EarthScope Focused Inward on Our Planet

By George Zandt

Most people are not aware of it, but for the past three years, thousands of technicians, students, and scientists have been constructing a continent-sized EarthScope to peer into the interior of our planet. When complete, the EarthScope will stretch 6,000 km from coast to coast, 2,000 km from border to border, and will involve instrumentation in every state, including Alaska.

What is EarthScope?
According to the National Science Foundation (NSF), which is funding the endeavor, EarthScope is “a bold undertaking to apply modern observational, analytical, and telecommunications technologies to investigate the structure and evolution of the North American continent and the physical processes controlling earthquakes and volcanic eruptions.” It consists of three separate but coordinated efforts: deep drilling on the San Andreas fault, a dense network of GPS stations along the western plate boundary, and a literally continental-scale seismic monitoring array — the US Array. This national-scale, decade-long effort requires the participation of a large group of geoscientists. Our Department Head, Professor Susan Beck, is a member of the NSF EarthScope advisory committee, charged with providing NSF with geocommunity input on the many facets of EarthScope operations and research directions. Richard Bennett, Assistant Professor of Geophysics, is a member of the Board of Directors of UNAVCO, which is responsible for constructing and operating the EarthScope GPS network. In addition, Rick is involved in an EarthScope-funded project to develop new methods for assessing temporal variability of crustal strain rates using deformation data from the EarthScope project. I am one of four principal investigators (PIs) on an EarthScope-funded project to deploy the so-called “flex array” to investigate the deep structure and tectonics of the Sierra Nevada, an enigmatic mountain range in eastern California.

First, let me elaborate on the US Array component of EarthScope. It consists of 400 portable broadband seismic sensors, called the transportable array (TA), deployed on a uniform station spacing of 70 km then systematically rolled across the country with 18- to 24-month deployments at each site. This continuous redeployment will cover the entire conterminous US and Alaska with 2,000 recording sites over a period of 10 years. The array will record local, regional, and distant earthquakes, providing data for unprecedented 3-D images of subsurface structures, from crust to core, across an entire continent.

...cont’d page 4
I am excited to be back as Department Head after a productive sabbatical working on South American tectonics and the North Anatolian Fault in Turkey. I had several trips abroad, and more importantly, I had time for some research. My thanks go to Randy Richardson, who was interim Department Head last year, and the entire Department for allowing me to have a sabbatical.

The new 2007 US News and World Report rankings of Earth Science Departments came out last spring, and I am thrilled to report that we are ranked 8th nationally! We are ranked 7th in Geology, 12th in Geophysics, and 16th in Geochemistry! For all the details, please go to our Department website.

There are still many challenges facing the Department and the University. Our new University President, Robert Shelton (former Provost at the University of North Carolina), arrived in July and has immediately started to get the UA budget under control. We expect some changes this year as President Shelton sets the agenda for the University.

We had two new faculty members join us this fall. Dr. Peter Reiners came from Yale University. Peter is a geochemist and thermochronologist working on the experimental development of (U-Th)/He thermochronology. His current projects include tectonic geomorphology of the Washington Cascades, glacial erosion-climate-tectonics of the Patagonia Andes in Argentina, and paleo-wildfires in the geologic record.

We also hired Dr. Tim Jull, Director of the Accelerator Mass Spectrometry Laboratory. Tim is a leader in carbon 14 dating and other isotope methods. He is working on a wide range of geochronology applications that include paleoclimate, dating meteorites, and dating anthropological sites and artifacts. We are thrilled to have both Peter and Tim as new faculty members.

The total value of our endowments for scholarships is $1.4M. Our goal is to increase these endowments to $2M in the next five years. The scholarships that result from these endowments are critical to the students and the Department, as they allow us to have one of the top Geosciences programs in the country. During the 2005/06 academic year, we gave out $146,625 in student scholarships!

We have one new endowment that was established in honor of Kenneth A. Lovestrom. This endowment is currently at $12,201. We hope to award the first scholarship this spring.

