

**Inside**

From the Department Head	2
Faculty & Student News	4
News from Texas	5
Graduates & Scholarships	6
Alumni News & Donors	7

**Advisory Board**

Nancy Beckvar, *ORR/NOS/NOAA*

Regina Capuano, *University of Houston*

Carlotta Chernoff, *ConocoPhillips*

Timothy Demko, *ExxonMobil*

Stephen Enders, *Newmont Mining*

James King, *Retired Director,*

*Cleveland Museum of Natural History*

Jamie Webb King, *Retired University*

*Administrator*

Christopher Marrs, *A. W. Marrs, Inc.*

Stephen Naruk, *Shell Oil*

Steven Natali, *Williams Production*

*RMT Company*

Marc Sbar, *ConocoPhillips*

William Wilkinson, *Freeport-McMoRan*

Mark Zoback, *Stanford University*

**Credits**

The UA Geosciences Newsletter is published twice a year by:

The Department of Geosciences

The University of Arizona

PO Box 210077

Tucson, AZ 85721-0077

Lesa Langan DuBerry, Editor

Email: [lesa@email.arizona.edu](mailto:lesa@email.arizona.edu)

Phone: 520-626-8204

Web: [www.geo.arizona.edu](http://www.geo.arizona.edu)

## Major Research Funding and Recent Developments in Economic Geology

By Mark Barton and Eric Seedorff

On November 18<sup>th</sup>, Science Foundation Arizona (SFAz) announced a new \$17.4 M, four-year initiative at the UA that focuses on sustainability and mineral resources. The Department of Geosciences plays a key role in this effort, which will complement many ongoing activities in economic geology, including the Lowell Program. This article highlights these recent developments.

The new funding culminates a year-long process that generated and modified a proposal to Science Foundation Arizona entitled "Sustainable Development of Critical Minerals." The proposal was a joint effort of the Departments of Geosciences, Mining and Geological Engineering, and the College of Public Health, with principal investigators Mary Poulton (MGE), Mark Barton (GEOS), and Jeff Burgess (CoPH).

It builds on long-standing cooperative programs on campus and directly involves another half-dozen faculty at the UA, as well as colleagues at ASU and NAU.

Essential to the success of this effort are over a dozen companies, most significantly Freeport-McMoRan, Newmont, Resolution Copper, and BHP Billiton.

The Science Foundation funding provides several great opportunities. It will support new and expanded research initiatives; it

should provide funding for several new faculty positions across campus (in a time of contraction in state funding); and it enables the launching of the Institute for Mineral Resources (IMR). The IMR has been in gestation for some time; the vision is for a world-leading, university-based program that deals with the scientific, technological, and social aspects of society's use and stewardship of mineral resources.

The IMR can succeed because it builds on strong programs across campus, maintains links with industry and government, and



*The Science Foundation Arizona project deals with many issues related to mineral resources. Here, on a Lowell Program field trip, Eric Seedorff is describing the discovery, geology, and technical challenges for development of the huge (>1 billion tonnes, ≥1.5 % Cu) and deep ≥4,000' Resolution deposit near Superior, Arizona.*

has the natural advantages of being in one of the world's principal mining regions. Beyond contributions from the core departments, among the key UA efforts to be rolled into the IMR are the Lowell Program in Economic Geology, including the Professional Science Master's degree (see <http://econ.geo.arizona.edu/>), the

...cont'd page 3

## From the Department Head



There aren't too many jokes about academic administrators that you can repeat in polite company, but here's one.

The new provost is meeting with the outgoing provost in the hopes of getting advice on her new job. The outgoing provost simply gives her three envelopes with the following instructions. "When you get to your first crisis open the first envelope, it will get you through the hard times. In the second crisis, open the second, and so on."

So she takes the outgoing provost's advice and opens the first envelope during her first crisis in office. The message inside reads: "Blame your predecessor." The advice works.

During the second crisis, she opens the second envelope. The message inside reads: "Reorganize." The advice works.

In the midst of the third crisis, she opens the third envelope and gets the following advice: "Prepare three envelopes."

