Friday at Five

With 170 undergraduate majors in the department, we needed a new strategy to get to know them.

by George Davis, Geosciences Regents Professor Emeritus

With the number of undergraduate Geosciences majors burgeoning, the Undergraduate Policy Committee (George Davis, chair, Owen Davis, Karl Flessa, Jessica Kapp, Randy Richardson, and Anne Chase) initiated Friday at Five, a venue for getting to know our 170 majors.

During the spring term, we invited all Geosciences majors to two such gatherings in the foyer of Gould-Simpson. The first event was an ice-breaker: Students introduced themselves to each other and to faculty, and faculty introduced students to other students. Posters, maps, and food enhanced the venue. Along the way we learned from students their top priorities: research opportunities, career planning, preparing for field camp, and getting to know the faculty.

With these priorities in mind, the second Friday at Five featured 10 undergraduate majors who have been heavily involved in undergraduate research. They explained and answered questions about how they ‘landed’ their undergraduate research experiences. The third Friday at Five experience was not at five and not just on Friday. Karl Flessa led a weekend trip of 20 students to Glen Canyon, stopping for roadside geology along the way and floating a part of the Colorado.

During GeoDaze, we held a “Friday at Noon,” with a theme of careers and career paths. For two hours, our undergraduate students met with Geosciences alumni in the Gould-Simpson foyer and initiated a precedent that we hope lasts for decades to come. It was a rich conversation that carried wonderful philosophical and practical perspectives. We are deeply grateful to the alumni and the Geosciences advisory board members who took time out for this: Regina Capuano, Tim Demko, Steve Naruk, John Pekala, and Marc Sbar.

During spring semester we addressed as well the student priority of more preparation for field camp. George Davis designed a new 400-level field-based course, to be offered in spring 2014, entitled Interpreting Outcrops and Geologic Contacts.

Most importantly Friday at Five helped us establish close communication with our majors. We will need their input next year as we address undergraduate curriculum and policy matters. We as a faculty do not want to do this in a vacuum! Friday at Five will provide vital linkage as we move forward together in creating excellent experiences for our undergraduate majors.
Unlocking the Secrets of Noble-Gas Isotopes and Pastis

Incoming Department Head Peter Reiners will be returning soon from his Marie Curie Fellowship in France. Here, he tells us what he’s been up to.

After thirteen years in the faculty salt mines, the 2012-13 academic year brought my first chance at a sabbatical and an opportunity to focus on some fresh research, writing, and outreach. A European Union Marie Curie Incoming Fellowship brought me to the Centre de Recherches Pétrographiques et Géochimiques (CRPG), in Nancy, France, where I worked on a research project but also got some time to write and give talks.

CRPG is a lab (about the size of UA Geosciences) in the French national lab system (the Centre National de la Recherche Scientifique), with strong ties to the Université de Lorraine, the Region in the northeast part of France. Besides affording me the opportunity to once again share an office with my former officemate from my postdoc days, Pete Burnard, CRPG provided excellent opportunities for analysis and interaction in geochemistry. My research focused on developing techniques for dating secondary iron and manganese oxides in bedrock (see photo), giving me the chance to measure helium, neon, and xenon isotopes with two of the five noble gas mass spectrometers (see photo) and oxygen isotopes with one of two ion probes in the lab.

In addition to a little bit of teaching to some of the grad students, I also had to earn my keep by giving talks and visiting with researchers at universities in France, Germany, and Britain, which was great fun. I was very impressed with what I saw of the French research system—the researchers are extremely productive, endowed with the classic overachieving Gaulish quantitative skills, and the labs seem to enjoy excellent technical support, an overabundance of stimulating seminars and discussion groups, and a sumptuous multi-course lunch at the CNRS “cantine” every day and wine during lab planning meetings.

Of course my family and I have also not missed out on many of the finer qualities of daily life that France has to offer, learning to tell our cheeses, wines, and mushrooms apart at the weekly village market, and profiting from travel around the region including memorable trips to the Vosges, Alsace, Corsica, Normandy, and Paris. I’m still working on developing an appreciation for andouillette, however. As well as rain. But the sabbatical has been rich and rewarding and I will soon come back to Tucson with new ideas, research directions, and ready to rock, if a little plumper and paler.