Regarding our students, 86 MS and PhD, and 43 BS students have graduated from the Department in the last four years. Ninety-five percent of our graduate students have found jobs: 31% in industry, 33% in academics (postdoc and faculty positions), 10% in government (USGS and National Laboratories), 5% in K-12 education, and 16% continued with a PhD program.

We are trying to track our undergraduates, but with much less success. If you were an undergraduate in the Department, please let me know where you are and what you are doing.

Mark your calendars for the 35th annual GeoDaze Symposium, April 12-14, 2007! We are also planning a special alumni party on Friday, April 13, as part of the GeoDaze celebration, so please plan to attend! We are especially interested in hearing from the students that participated in the 1st GeoDaze in 1972. If you were there, please send us your thoughts and pictures, and plan to attend this spring!

From the Department Head

Donors

Geosciences wishes to thank our alumni and friends listed below for their generous contributions. The Department has been able to offer more financial support and field experiences to both undergraduate and graduate students because of your continued support.

— Individuals —
Philip Babcock
Craig Barker
Carla Chernoff
Darlene Coney
Joseph Cramer
Robert Ferguson
Stanley Hamilton
Elaine Hazelwood
Gregory Hodgins
Janet Horton
Kerry Inman
Tim Jull
Melissa Lawrence
Jin & Billie May Markus
Gopal Mohapatra
Nancy Naeser
Steven Natali
Lauren Peirce
Roslyn Pellman
William Peterson
Charles Pettis
David Rea
John Schaefer
Gary Scheer
Stephen George Shetron
David Steadman
John Sutter &
Elaine Padovani
John Sweet
Robert Weber

— Corporations —
BP Corporation
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ConocoPhillips
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Natl. Electrostatics Corp.
Newmont USA Ltd.
Shea Clark Smith
Shell Oil
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Williams Companies Inc.

THE UNIVERSITY OF ARIZONA

GEOSCIENCES

Page 2 • Geosciences Newsletter
Over the past two years, Julio Betancourt (USGS and Adjunct Professor in Geosciences), David Breshears (UA School of Natural Resources) and other faculty at the UA have been collaborating with Mark Schwartz of the University of Wisconsin-Milwaukee and about 100 other scientists to develop a dense network of repeatable seasonal observations on plants and animals across the US. The National Phenology Network (NPN) is an exciting and emerging initiative that will engage multiple federal agencies, numerous environmental networks and field stations, educational institutions at every level, and mass participation by citizen scientists.

The National Coordinating Office will be located at the UA (Office of Arid Lands Studies Building on 6th and Campbell). The National Office will be supported through a cost-share agreement between the USGS, which will hire an Executive Director and furnish operational funds, and the College of Agriculture and Life Sciences, the College of Science, the Institute for the Study of Planet Earth, and the Office of Arid Lands Studies at the UA, which will provide space and support for an Associate Director/Staff Scientist. Plans are underway for the Study of Planet Earth, and the Office of Arid Lands Agriculture and Life Sciences, the College of Science, the Institute Director and furnish operational funds, and the College of

Phenology is the study of periodic plant and animal life cycle events that are influenced by environmental changes, especially seasonal variations in temperature and precipitation driven by weather and climate. Important phenological events, or ‘phenophases,’ include timing of leafing, flowering, and fruiting in plants; agricultural crop stages; insect emergence; and bird migration.

Phenology, representing the seasonal cycle on Earth, is a far-reaching component of environmental science. Variations in phenophase affect the abundance and diversity of organisms, their inter-specific interactions, their ecological functions, and their effects on fluxes in water, energy, and chemical elements at various scales (Figure 1).

With sufficient observations and understanding, phenology can be used as a predictor for other processes and variables of importance at local to global scales and could drive a variety of ecological forecast models with both scientific and practical applications. Phenological data and models are used in agricultural production, integrated pest and invasive species management, drought monitoring, wildfire risk assessment, and treatment of pollen allergies.

The NPN will include simple and effective means to input, report, and utilize phenological observations, and it will include the resources to provide the right information at the right time for a wide range of decisions made routinely by individual citizens and by the Nation as a whole.