In this e-mail, I want to bring you up to date on the "second envelope," the efforts to reorganize many of the Departments and Colleges at the University of Arizona. The reorganization process is being called Transformation. In short, the Provost seeks to create some administrative efficiencies by mergers and consolidations and, more importantly, to focus the resulting new units on the UA's priorities.

This is all occurring, of course, during a severe budget crisis in the state and nation. In the wake of last summer's 3.6% budget cut, we are facing another cut for the 2010 fiscal year that starts in July 2009. We don't yet know how large a cut we face at the Departmental level—it will depend on what the administration decides to cut elsewhere in the University. None of this will be pretty. But that's not what I want to tell you about.

Back to transformation, together with Eric Betterton (Head of Atmospheric Sciences), Tom Swetnam (Director of the Laboratory of Tree-Ring Research), staff and student representatives of each of the three units, and the tacit approval of Tom Maddock (Head of Hydrology and Water Resources), Mary Poulton (Head of Mining and Geological Engineering), and Tim Jull (Director of the AMS lab), we submitted a proposal to form a new "School of Earth Sciences"—the official name is yet to be determined.

You can view the whole pre-proposal (it's only four pages long) at <http://provost.arizona.edu/node/159>.

The exact organizational structure has yet to be worked out, but we all seek to preserve our strengths and distinct identities—our individual "brands," if you will. So, regardless of what happens next, we will keep our existing strengths and preserve our individual degree programs and degree names. Your degree in "Geosciences" will not become extinct.

The first two paragraphs of the pre-proposal are as follows.

*This new School's mission is to provide world-class education and basic research in the earth sciences, encompassing the geological, atmospheric, hydrologic, and environmental sciences. We seek to generate new knowledge about earth and environmental processes at all geographic and temporal scales and to transmit that knowledge to benefit students and society.*

*The new School focuses the UA's already-formidable strengths in the natural, social, and engineering sciences directly related to research, teaching, and outreach in geosciences, climate, water, and environmental sciences (including human and ecological impacts). These address scientific grand challenges and key elements of the UA's Strategic Plan priority in "Climate, Environmental, Water, and Energy Sustainability." Our existing world-class strengths in understanding Earth materials and the tectonic forces that shape those materials at all scales are essential to the scientific foundations of this priority area. The units include two "top-ten," nationally ranked programs (GEOS and HWR), and the world's first and finest tree-ring laboratory. ATMO's expertise in climate and weather provides critical linkage among many of the units. MGE develops and delivers technologies vital to the sustainable development of mineral resources. The AMS Lab provides extraordinary research and service in the dating of materials essential to understanding rates of many Earth processes.*

We doubt that reorganizing as a School would deliver much in the way of savings. Our support staff are already overextended. However, once the current budget crisis passes, I think that as a School we would be in a better position to compete for University resources (faculty lines), I think that our national and international profile will be enhanced, I think that our undergraduate programs will be improved, I think that our student credit hour counts will be higher, and I think that new synergies will emerge in our research and graduate programs.

It's worth keeping in mind that **not** forming a School would mean that we would be a relatively smaller Department amidst some much larger units. There are consequences to choosing not to act. Put another way: *There is no such thing as the status quo when the landscape around us is changing.*

Much still remains to be done, like working out the administrative, business, and academic structure of the School and getting the needed approval of the faculty involved. That work is just now beginning.

I welcome your advice on this process and our current direction. What do you see as possible benefits? Possible disadvantages? How can we best sustain our very strong alumni base and industry connections?

Thanks for your support. I hope to hear from you.

## Mark Your Calendars

The 37<sup>th</sup> GeoDaze Symposium will take place April 2–4, 2009, in Tucson, at the Arizona Historical Society near the central UA campus.

new Lowell Master of Mineral Engineering in Mineral Resources (see <http://www.mge.arizona.edu/>), the Center for Mineral Resources (the UA-USGS-industry co-op that has existed since the mid-1990s), and the International Center for Mine Health Safety and Environment, which is a cooperative between the College of Public Health and MGE and offers a joint MS program. Faculty from over a dozen other departments are engaged in or have expressed interest in being involved with the IMR and related projects. Mary Poulton, currently Head of Mining and Geological Engineering, will be the founding IMR Director.