Me, next to the ultra-high vacuum extraction line for CRPG’s newest sector multi-collector gas-source mass spectrometer, the HELIX MC. Note European attire to hide the extra cheese storage.

Secondary Fe- and Mn-oxide in Precambrian volcanic rocks in Aravaipa Canyon, AZ. (U-Th)/He dates of these layers record a Neoproterozoic age for the hematite and much later Miocene ages for the Mn-oxide. Combined with in-situ compositional and oxygen-isotope analyses done at CRPG, these samples are helping reveal the fluid-flow and cooling history of their host rocks.
Have you ever tried to explain what you do to someone who isn't a geoscientist?

My parents, for instance, still think that I dig up dinosaur bones. They never fail to ask me when my next dig will take place.

Even though our field is as diverse as medicine or engineering, the public has a limited perspective on what we actually do. Geoscience suffers from limited visibility: Outside of science fiction, disaster films and real disaster news stories, few people have ever had the opportunity to see geoscience or geoscientists in action. It’s easy for us to forget that most of the world knows very little about our science. An unaware and disinterested public can translate into a lack of public support for what we do. In addition, a disconnected public stifles our efforts to recruit the best, brightest, and most diverse students into the geoscience workforce.

So, what is the top geology program in the country doing to address this issue? Though we have been doing informal and ad hoc outreach for decades, the Department of Geosciences began its first formal program of outreach in 2012-2013. This effort was made possible by student, faculty and alumni volunteers—and by the financial support of the department’s alumni and friends.

Professor Karl Flessa, Lecturer Jessica Kapp, Adjunct Professor Marc Sbar, and I met to discuss how to most efficiently utilize our resources of time, people and money. We decided to focus our efforts on four major events during the year. To give our own students the opportunity to take on leadership roles, we selected coordinators for each event and paid each a small stipend. In addition, we made a small amount of funding available to provide for supplies and food at each event.

In September, graduate student Kate Metcalf organized the Geosciences Teacher Colloquium. Nine middle and high school math and science teachers were recruited through the University of Arizona Mathematics Engineering Science Achievement (MESA) program to visit the department to learn about the geology of Tucson. Keynote speaker George Davis opened the event by discussing his personal experiences in academia and by sharing geological teaching materials with the teachers. Geosciences graduate students presented interesting and local examples of geology and demonstrated hands-on activities that could be easily and inexpensively transferred into the K-12 classroom. Topics included the tectonic history of the western U.S., local field geology, seismology, economic geology, and how to get students to provide creative responses to science assignments. Teachers received a CD of colloquium activities and materials, a folder of educational resources, and a letter establishing that the course counted toward their continuing education.

In November, graduate students Willy Guenthner and Tyler Huth coordinated the Fourth Annual Geosciences Saturday Science Academy in partnership with MESA. More than 100 middle school students and their families were recruited from Tucson schools. Keynote speaker Marc Sbar introduced the students to geology through photos and stories from his own career. Marc emphasized the types of careers and high salaries available to students with degrees in geology. Students were then divided into teams and rotated through four unique hands-on presentations given by Geosciences graduate students. Themes included erosion and flooding, plate tectonics, earthquakes, and mountain building. Later in the day, the students reunited for a panel discussion on geoscience topics and a brief question and answer session. Finally, everyone was ushered outside to witness the 10-meter high eruption of our liquid nitrogen volcano.

Two outreach events during the spring semester exposed a large number of Tucsonans to geology: the Tucson Gem &
BP’s High Performance Computing Team in Houston donated over $60,000 of computer equipment to Geosciences in the fall. The effort was spearheaded by Elena Shoshitaishvili (BS ’97, PhD ’02).

Professor Roy A. Johnson says, “BP’s recent donation provides a very welcome expansion of our computing capabilities in the Department of Geosciences. These systems have made it possible for us to make more seats available for students, including four visiting graduate students from the Republic of Kazakhstan, to take an advanced seismic data interpretation class this spring, and will make it possible for graduate students and undergraduates to get hands-on processing and interpretation experience in classes this fall and in the future. These new systems, with faster processors, increased memory capacity and high quality video cards, are a huge benefit for our students; with the addition of brand new high-resolution graphics monitors, we are able to provide opportunities for advanced seismic analyses that are unusual even at major research universities like the University of Arizona. I am delighted with and extremely grateful for BP’s continued support!”