A phenology network across the US can now capitalize on integration with other networks and remote sensing products, emerging sensor technologies and data management capabilities formal and informal educational opportunities, and a new public readiness to participate in nature investigations on a national scale. These opportunities are reflected in a four-tiered monitoring structure with different degrees of integrated measurements and spatial coverage (Figure 2).

An undertaking of this size will require meticulous planning to guide the collection, analysis, and use of the data, and to ensure the success of the network and its objectives over the long term. In the short term, however, the NPN plans to launch its first set of phenological observations nationwide in the growing season of 2007. This pilot phase of the network was planned at an October 2006 workshop in Milwaukee. For more information, see the web page at http://www.uwm.edu/Dept/Geography/npn/.
An additional 400 instruments will be available for a component known as the “flex array” that can be used to make a high-density seismic array aimed at specific scientific targets within the broader coverage of the TA. Co-PIs Hersh Gilbert (Purdue University, a UA postdoc until this past June), Tom Owens (University of South Carolina), Craig Jones (University of Colorado), and I were funded by NSF to use the first 50 flex array broadband instruments and deploy them in the central Sierra Nevada with 25-km station spacing. By redeploying a majority of the instruments once, we will cover nearly the entire central and northern Sierra Nevada with 25-km spacing in 30 months. This project has become known by the acronym SNEP, the Sierra Nevada EarthScope Project.

Why the Sierra Nevada?
The Sierra Nevada has its origins some 90 million years ago when the large, oceanic Farallon Plate was subducting beneath the western margin of North America. During a 10-15 million year interval, massive melting was triggered deep within the continental volcanic arc associated with the subduction zone, and large volumes of granitoid melts separated from an ultramafic residue. The melts ascended into the upper crust and solidified as a huge batholith that would become the surface rocks in which the Sierran peaks would be carved by water and ice. Buried beneath the batholith, the heavy ultramafic residue rocks were held in place by the flattening of the subducting slab that would eventually push volcanism and deformation far inland during the Laramide (Rocky Mountain) orogeny. When the flat slab soundered and the transition to San Andreas transform plate boundary occurred, the heavy batholithic residue started to sink into the underlying mantle. The SNEP project will investigate how pervasive this delamination event was, when and how it occurred, and its tectonic implications. Associate Professor Mihai Ducea, a co-PI on a complementary interdisciplinary project funded by the NSF Continental Dynamics Program, will search for xenoliths in the northern Sierra Nevada and investigate the petrology and geochemistry of delamination-related volcanics in the region.

During the past year and a half, the four SNEP PIs have led a team of students in the Sierra Nevada to deploy, service, and redeploy the 50 flex-array stations. At the UA, PI Hersh Gilbert spent much of the summers of 05 and 06 in the field. The UA graduate students involved in the fieldwork included Andy Frassetto, Josh Calkins, and Arda Ozacar. UA undergraduates working in the field included Owen Hurd and Scott Burdick (as an IRIS summer intern from Purdue University). These UA students and the other students from Colorado and South Carolina are to be commended for all the hard work they did in building our piece of EarthScope. Hersh, Andy, Owen, and I continue to work on the data, and we hope to bring you exciting new results in the future. See the following web sites for more information.

- USArray: http://www.iris.edu/USArray
- SNEP: http://cires.colorado.edu/people/jones.craig/SNEP/
- SNEP-UA: http://geo.arizona.edu/snep/

Oil Company Recruiting

This fall, BP Corporation, ChevronTexaco, ConocoPhillips, and ExxonMobil each sent recruiters to visit the Department, interview students, and talk with faculty.

During their visits, the recruiters gave a general introductory session followed by individual interviews. Twenty-seven students participated in the interviews. Some students were new to the Department, while others were close to completing their academic programs. The recruiters also met with various faculty members to talk about current issues in the oil industry as well as research trends in the Department.

BP Corporation, ChevronTexaco, ConocoPhillips, and ExxonMobil each made a generous financial contribution to the Department this year. During these times of economic challenge, their generosity is greatly appreciated by faculty and students alike.