Three new faculty positions will be created and funded as part of this initiative, one each in the three lead programs. In Geosciences, SFAZ funding will allow us to hire and provide start-up funds for an additional economic geology position, which will help rebuild some of the losses that have taken place over the last 15 years.

Non-Geoscience research themes include topics in mine health and safety, mineral processing, and energy efficiency. Among the latter are projects to improve recovery of molybdenite and to substantially reduce water consumption in ore processing by using lower-quality (recycled) water. Work at the UA's San Xavier (SX) experimental mine figures in SFAZ projects for developing technologies for underground location and tracking of miners and equipment, studying exposure to diesel exhaust, creating innovative (gaming-based) safety training, and improving risk assessment. The SX mine already serves many purposes for training and development, but the capacity to be built during SFAZ funding will permit a broad variety of experiments to be conducted in an underground mine without interfering with ongoing operations at a producing mine.

Geoscience projects within the SFAZ initiative reflect both the diverse companies that are presently supporting work as well as the collective ongoing interests of all involved. Most projects are deposit focused and may range from work with Freeport in the Congo, to exploration projects with Newmont in Latin America and Nevada, to porphyry-focused projects with Resolution Copper and BHP Billiton. Additional topics of regional scope will look at the regional context of ore deposits in the Basin and Range and comparison with other Cordilleran settings, particularly in the Andes. We are continuing work on comparative metallogeny; relationships of magmatism, tectonics, and multiple fluid sources to different kinds of ore deposits; radiometric dating of plutons and ore minerals; and better understanding the nature and role of crustal extension in the origin and distribution of mineralized hydrothermal systems.

The scope of projects will evolve as participants and needs change over the next four years. Although matching funds are no longer available, we can still involve additional companies under the favorable contract terms (reduced overhead) as the opportunity arises. These projects complement ongoing work funded by NSF and the USGS (to Barton, Seedorff, Ruiz, Titley, and others).

This has been an exceptional year in recruiting graduate students, with a total of seven in economic geology. One reason for the large number was the anticipation of the multiple opportunities available through SFAZ and ongoing projects. On the other hand, recruiting students into the Lowell Program has continued to be a challenge because of the UA language requirements for foreign students, the demand in industry that keeps young professionals from returning, and the lack of scholarship support that would help recruit students into the one-year course-focused PSM degree.



*The December short courses include lectures and labs as well as field trips; here Eric Seedorff is lecturing with posters and rocks at the University Park Marriott.*

Through the leadership of Eric Seedorff and Lukas Zurcher, the short courses in the Lowell Program in Economic Geology continue to be very successful. We currently offer two ten-day courses on the mapping of mineral deposits (August) and copper-gold deposits (December). Over the last four years, more than 300 professionals from 21 countries and over 50 companies have been involved, along with nearly 100 graduate students (mainly from the UA). Each course has filled quickly, typically months in advance. The December short course with its lectures, labs, and local field

trips involves many faculty, including Spence Titley, Mark Barton, and others, as well as guest lecturers from the UA and southern Arizona. Mark, Eric, and Lukas lead the mapping course, which takes the form of a 12-day field trip through the Basin and Range in Arizona, eastern California, and Nevada (ten days for industry participants, who we meet and drop off in Las Vegas).



*Spence Titley lecturing at North Silver Bell during one of the December short courses.*

In this course, we introduce and apply advanced mapping techniques for dealing with hydrothermally altered, structurally complex geologic systems. We examine diverse aspects of porphyry, skarn, Carlin, and IOCG type deposits and modern hydrothermal systems, all this in the context of their diverse geologic settings and hydrothermal fluids coupled with the need to recognize and interpret hydrothermal alteration and apply structural geology. The core of the course is five days in the Yerington district in Nevada, where we spend

several days bench and surface mapping while examining the superbly described cross-sectional exposures through a Jurassic batholith, its overlying volcanic pile, the host rocks, and associated porphyry copper, copper skarn, IOCG, and epithermal deposits.