The Chernoff Family Field Experiences Scholarship helped send Geosciences undergraduates Eric Sahr and Amanda Alfing to Houston in May to carry out a NASA experiment testing Gravitational Effect on Fault Formation (GEOFF). Alfing and Sahr join four other UA students as part of the UA Students for Exploration and Development of Space, with George Davis as faculty supervisor. Eric Sahr is the team leader.

GEOFF competed successfully in NASA’s Reduced Gravity Education Flight Program, a program that challenges students to propose, design, build, test, and fly an experiment aboard the microgravity aircraft in zero-g, lunar gravity, and Martian gravity. The microgravity effect is achieved through free fall of 15-25 seconds during a flight parabola maneuver. This is not for the faint of heart!

Those who have taken George Davis’s structural geology classes know about Coulomb Law of Failure, which integrates cohesive strength, internal friction, normal stress, and shear stress in ways that yield intelligent conclusions regarding orientations of faults that form under varied tectonic conditions. There is a part of Coulomb Failure that is difficult to test, i.e., the influence of gravitational forces on cohesive strength and internal friction. If gravity is indeed an influential factor, it can be expected that fault angles will differ from terrestrial models in tests where gravity differs from the terrestrial norm. This could have far-reaching implications in the study of faults in planetary geology. So, for those of us who have carried out ‘sandbox fault’ experiences in Gould-Simpson, think of the challenges of carrying out these experiments during a nosedive! This is what will be happening in late May and early June, above the Gulf of Mexico. May the force be with them.

**Summer 2012, Fall 2012, & Spring 2013 Degrees**

**Bachelor of Science**

- Philip Adduci
- Amanda Alfing
- Leanndra Arechederra-Romero
- Ryan Brody
- Preston Chase
- Ryan Dool
- Kenneth Dresang
- Trenton Ehnes
- Beverly Furfaro
- Eric Jacobs
- Khaliza Binti Khalid
- Marisa Lerew
- Kenneth Leroy
- Yasmin Azalya Mohd Zaharudin
- Lujendra Ojha
- Jonathan Powell
- Mohamad Ridzuwan
- Carlie Ruhlman
- Muhammad Shamsudin
- Jack Simmons
- Steven Timlin
- Lacy Tritz
- Jennifer Van Horn
- Nadine Warneke
- Michelle Wenz

**Master of Science, Professional Science Master, & Doctor of Philosophy**

- Margaret Blome, PhD 2012
- Andrew Cohen
- Rebecca Franklin, PhD 2012
- Malcolm Hughes
- Sarah Dasher, MS 2012
- Joellen Russell
- Matthew Dettinger, MS 2013
- Jay Quade
- Tyler Huth, MS 2012
- Jay Quade
- Sarah Ivory, PhD 2013
- Andrew Cohen
- Andrew Laskowski, MS 2012
- George Gehrels
- Michael McCarrel, MS 2012
- Eric Seedorff
- Noah McDougall, MS 2013
- Roy Johnson
- Nicholas McKay, PhD 2012
- Jonathan Overpeck
- Mallory Morell, MS 2012
- Susan Beck
- Shauna Morrison, MS 2013
- Robert Downs
- Philip Nickerson, PhD 2012
- Eric Seedorff
- David Pearson, PhD 2012
- Paul Kapp
- Esther Posner, MS 2012
- Jibamitra Ganguly
- Mariel Schottenfeld, MS 2012
- Eric Seedorff
- Kathryn Sechrist, MS 2012
- Spencer Titeley
- Alyson Thibodeau, PhD 2012
- Joaquin Ruiz
- Kevin Ward, MS 2012
- George Zandt
- Jeremy Weiss, PhD 2012
- Jonathan Overpeck
- Lara White, MS 2013
- Timothy Juil
- Hector Zamora, MS 2013
- Karl Flessa
Many thanks to the alumni, friends, and corporations listed below for their generosity and support.