Our thanks go to each company and their individual recruiters for their interest in our students and their continued support of the Department of Geosciences.

Alumni in the Field

Left to right, Nadine McQuarrie (PhD 01) and Delores Robinson (PhD 02) doing field work this past summer, with Mt. Everest in the background.
Houston Alumni News

It has been another busy and productive year for the Houston alumni! Beginning in February, alumni Daniel Ciulavu, Lynne Goodoff, Chuck Kiven, Bob Krantz, and Steve Naruk rendezvoused, unplanned, at Burlington House in London for a special Geological Society of London meeting on Structurally Complex Oil and Gas Reservoirs. Surprisingly, there appeared to be more alumni from The University of Arizona than from any other single university!

Along with the modern presentations, attendees were given a special viewing of William Smith’s original “enormous and magnificent” geological map of England from 1854. The map covers an entire stairwell wall in Burlington House, enshrined behind a velvet curtain. As described in Simon Winchester’s best selling book, “The map that changed the world,” the map is testimony to Smith’s perseverance over the social, religious, and scientific order of his time, in addition to the field geologist’s usual obstacles. Watch for the above alumni’s papers in an up-coming Geological Society special publication.

In April, immediately following the 2006 Annual AAPG Meeting in Houston, with the price of oil breaking the $60/barrel barrier and the local heat index breaking the 90F+99% humidity barrier, Houston alumni celebrated the approach of hurricane season by hosting Susan Beck and Joaquin Ruiz to the 4th annual Houston Alumni Happy Hour. Building on last year’s successful event (and the necessity of air conditioning), this year’s function was again held at alum Kerry Inman’s downtown art gallery. The exhibit on display was the gallery itself!

Of course, we were all wondering where the art was, and had to be told several times to stop leaning on it! Faux joists, beams, braces and arches had been constructed from Home Depot styrofoam, painted and textured to look exactly like wood, and detailed with various pieces of apparent cast-iron hardware. Simple though it seemed, the end result evoked simultaneous images of Tyrolean ski chalets, down-home American barns, and Amistad-like slave ships. In it’s own humorous way, it was analogous to asking three different geologists for their own independent interpretations of the same seismic line. (No wonder oil’s so hard to find!)

Kerry spoke to the group about the art and artist, and Susan and Joaquin summarized developments in the Department, highlighting the Department’s contributions to a recent high-profile Geological Society of America meeting in Argentina on Cordilleran tectonics.

The Department is continuing to work on its commitment to fund every graduate student, sort of a “No grad student left behind” policy. The Department has also committed to hosting an annual field trip to the Grand Canyon for incoming graduate students. The first trip was run last summer to great success (as described in last fall’s newsletter), and the second was run this past August (see the article on page 6). The Department’s Alumni Board of Advisors have in turn agreed to raise funds for the trip. (Stay tuned!)

As is now traditional following the Happy Hour, alumni and spouses hosted dinner for Susan and Joaquin at one of Houston’s finer restaurants. Attendees included Larry and Arlene Archibald, Ted Apotria and Amy Ruf, Gerry and Sun Beaudoin, Alex and Rachel Bump, Steve Naruk and Regina Capuano, Matt Fabijanic, Stacie Gibbons, Rick Gottschalk, Scott Grasse, Chuck and Kathy Kiven, Bill and Hallie Keller, Steve and Debbie Lingrey, Gopal and Reva Mohapatra, Ragnar Rasmussen, Jeff and Arlene Seekatz, Larry Sumpter, David Richards, John Volkmer, Charlie Winker, and Steve Young in addition to Susan, Joaquin, and Kerry, with special appreciation to David Richards for arranging his travel schedule to be in Houston for the Happy Hour! Regrets were received from Carlotta Chernoff (recently moved to Perth), Pedro Restrepo-Pace (recently returned from Colombia, but scuba-diving in Belize on this occasion), Ken and Carolyn Yeats (recently moved to Nigeria), and John Zumberge.