SFAZ funding over the four-year life of the initiative represents an extraordinary, one-time opportunity for economic geology and related fields at the UA. We could not have reached this stage without earlier gifts from David Lowell and support from industry partners such as Phelps Dodge (now Freeport) and Newmont. Although the SFAZ initiative is just starting, we must plan now for the future, for both economic and strategic reasons. The amount of State support for university activities will contract...*cont'd page 4*

cont'd from page 3... even more sharply during the current financial crisis. The long-term sustainability of the IMR depends on obtaining permanent funding, particularly for the Director and Outreach Coordinator of the IMR. The IMR will fulfill its vision only after people interested in the social aspects of mineral resources—on and off campus—also have been brought under the IMR umbrella and have obtained funding (not available from SFAz).

Moreover, our ability to be part of the solution to the workforce shortages of economic geologists in industry, academia, and government will depend on our ability to replace the graduate student support embedded in SFAz projects. With SFAz support, we are off to an excellent start; nevertheless only with continued industry and alumni support will this step—SFAz funding and launching of the IMR—be remembered as the turning point toward a stronger, brighter, and sustainable future.

## Faculty News

**Pete DeCelles** received the Laurence L. Sloss Award for Lifetime Achievement in Sedimentary Geology from the Sedimentary Geology Division of GSA. The Sloss Award is given annually to recognize the lifetime achievements of one sedimentary geologist. For the full story, see <http://uanews.org/node/21726>.

**Paul Kapp** received the GSA's Young Scientist Award. The award is given to scientists 35 years old or younger for "outstanding achievement in contributing to geologic knowledge through original research, that marks a major advance in the Earth sciences. The award consists of a gold medal called the Donath Medal and a cash prize of \$20,000. For the full story, see <http://uanews.org/node/21727>.

**Edgar McCullough**, professor emeritus, received a President's Citation award from the UA for Transformative Department Head Leadership. The award formally recognized Ed's vision, courage, standards, and effectiveness in launching the Geosciences Department to international prominence during his tenure as Geosciences Department Head from 1970 to 1982.

**Roy Johnson**, professor, received a ConocoPhillips Faculty Sponsorship for the 2008-2009 academic year. Only sixteen awards were made nationally in all fields supported by ConocoPhillips; only two awards were made to geoscientists.

By way of background, Science Foundation Arizona (SFAz) is a non-profit public-private partnership that invests in projects that will help Arizona be globally competitive in science and engineering (see <http://www.sfaz.org/>). Initiated with funds from three CEO organizations in 2006, SFAz matches private sector funds with funds committed by the Arizona legislature. Projects are focused in several areas, including "Sustainable Systems," which was the theme for our proposal. Proposals can be submitted by many organizations and are thoroughly vetted. The University competes by selecting a few pre-proposals to be developed into full proposals, which are then given mail reviews by global experts, followed by a panel review by other specialists.

In our case, academic and industry participants made presentations during the site visit to a panel consisting of heads of leading mining departments at the University of British Columbia, the Colorado School of Mines, and Virginia Tech. The final hurdle involved approval by the SFAz Board of Directors, which includes, among others, Erich Bloch, former director of the National Science Foundation, Craig Barrett, Chairman of the Board of Intel, and Gary Jones, one of our geophysics alumni, who is currently involved in a number of start-up companies in Arizona. Throughout the review process, comments were strongly positive and highlighted the importance of sustainability in mineral resources and the long-term history, strengths, needs, and opportunities in Arizona.

## Student News

**Guleed Ali**, undergraduate student, received a scholarship from the National Association of Black Geologists and Geophysicists.

