti, Alexandra Kristine

Muder, Michael R. (*summa cum laude*; Phi Beta Kappa; GIS cert.)

Nagle, Sarah Elizabeth (*magna cum laude*)

Nelson, Adam T. (*magna cum laude*; economics double major; BPhil; Asian Studies cert.)

Nelson, Taiji Rhodes (*cum laude*)

Nolasco, Linda D.

Pascuzzi, Brian Andrew (*summa cum laude*)

Pierson, Emily Marie (*cum laude*; Biology double major; Chemistry minor; Global Studies cert.)

Plowman, Dustin James (*magna cum laude*; Biology double major; Foundations of Medicine cert.)

Rane, Devshree H. (Business double major)

Robertson Jr, Kenneth Dale (*magna cum laude*)

Roos, Aubrey Marie (Economics minor; GIS cert.)

Stalter, Lauryn Marie

Stewart, Jessica J. (*cum laude*)

Tonelli, Elise Victoria (*cum laude*; Italian minor)

Wacker, Kelly Marie (*magna cum laude*)

Weber, Caitlin Quinn (*magna cum laude*; Studio Arts minor)

Weitzel, Jamie B.

Welfling, Hannah Ruby

Will, Ashley Nichole (*cum laude*; Political Science minor; GIS cert.)

Wozniak, Erin Patricia (*cum laude*)