— Individuals —
Anonymous
Megan L. Anderson
Jon and Christine Baskin
Gerard and Byoung Sun Beaudoin
Nancy Beckvar and Steven Brady
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Gail S. Bock
Larry and Linneth Bradfish
Elwood and Della Brooks
Jonathan and Marilyn Browne
Jeffrey and Mary Ann Bryant
Herb and Sylvia Burton
Ann Bykerk-Kauffman and Mark Kauffman
David and Penny Carr
Carlotta B. Cherson
Anthony and Nancy Ann Ching
Cyndy Christopoulos
Brooke and Juanita Clements
Gaylord and Jo Ann Cleveland
J. Kelly Cluer and Christall Morris
Darlene Coney
John and Paula Cunningham
Raj and Cynthia Daniel
Brian and Kristi Darby
George and Merrily Davis
Robert and Phyllis Davis
Omar and Constance DeWald
Donald R. Dietrich
Sally Drachman and Robert Salvatore
John and Wilhelmina Dreier
James and Faria Dretler
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Students Awarded Four New NSF Graduate Research Fellowships

Geosciences students Ted Cross, Shaunna Morrison, Luke Parsons and Shelby Rader were awarded NSF Graduate Research Fellowships this spring. Each student will receive $30,000 annually for three years. The fellowship recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines. In addition to the students’ annual support, the university will receive funds to cover the costs of the students’ education.

“Four of our graduate students received NSF fellowships this year, among the most prestigious national awards granted to beginning graduate students,” says Interim Department Head Jay Quade. “This is a remarkable number, when one considers that only thirty graduate students received this award in Arizona across all the disciplines in 2013. It is a measure of the national standing of our students and department.”

Ted Cross writes, “I study the geology of the Himalayas, focusing on central Nepal. My project is old-school geology: mapping and lab analysis to establish the stratigraphy and structure of the area. In the past fifteen years, detrital zircon geochronology—determining the age of many zircons from different sources now contained in a single sedimentary rock—has allowed researchers in our department and in others to establish a consistent stratigraphy applicable across much of the Himalayas. Our group performed the first large-scale mapping in central Nepal since the advent of this improved stratigraphy, and we made some exciting discoveries. The Himalaya is a fold-thrust belt, with packages of rocks stacked on top of each other as India thrusts underneath Asia. During a field season in central Nepal in December and January, we found an isolated erosional remnant of an upper thrust sheet that had previously not been thought to appear in the area. This thrust sheet contains the Greater Himalayan Sequence, a set of rocks subject to much debate. Geologists disagree on when and how these rocks were emplaced, with some researchers suggesting that erosion due to the monsoon combined with the weight of the Tibetan Plateau may have driven the exhumation of these rocks. I will use detrital zircon dating to establish the stratigraphy and structure of my field area, and I will also use thermochronology to look at the thermal history of the area. I’m excited to add my data to the ongoing debate!”

Shaunna Morrison’s research focuses on minerals containing the 14 naturally occurring lanthanides (lanthanum through lutetium) and yttrium, collectively referred to as rare earth elements (REE). REE make up over 15% of the 98 naturally occurring elements found, yet they are among the least understood. “It’s my goal to help create the framework necessary to more fully understand the fundamentals of these mysterious elements and, with that knowledge, to touch many facets of our society,” Morrison writes. “Minerals represent some of the most stable phases of elements, as evidenced by their long-term existence. Once we understand how the elements are bonded together in REE minerals, we can better know how to separate REE from their host-minerals without the dangerous leaching processes, and help remEDIATE already contaminated sites. In addition to pollution-minimization, having a clearer picture of REE attributes will allow for more extensive recycling efforts and the development of better, more efficient technology. Lastly, when we know more about REE occurrence, distribution and related geologic processes, we will have a greater understanding of earth history and future researchers will be able to focus on certain geologic environments based on their ages.”