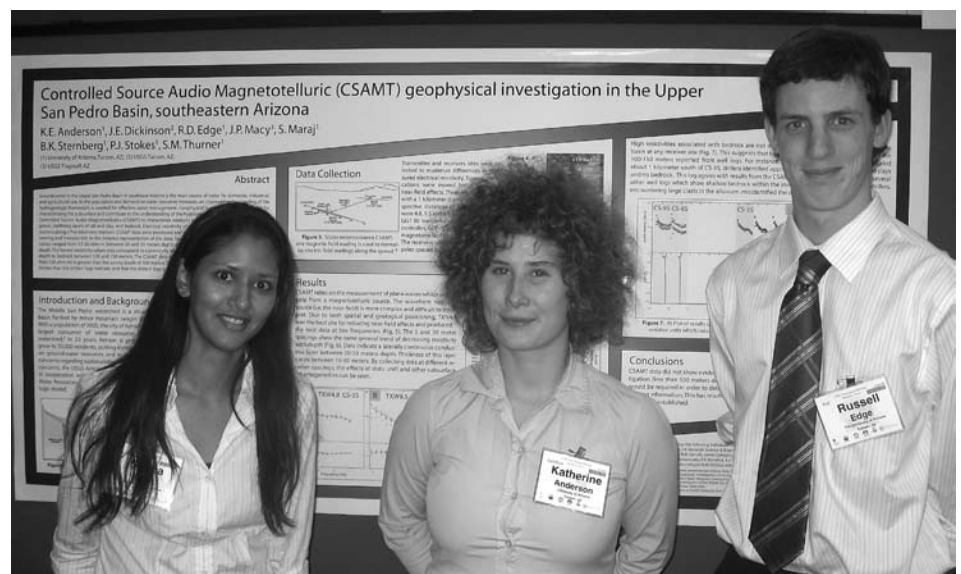
**Margaret Blome**, graduate student, received a DOSECC Internship to examine East African lake records and investigate African paleoclimate history during the Pleistocene.

**Kevin Jones**, graduate student, received the Richard Hay Award for best student paper from the Archaeological Geology Division at the 2008 GSA meeting.

**Alexander Rohrmann**, graduate student, received a Farouk El-Baz Student Research Award at the 2008 GSA meeting to encourage and promote desert research.

## Department News

**Incoming graduate students** enjoyed the Department's annual field trip to the Grand Canyon again this past August. The field trip was well attended and greatly appreciated by the new students. Many thanks go to the Geosciences Advisory Board members who sponsor this trip each year.



Left to right, UA undergraduate students Shoba Maraj and Katherine Anderson with Russell Edge from the University of Leicester during GSA's Poster Session at the 2008 Joint Annual Meeting.

# Alumni News from Texas

By Steve Naruk  
Geosciences Advisory Board Chair

It has been an exciting year for Texas alumni! The annual AAPG meeting hit San Antonio in April, followed by the Houston Alumni Happy Hour with Karl Flessa in May, a picnic with Summer Interns at Brazos Bend in August, then Hurricane Ike and the annual GSA meeting in September-October, and finally, the international financial meltdown hitting the University itself at year-end!

The AAPG meeting in San Antonio was well attended by UA alumni, including Liz Green, Bob Krantz, Rex Knepp, and Alex Bump among many others. Alex had the honor of being selected as chair of the AAPG Reservoir Deformation Research Committee, while the others held the joint honor of shutting down the alumni happy hour.

The annual Spring Happy Hour with Karl Flessa at Kerry Inman's art gallery in Houston was well attended by alumni from A (Alex Bump, Anna Felton, and Andy Sandberg) to Z (John Zumberge) and many others in between (Matt Fabijanic, Stacie Gibbins, Rick Gottschalk, Jerome Guynn, and Jeff Seekatz). Lynne Goodoff, Ken Yeats, and Marc Sbar sent their regrets from abroad (Mexico, Nigeria, and China, respectively). A well-traveled group to say the least!

The exhibit, Dario Robleto's "Oh, Those Mirrors With Memory (Actions 1996-1997)," consisted of a series of artworks capturing the idea that message and media can be integrally related, for example, that the universal and timeless peacefulness of the seashore are captured in a sculpture of those tiny clams and periwinkles from the swash zone. Kudos to Kerry, Carlotta Chernoff, Jeff Seekatz, and Tim Demko for hosting the Happy Hour!