Graduation Reception May 2009



Earthquakes Rock G&PS Seismograph

Undergraduate Scholarships

Norman K. Flint Memorial Field Geology Fund

Thomas Antonacci

Melissa Hill

Hilary Morgan

David Pompeani

Andrew Wreschnig

Samuel B. Frazier (BS '49) Student Resource Fund

Emily Pierson

Chilisa Shorten

The Heinz Field Study/ Experience Scholarship

Jessie Bobrzynski

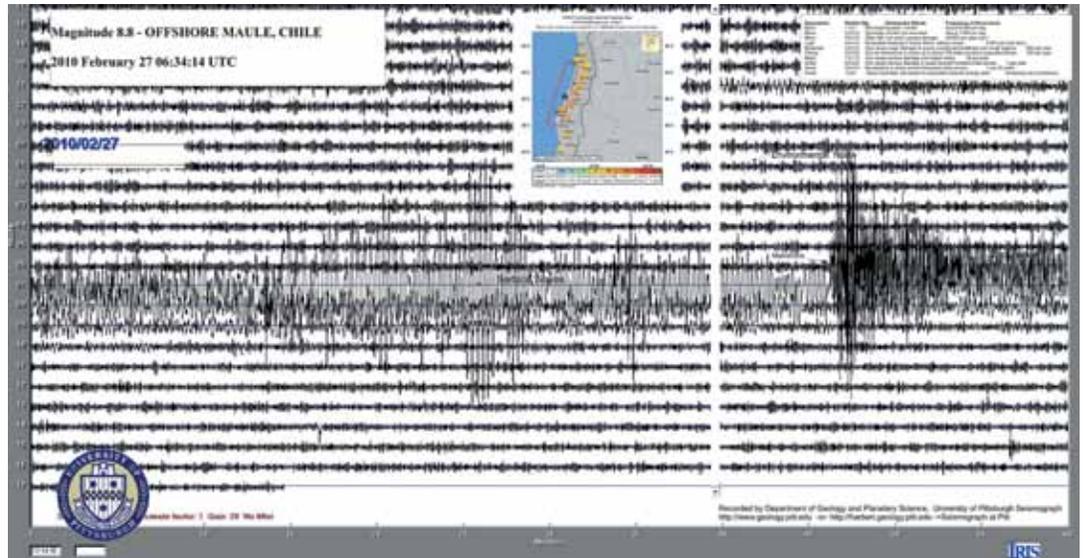
James Cwiklik

Richard Fiorella

Emily Pierson

Abbey Racan

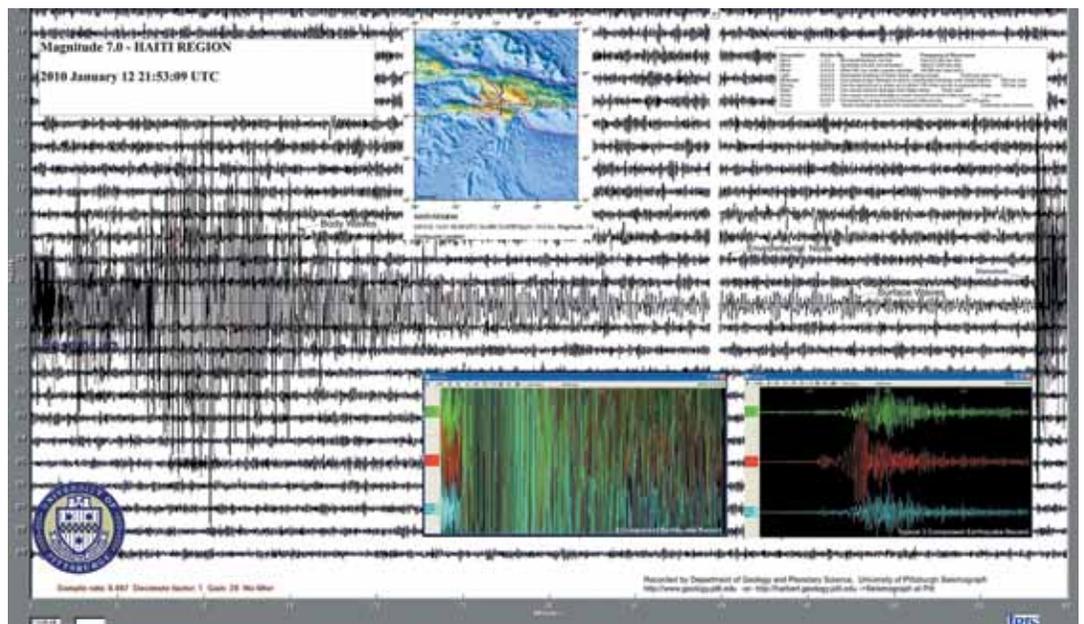
Kathleen Wilson



Last year Bill Harbert, a geophysics professor at G&PS and incoming chair, placed a sensitive seismograph in the abandoned room of the Allegheny Observatory on Pittsburgh's North Side. This spring term, the seismograph had two good workouts: the January 12 earthquake in Haiti and February 27 earthquake in Chile.

The Chilean trembler—the waves of which took 13 minutes to reach Pittsburgh—surprised even a veteran like Harbert. "I couldn't believe it was an 8.8 magnitude," he later told the *Pittsburgh Post-Gazette*, noting that the station recorded shock waves 400 times the energy of the 7.0 Haitian quake. "The logical part of my mind understands earthquakes but in terms of understanding the geohazard, the sheer impact on cultures, and to people, it is just shocking."

Pitt's seismic station is part of a linked public database tied into group of participating universities sponsored by the National Science Foundation.



Thank You for Your Generous Contributions!

Contributions from our alumni are vital to the Department of Geology & Planetary Science. The individuals listed below have provided generous support during fiscal year 2009. If your name is missing and you know you contributed last year, please accept our apology and let us know. We want to be sure to recognize you next year.

Anthracite Level (up to \$10,000)

Thomas W. Angerman
Francesco Corona

ExxonMobil
Frederick Sarg

Bituminous Level (up to \$1,000)

Mr. and Mrs. Peter F. Flint
Mary Garrow-Splittberger
Donald Groff
Mary Groff
Bruce Hapke
Joyce Hapke
William C. Heilman III
Stuart Hirsch
Richard King

Sally King
Clifford A. McCartney
Thomas Pollock
Barry Rava
Inge Schmidt
Mark S. Tucker
James E. Werner
Robert R. Wood

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John R. Anderson
Daniel Bain
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Dennis Darby
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George Dellagiarino
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Susan Flint
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Richard & Audrey Gray
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Sarah H. Millspaugh
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Rebecca Stanhope
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Jeffrey Wagner
Julie Wagner
David Wallach
Carole Wallach
Dermot Winters
Robert Zei

Why donate?

Every dollar you contribute could fund field camp or field work. Behind every successful student is a generous alumni or friend.

Where can I donate?

Discretionary Departmental Gifts Fund provides us with the greatest flexibility in responding to building a better department for the future.

Norman K. Flint Memorial Field Geology Fund commemorates Dr. Flint's devoted and inspiring teaching by helping with summer field camp expenses. This memorial fund was initiated by family, friends, students and colleagues of Dr. Flint.

Francis Dilworth Lidiak Memorial Fund supports lecture series and invited speaker costs.

Henry Leighton Memorial Scholarship Fund, established by Dr. Helen Leighton Cannon (MS '34), provides a permanent graduate scholarship awarded for merit and need.

Samuel B. Frazier (BS '49) Student Resource Fund, established by family and friends, provides educational expense support to undergraduates in honor of Samuel Frazier.

Harry J. Werner Oil Finder's Fund provides support for students preparing themselves to meet the diverse challenges in the search for energy resources. This fund was initiated by Francesco Corona (BS '77, MS '80).

Alvin J. Cohen Memorial Fund supports students conducting basic research in meteorics, mineralogy, and geochemistry.

Victor A. Schmidt Memorial Classroom Fund is a memorial classroom fund in honor of Professor Schmidt.



University of Pittsburgh

*Department of Geology and Planetary Science
200 SRCC
4107 O'Hara Street
Pittsburgh, PA 15260*

*412-624-8780
FAX: 412-624-3914*

www.geology.pitt.edu

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Geology Club Bake Sales



Over the past several years, the University of Pittsburgh Geology Club has been baking geologically themed goodies to finance field trips. Goodies such as chocolate-dipped trilobite cookies, lava dome cookies complete with peanut butter magma and icing flows (both pictured at left), banded iron formation cupcakes layered with chocolate, and red velvet and cherry-filled magma chamber cupcakes (both pictured below) are the clever and delicious fruits of our outstanding undergrads. These bake sales have netted more than \$1000 in the last year and pay for field trips, dues to the Pittsburgh Geological Society, refreshments for movie nights, and meeting costs including the NE Geological Society of American conference. If you, too, want to taste these sweets, you'll have to hoof it over to the Space Research Coordination Center, as they don't cater or take mail orders, yet.