Luke Parsons studies past precipitation variability using sediment cores from lakes, and uses climate model experiments and projections to study potential changes in future climate. Parsons writes, “I am currently studying the latest climate model output from the Coupled Model Intercomparison Project 5 (CMIP5) models used in the upcoming Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC AR5) to investigate projected future changes in monsoon strength with continued climate change. I also use the Geophysical Fluid Dynamics Laboratory Earth System Model (GFDL ESM2M) to examine the effects of changing ocean circulation on rainfall and carbon storage in South America.” In his NSF GRFP application, Parsons proposed to use climate modeling combined with analysis of sediments from lakes in Brazil, Peru, and Ecuador to better define the pre-instrumental history of drought and influences on drought in Amazonia. He writes, “This tropical region provides a key reservoir of biodiversity and an important carbon sink. However, climate modelers still do not fully understand the extent and duration of late Holocene droughts in Amazonia. An analysis of late-Holocene droughts using sediment cores from lakes across the basin will provide the type of data required to establish a new baseline of drought risk in Amazonia. Climate modelers can also help constrain their models to help better predict the variability and extremity of future droughts with more information about the length and persistence of past droughts.”

Shelby Rader is studying the natural distribution and geochemical behavior of thallium. She writes, “As with many heavy elements (e.g., Hg, As, Pb), thallium presents both environmental challenges and economic opportunities.” Thallium commonly occurs with mercury, arsenic, and similar elements in low-temperature hydrothermal systems, where it may be a useful indicator of Au enrichment or mineralization (e.g., Carlin-type gold deposits), and in organic-rich sediments, (e.g., coals), where it is a potential contaminant. The reasons behind this and other aspects of its behavior are largely unknown, both because of limited thermodynamic data and the complexity added by its dual role as a lithophile and chalcophile element. “Given the scarcity of data on thallium in the key geologic environments,” Rader writes, “my first objective will be determination of thallium concentrations in rocks and minerals and the partitioning behavior of thallium between coexisting minerals in both Tl-rich geologic settings, such as Au-bearing hydrothermal systems (especially Carlin-type), and geologic settings with a lesser relationship with thallium (such as volcanogenic massive sulfides and non-hydrothermal systems).” Key questions for Rader will involve the nature of thallium substitution and empirical evidence for conditions of thallium mobility.

These four awards bring Geosciences’ tally of NSF Graduate Research Fellows currently in the department to nine—quite an achievement.
Have you ever wondered why the best wines go together with the best geology?

Allow UA Geoscientists to guide you through the spectacular geology and viticulture of Northwestern Argentina. We know geology and how to appreciate wine!

Join Us

on a Nine-day exclusive cultural and scientific excursion to Northwestern Argentina lead by Prof. Barbara Carrapa and Prof. Peter DeCelles.

Starting in Salta, Argentina, this trip will take you to the heart of the high Andes and combine geology with visits to some of the best vineyards in Argentina.

March 14-22, 2014
Price: $10,000 per person (excluding flights). Space limited to 10 individuals.
Please reply with your interest to: alicas@email.arizona.edu

Revenue will help to build a departmental endowment for new faculty hires in the Department of Geosciences.

To inquire about disability access or request reasonable accommodations, please contact alicas@email.arizona.edu or 520-626-8204.
Some facts about GeoDaze 41:

- 32 oral presentations
- 27 poster presentations
- $6,200 in prize money awarded
- 45 individual and corporate sponsors
- Giant all-EarthWeek poster session with posters from Atmospheric Sciences, Geosciences, Hydrology and Water Resources, and Soil, Water and Environmental Science displayed simultaneously
- Keynote Speaker: David Montgomery, University of Washington, “Megafloods down the Tsangpo River gorge, eastern Tibet”
- EarthWeek Plenary Speaker: Craig Childs, “Apocalyptic Planet”
- Field Trip: Copper mining in the Tucson area

GeoDaze Awards

- Montgomery & Associates
  Best Overall GeoDaze Presentation
  Isabel Fay, $2,000 award

- Jerome Kendall and Jan-Claire Phillips
  Runner-Up Best Overall Presentation
  Philip Stokes, $1,000 award

- Miles G. Shaw
  Best Geophysics Talk
  Kevin M. Ward, $300 award

- Balfour Holdings
  Best Geomorphology Talk
  Caitlin Orem, $300 award

- Lynn Peyton and Rich Bottjer
  Best Climate & Paleoclimate Talk
  Cody Routson, $300 award

- John Guilbert and Dorothy Harelson
  Best Economic Geology Talk
  Shelby Rader, $300 award

- BP Fabric of America Fund
  Best Tectonics & Geochemistry Talk
  Kate Metcalf, $300 award

- Golder Associates
  Best Undergraduate Talk
  Amber Keske, $250 award (tie)
  Jesse Martinez, $250 award (tie)

- John and Wilhelmina Dreier
  Best Overall GeoDaze Poster
  Wan Fadilah Wan Mohd Hanizan, $500 award

- John and Wilhelmina Dreier
  2nd Place GeoDaze Poster
  Jill Onken, $300 award

- John and Wilhelmina Dreier
  3rd Place GeoDaze Poster
  Sarah Ivory, $100 award

- John and Wilhelmina Dreier
  Best Undergraduate GeoDaze Poster
  Jack Simmons, $300 award

GeoDaze sponsors are included on the donors page of this newsletter.