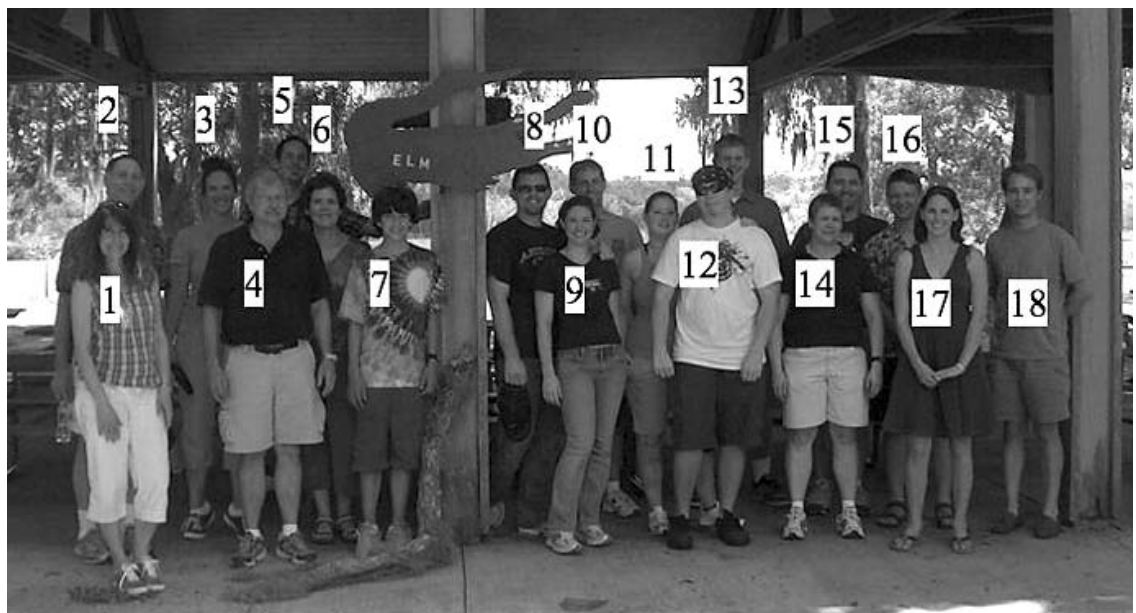
The 2008 Houston Alumni-Intern Summer Picnic was again hosted at Brazos Bend State Park, with Carl Anderson, Regina Capuano, Carlotta Chernoff, Matt and Nadine Fabijanic, Jerome Guynn, David and Ayelet Harris, Owen Hurd, Marc and Helene Sbar, Kelly Stair, and Trey and Jen Wagner in attendance. Alligators were the only no-shows.

Autumn brought both Hurricane Ike and the GSA annual meeting, enabling many alumni to witness first-hand the impacts of such catastrophic events (and ironically belying the bucolic nature of

the seashore portrayed by the above artworks). As this upheaval was visited on Texas, analogous upheaval was visited on the University and the Geosciences Department.

State funding has shrunk to the point of threatening the continued existence of many smaller departments. Thankfully, the Department of Geosciences is not in that dire strait, but nevertheless, is one of several departments that are considering the formation of a larger School of Earth Sciences. Geosciences and the other departments will all retain their individual status, but such a unit could save the University \$1-2 million annually.

Most of us alumni are not in the J. David Lowell category of being able to endow chairs, but we can nevertheless help the Geosciences Department and graduate students make ends meet in the current climate. Individual donations, particularly with corporate matching funds, go a long way to help support students (e.g., the Chernoff Family Field Experiences endowment or other endowments listed on the envelope in this newsletter). An individual donation of \$333 nets \$1,000 to the Department under most of our corporate matching programs! Recall the impact of \$1,000 on your own graduate student research budget!



*Individuals in this photo are (from left to right) 1 Regina Capuano, 2 Marc Sbar, 3 Jen Wagner, 4 Steve Naruk, 5 Trey Wagner, 6 Helene Sbar, 7 John Naruk, 8 David Harris, 9 Ayelet Harris, 10 Mark Leidig, 11 Carl Anderson's girlfriend (name unknown), 12 Carl Anderson, 13 Owen Hurd, 14 Carlotta Chernoff, 15 Matt Fabijanic, 16 Jerome Guynn, 17 Kelly Stair, 18 Andrew McCarthy.*

Perhaps more importantly, many of us are capable of donating time and knowledge in the form of workshops and short courses (e.g., Bob Krantz's and Chuck Kluth's ConocoPhillips- and Chevron-supported structural geology workshops over the years), corporate funds for fieldtrips and fieldwork (e.g., ConocoPhillips), software and associated training (e.g., David Richards and Midland Valley palinspastic restoration software) and industry data (Marc Sbar and ConocoPhillips seismic data).

In the aftermath of Hurricane Ike, some of our neighbors posted a "free beer" sign on a still-standing telephone pole, leveraging beer to get their power restored before the rest of us! We alumni can creatively leverage our own resources analogously to help out the Department of Geosciences!

# Spring & Summer Degrees

## Bachelor of Science

Christopher Earnest • Carla Eichler • Jennifer McGraw • Christopher Moreno • Mark Pecha • Galen Randall • Ryan Rodney

## Master of Science & Doctor of Philosophy



### Joshua Calkins, PhD

An investigation of lithospheric structure and evolution in convergent orogenic systems using seismic receiver functions and surface wave analysis, George Zandt and Susan Beck



### Christian Ríos Vargas, MS

The geology of Santa Ana, a newly discovered epithermal silver deposit, Puno Province, Peru, Eric Seedorff



### Robert Dietz, MS

Nitrogen isotopes in bivalve shells from the Colorado River estuary: Evaluating a potential proxy for changes in riverine nutrient delivery, Karl Flessa



### Daniel Russin, MS

Hypogene alteration and mineralization in the Dos Pobres porphyry Cu(-Au-Mo) deposit, Safford District, Arizona: A gold- and magnetite-rich variant of Arizona porphyry copper systems, Mark Barton



### Bailey Dugan, MS

New production rate estimates for in situ cosmogenic <sup>14</sup>C from Lake Bonneville, Utah, and Northwestern Scotland, Timothy Jull



### Joshua Spinler, MS

Present-day loading rate of southern San Andreas and eastern California shear zone faults from GPS geodesy, Richard Bennett



### James Girardi, MS

Evolution of magmas and magma sources to the Coast Mountains Batholith, British Columbia, Canada, reflected by elemental and isotopic geochemistry, Jonathan Patchett



### Jason Stein, MS

Analysis of porosity trends in the Kevin-Sunburst Dome using 3D seismic reflection data, Toole County, Montana, Roy Johnson



### David Maher, PhD

Reconstruction of middle Tertiary extension and Laramide porphyry copper systems, east-central Arizona, Mark Barton



### Ross Waldrip, MS

Late Cretaceous thin-skinned shortening in southern Arizona, Paul Kapp



### Francisco Quintanar Ruiz, MS

La Herradura ore deposit: An orogenic gold deposit in northwestern Mexico, Joaquin Ruiz

***Congratulations and best wishes  
to all of our graduates!***

## Fall Scholarships

### Department Scholarships

**Goran Buble** received a ConocoPhillips Scholarship for \$4,675

**Ana Collins** received a Lowell Scholarship for \$4,125

**Lepolt Linkimer** received a ConocoPhillips Scholarship for \$4,675

**Andrew Olson** received a Newmont Fellowship for \$5,000

**James Pape** received a Lowell Scholarship for \$4,125

**Kathryn Sechrist** received a Lowell Scholarship for \$4,125

**Alyson Thibodeau** received a ConocoPhillips Scholarship for \$4,675

**Maria Soledad Velasco** received a ConocoPhillips Scholarship for \$4,675

## Graduate College Fellowships

**Jesse Einhorn** received a Graduate College Fellowship for \$4,000

**Kendra Murray** received a Graduate College Fellowship for \$4,550

## Israeli Diamond Scholarship

**Renata Jasinevicius** received a Israeli Diamond Scholarship for \$5,380

## ISPE Global Change Fellowship

**Diane Thompson** received an ISPE Global Change Fellowship for \$5,000

## Arizona Scholars Scholarship

**Ana Collins** received an Arizona Scholars Scholarship for \$4,000

## Alumni News

### Justin Cardwell (BS '01)

*I was recently hired by Freeport-McMoRan Copper & Gold as a geologic modeler. Before that I was an exploration geologist for Barrick Gold at their Bald Mountain Mine in Nevada.*  
~cellulu@hotmail.com

### Aaron Celestian (BS '99)

*I moved to Bowling Green, Kentucky in the summer of 2007 when I accepted a position as Assistant Professor of Geology in the Department of Geography and Geology at Western Kentucky University. My students and I are currently working on projects in crystallography and materials synthesis in the Materials Characterization Laboratory here at Western. Our research focuses on environmental applications, including ion diffusion through microporous structures and acid weathering in sulfates.*  
~aaron.celestian@wku.edu

### Alan Cutler (PhD '91)

Alan received the James H. Shea Award at the NAGT luncheon during the national annual GSA meeting in October. Each year, the National Association of Geoscience Teachers presents the award to an individual for exceptional contributions in the form of writing and/or editing of Earth science materials that are of interest to the general public and/or teachers of Earth science.