Mark your calendars for GeoDaze 2014, April 10 - 12.
Fall Scholarships

Jonathan Delph, PhD Student
ConocoPhillips Scholarship $4,550

Ted Cross, MS Student
ConocoPhillips Scholarship $4,125

Noah McDougall, MS Student
ConocoPhillips Scholarship $4,125

Lucia Profeta, PhD Student
ConocoPhillips Scholarship $4,550

Andrea Stevens, PhD Student
ConocoPhillips Scholarship $4,550

Rachel Cajigas, PhD Student
Sulzer Scholarship $4,550

Ada Dominguez, PhD Student
Sulzer Scholarship $500

Russ Edge, PhD Student
Sulzer Scholarship $4,550

Jared Olyphant, PhD Student
Sulzer Scholarship $500

Christopher Cooper, PhD Student
Summer Scholarship $4,550

A total of $36,550 was awarded

Spring Scholarships

Noah McDougall, MS Student
BP Geophysics Scholarship $4,125

Andrew Laskowski, PhD Student
Butler Scholarship $4,550

Elizabeth Balgord, PhD Student
ConocoPhillips Scholarship $4,550

William Guenthner, PhD Student
ConocoPhillips Scholarship $4,675

Brendon Johnson, PhD Student
ConocoPhillips Scholarship $4,550

Cullen Kortyna, MS Student
ConocoPhillips Scholarship $4,125

Lucia Profeta, PhD Student
ConocoPhillips Scholarship $4,550

Alissa Scire, PhD Student
ConocoPhillips Scholarship $4,675

Rachael Cajigas, PhD Student
Graduate College Scholarship $4,550

Andrea Stevens, PhD Student
Graduate College Scholarship $4,550

Philip Stokes, PhD Student
Graduate College Scholarship $4,675

Erin Harris-Parks, MS Student
Sulzer Scholarship $4,785

Jill Onken, PhD Student
Sulzer Scholarship $161

Caitlin Orem, PhD Student
Sulzer Scholarship $4,675

A total of $59,196 was awarded

Summer Scholarships

NASA Zero Gravity Project
Chernoff Family Field Experiences Scholarship $1,250

Ted Cross, MS Student
Peter J. Coney Scholarship $1,300

Erin Harris-Parks, MS Student
Paul S. Martin Scholarship $1,500

Aryn Hoge, MS Student
Spencer R. Titley Scholarship $600

Adam Hudson, PhD Student
Keith L. Katzer Scholarship $1,500

Mauricio Ibanez-Mejia, PhD Student
Spencer R. Titley Scholarship $1,500

Luke Parsons, PhD Student
Kartchner Caverns Scholarship $1,500

Andrea Stevens, PhD Student
Peter J. Coney Scholarship $1,500

Philip Stokes, PhD Student
Maxwell Short Scholarship $1,500

James Worthington, PhD Student
BP Scholarship $81

Gillespie Scholarship $95

Peter J. Coney Scholarship $1,324

A total of $13,650 was awarded

Galileo Circle Scholarships

The following students received a $1,000 scholarship from donors to the College of Science Galileo Circle.