### Sean Haggerty (BS '03)

*I'm currently working for the state of Pennsylvania's Department of Environmental Protection. At this time, I am a trainee in the Underground Tanks Section of the Environmental Cleanup Program. My job entails issuing notices of contamination to the owners of regulated above- and underground storage tanks when 1) a release of product or 2) other violations of the Storage Tank or Land Recycling acts of Title 25 of the PA code occur. With the increase of gas stations being decommissioned and gas and oil extraction in the Marcellus Shale on the rise, there is no shortage of work in this program. I enjoy what I'm doing and the security of state employment over contracting or consulting work. I am as proud of my UA credentials as my co-workers. I greatly appreciate the dedication and enthusiasm to geology*

*that all of the faculty and staff exhibited during my time in the Geosciences program (1998-2002). I will always cherish my time under the superior tutelage of the world-class scientists, by whom I was guided, pushed and prodded. Thank you all, and "Kudos" to you.*  
~sehaggerty@state.pa.us

### Shundong He (MS '05)

*Julia Meining He was born on September 23<sup>rd</sup>, 2008. She weighed 6 lbs 9.5 ounces and was 20.5 inches long. Both Chao and Julia are doing very well. So far, Sophia is still very excited about her little sister, and tells everybody about Julia.*  
~donghe@email.arizona.edu

### Brigette Martini (BS '97)

*I recently relocated to Reno, Nevada to work exploration for Ormat—a large geothermal energy exploration and production company (<http://www.ormat.com>). I've taken a position as an exploration geologist. They covet my remote sensing knowledge, but I also just get to be a good old-fashioned dirt doctor again.*  
~bridgettemartini@yahoo.com

### Lynn Myrick (MS '93)

*I'm working for Jacobs Engineering here in Glasgow, United Kingdom.*  
~lynn.myrick@yahoo.co.uk

### Ryan Houser (BS '94)

*I am working as the Senior Engineering Geologist at a Portland, Oregon based geotechnical firm.*  
~r.houser@comcast.net

## Donors

Geosciences thanks our alumni and friends for their generous gifts. The Department has been able to offer more financial support and field experiences to both undergraduate and graduate students as a result of their support.

### — Individuals —

Stephen Ahlgren  
Carlotta Chernoff  
Robert Davis  
Omar DeWald  
Stephen Enders  
Rolfe Erickson  
Anna Felton  
Elaine Hazelwood  
Susan Kidwell  
James King &  
Jamie King  
Keith Meldahl  
Stephen Naruk &  
Regina Capuano  
Steven Natali  
Marcus Origlieri  
Alejandro Romero  
Marc Sbar  
Nancy Schmidt  
David Steadman  
William Wilkinson  
Mark Zoback

### — Corporations —

BP Corporation  
ConocoPhillips  
Chevron  
ExxonMobil  
Lab Safety Supply, Inc.  
National Electrostatics Corp.  
Williams Production RMT Co.



Left to right, Chuck Kluth (PhD '82) and Steve Naruk (PhD '83) with Susan Beck at the Geosciences Alumni Reception during the 2008 GSA Joint Annual Meeting in Houston.

ADDRESS SERVICE REQUESTED

## Update your contact information!

Name: \_\_\_\_\_

(Please check one of the boxes below to indicate which address you prefer as your mailing address.)

Company: \_\_\_\_\_

Department: \_\_\_\_\_

Job Title: \_\_\_\_\_

Home Address:

Business Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Email: \_\_\_\_\_

## 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 US mail, E-mail ([lesa@email.arizona.edu](mailto:lesa@email.arizona.edu)), or the web (<http://www.geo.arizona.edu/people/alumni.html>).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_