Khaliza Binti Khalid, BS Student

Brandon Bishop, PhD Student

Jordon Bright, PhD Student

Adrien Di Domizio, BS Student

Nathan Evenson, MS Student

Hannah Isabel Fay, PhD Student

Adam Hudson, PhD Student

Mauricio Ibanez-Mejia, PhD Student

Amber Keske, BS Student

Shaunna Morrison, MS Student - Susan G. Earl Galileo Circle Scholarship

Devon Orme, PhD Student

Kathleen Pullin, BS Student - School of Earth & Environmental Sciences Galileo Circle Scholarship

Philip Stokes, PhD Student

William Waldrip, PhD Student

Wan Fadhilah Wan Mohd Hanizan, BS Student

Sarah Truebe, PhD Student - Roy P. Drachman Galileo Circle Scholarship for outstanding College of Science Graduate Student, Outreach.
Faculty

Andy Cohen reports, “The Hominin Sites and Paleolakes Drilling Project is underway with mobilization of the first drill site set to start on May 25th and drilling on June 1 at the Tugen Hills site. We expect to finish that up mid June and then move to the West Turkana site. An exciting new development is that we will have a professional film-maker, Earth Images Foundation, working with us to produce a ~20 minute 3-D film on the project. This will be on display at the California Academy of Sciences, possibly at the Smithsonian and other museum venues. You can follow the progress of the project at both Facebook and Twitter (just search HSPDP).”

Karl Flessa received the 2013 Outstanding Faculty award from the Geosciences Advisory Board at the GeoDaze award ceremony.

Staff

2012 was a year full of new directions for Geosciences post-doc Pete Lippert. Taking an abrupt turn from his ongoing work on India-Asia suture zone tectonics, Lippert spent two months last summer in the North Atlantic sailing as a scientist on Integrated Ocean Drilling Program Leg 342 (check out highlights from the cruise at www.youtube.com/user/OceanLeadership). UA Geosciences alumnus Dick Norris (MS ’86) was one of the co-chief scientists on this historic expedition.

Lippert recently earned an Earth Systems and Evolution Program Fellowship from the Canadian Institute for Advanced Research, enabling him to extend his stay at the UA and develop and test new non-charcoal-based proxies for wildfire in the pre-Quaternary rock record. This work is in collaboration with Geosciences Professor Peter Reiners. Lippert will join the Geology & Geophysics faculty at the University of Utah in July 2014.

Geosciences Business Manager Sylvia Quintero won an Award of Excellence from the College of Science Staff Advisory Council.

Students

PhD student Elizabeth Balgord was awarded a National Geographic Young Explorer grant to work in the Aconcagua region (the highest mountains in the Andes) in Argentina and study the timing and processes of mountain building.

PhD student Kathleen Compton won the College of Science Award for Teaching.

Shaunna Morrison gave a talk at the 2013 Lunar and Planetary Science Conference in Houston and had three publications, as well as two currently in press. Shaunna completed her Master’s degree and will continue in the department as a PhD student.

PhD student Kendra Murray won a Scholar Award from the Philanthropic Educational Organization.

PhD students Devon Orme and Kevin M. Ward won AGU Outstanding Student Presentation Awards.

PhD student Luke Parsons won the Carson Scholarship from the University of Arizona’s Institute of the Environment.

PhD Student Diane Thompson won the College of Science Award for Scholarship.

PhD Student Sarah Truebe won the College of Science Award for Service.

Geosciences Reaches Out (cont’d from page 3)

Mineral Show (TGMS) and the Tucson Festival of Books (TFOB).

February brought the TGMS to town, and once again Geosciences had a major presence at the Tucson Convention Center. Nicole Santangelo, who recently completed her undergraduate degree in Geosciences, coordinated the event with Jessica Kapp and the Society for Earth Science Students, our undergraduate club. Thousands of local families visited the Junior Education area and experienced hands-on science activities over three days, and kids received free rock and mineral samples for their collections.

In March, graduate student Carson Richardson coordinated the Geosciences presence in the Science City at the two-day TFOB. At this event, tens of thousands of community members had the chance to learn about geology from our student volunteers. Visitors engaged in hands-on science activities, and Geosciences volunteers provided twice daily eruptions of our liquid nitrogen volcano.

In addition to these four major events, individual efforts deserve mention as well. Graduate students Andrew Laskowski, Caitlin Orem, and Devon Orme somehow found time during the year to give geology presentations at several local schools. Devon also judged local science fairs and plans to work with BASIS Tucson this summer to provide additional instructional support.

Marc Sbar and I organized our second annual Geosciences Career Counseling for Undergraduates event in September. This forum combined local geoscience professionals, undergraduates, and free lunch to facilitate networking and to give students the chance to learn more about careers in geoscience. The feedback from this event was very positive and we plan to offer this opportunity again.

In all, 14 graduate students and 91 undergraduates participated in Geosciences outreach, making 2012-2013 a remarkable year for geoscience outreach! We thank our alumni, faculty, staff, and students for their support and look forward to continuing this work during the next school year. Thank you to the Geosciences 2012-2013 outreach volunteers!
Front Range Group Gathers in Golden

by John Dreier, PhD ’76, member Geosciences Advisory Board

We held our third Front Range geosciences department alumni gathering on Saturday, October 13, 2012. With a clear, sunny, fall day forecast, we scheduled the event, as last year, for the patio of Connie Knight’s (MS ’73) house in Golden. But, so typical of Colorado weather, we were greeted by an unforeseen cold front that appeared out of nowhere and so we moved inside, leaving beer and bartender to their fate. Happily, at the arrival of the caterer, the clouds parted, the rain stopped, and we ventured onto the patio to a sunny afternoon of food, drink, and conversation as planned.

George Davis was the invited speaker and he began by reminiscing with former students about field camps and structural geology exercises in the Rincons and Catalinas, blown tires on field vehicles, and marathon eating events attached thereto. He and alumni Tyler Gass (MS ’77) and Bret Liming (MS ’74) even sang their fieldwork song. It was a tremendous pleasure to share stories of lives before, during, and after Arizona and to catch up with friends and colleagues.

The event was topped off by George Davis’s slide show of field camps, structural geology field trips and much more. He followed his trip down memory lane with a talk on the geology of Mt. Lykaion in Arcadia, Greece, which he is working on as part of an archaeological investigation of the area. It was a wonderful afternoon and evening of good cheer all made possible by the hard work and fine hospitality of Connie Knight and her husband Roger and the participation of George Davis.

Kelly B. Proctor (BS ’86) is now a mine geologist in the coal industry with BHP Billiton in Australia.

Steve Lingrey (PhD ’82) received the 2013 Distinguished Alumni award from the Geosciences Advisory Board. The award was presented by board member Tim Demko (PhD ’95) at GeoDaze.

23 UA alumni attended the Exploration Roundup conference in Vancouver, Canada in January:

Front row left to right: Tom McCandless (PhD ’94), David Maher (PhD ’08), George Sanders (76), John-Mark Staude (PhD ’95), Steve Enders (PhD ’00), Brooke Clements (MS ’91)

Second row left to right: Chris Greenshoot (MS ’00), Doug Kreiner (PhD ’11), Lance Miller (PhD ’94), Dave Johnson (PhD ’00), Matthew Gray (MS ’88), James Lang (PhD ’91), Peter Megaw (PhD ’90), David Lajack (94-96)

Back row left to right: Adam Graf (MS ’97, MBA ’01), Eugene Schmidt (MS ’75), Wolfram Schuh (PhD ’93), Robert Schaefer (MS ’80), Clancy Wendt (MS ’78), Kent Turner (MS ’83), Bill McClelland (PhD ’90), Moira Smith (PhD ’90), Rick Fredericksen (MS ’74)

Memorials

Amy Eichenlaub Snyder (MS ’07)
Amy Eichenlaub Snyder passed away in October 2013. During her career, Amy worked for Asarco Ray Inc., Kennecott Exploration, Phelps Dodge, Bell Copper and most recently for Freeport-McMoRan in Green Valley, AZ.

James Honey (BS ’73, MS ’77)
James Honey passed away in March 2012. Most recently, Jim had been principal investigator on the late Malcolm McKenna’s (American Museum of Natural History) eastern Greater Green River Basin project.

Douglas Shakel (MS ’78)
Douglas Shakel passed away in December 2012. Doug worked tirelessly to preserve the land that is now Catalina State Park and taught geology at Pima Community College for 27 years.

Robert B. "Bob" Staley (BS ’74)
Robert B. Staley passed away in July 2012. Bob worked 39 years for Zonge International as their Senior Design Engineer and Vice President, designing equipment that is currently in use on every continent on Earth.
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Share your news for the next newsletter!

New job? Kids? Back in school? Retired? Attend a national meeting? Take a trip? See a classmate? Please send us your news and a photo by mail or e-mail (alicias@email.arizona.edu).