We give special thanks once again to Kerry Inman and Denby Auble, Regina Capuano and Steve Naruk, Jeff Seekatz, Amy Ruf and Ted Apotria, and David Richards for organizing and hosting the Happy Hour and Dinner!
Grad Student Field Trip to the Grand Canyon

By Randy Richardson

This summer the Department offered its second annual Incoming Graduate Student Field Trip to the Grand Canyon, August 18-20, organized by graduate students Jen Roskowski, Mike Takaichi, Dave Pearson, and Jerome Guynn, most of whom had gone on the inaugural field trip last year.

This year’s trip involved nearly 25 people, including most of the incoming graduate students, some returning graduate students, a few spouses and kids, and two faculty members.

The first stop was at Red Mountain, north of Flagstaff, where we walked in rain showers to a dissected cinder cone.

We arrived at the South Rim around dusk, and at least five incoming graduate students, who had never seen the Grand Canyon before, walked up to the edge for their first view of the canyon.

The next day, most of the group hiked down the Bright Angel Trail for lunch at Indian Gardens before heading out to the overlook of the Inner Gorge at Plateau Point.

The entire hike, just under 13 miles with 3,500 vertical feet of climbing, was beautiful. That evening the crowd was ravenous. Conversations were lively and lasted into the night.

The trip was supported by the Department and our Advisory Board. It was a great opportunity to welcome incoming graduate students to world-class geology in a world-class Department.
New Faculty

Peter Reiners joined the Geosciences faculty as an Associate Professor in August.

Most of his research is in thermochronology and geochronology, both experimental development and innovative applications across a wide range of Earth and planetary science. He is building a new (U-Th)/He chronometry lab that will complement other geochronology labs at the UA in cosmogenic, noble-gas, and high-temperature chronometry, towards the goal of establishing a new Geochronology Center.

Peter’s research has included development of (U-Th)/He thermochronology for zircon, titanite, and biogenic apatite; understanding orogenic erosion and its coupling with climate and tectonics; and probing the thermal histories of Martian meteorites. He also studies basaltic magmatism and the geochemistry of mantle melting. Peter has developed summer workshops in geochronology for undergraduates, which he plans to continue here at the UA, and he looks forward to collaborating with a wide range of faculty and students, including undergraduates. Peter will be teaching classes in geochemistry, thermo- and geochronology, and the Department’s Geological Disasters and Society course.

Peter came from Yale University, where he was an Associate Professor. Prior to this, he was an Assistant Professor at Washington State University and a Postdoctoral Scholar at Caltech. He received his PhD from the University of Washington, and he grew up in Wyoming.

New Faculty

Tim Jull joined the faculty in August as a Professor of Geosciences. Tim is also the director of the Accelerator Mass Spectrometry (AMS) laboratory.

Tim has worked at the AMS laboratory for many years in a variety of roles. His research focuses on the radiocarbon dating of many different kinds of materials and the study of cosmic rays produced radionuclides. Recently he has been involved in studies of lake sediments from several locations, forest-fire recurrence dating, improvements to the AMS for $^{26}$Al and $^{129}$I, and the fall times of meteorites. He is also involved in the radiocarbon dating of a number of art works and artifacts.

Tim is the editor of two journals, Radiocarbon, which focuses on radiocarbon and radionuclide studies, and Meteoritics and Planetary Science, a planetary science journal.

New Lecturer

Jessica Kapp joined the Department of Geosciences as a lecturer in the fall of 2005.

Her primary responsibility is teaching the Department’s large enrollment general education class, NATS 101, “A Geological Perspective.” She teaches this class along with faculty who rotate in to teach a section every couple of years. She is also responsible for “running” the class – in other words, managing the TAs and making any changes she thinks will make the class better. In the fall of 2007, NATS 101 will be changing its format, no longer having mandatory workshops associated with it. She will be in charge of reorganizing the class to fit this new format. Jessica also teaches Geos 397A, a teaching methods class for our undergraduate preceptors. Finally, she is a member of our Gen Ed committee, and she helps our SESS group with the Tucson Gem and Mineral Show.

Jessica received her BS in Geology from Syracuse University, an MS in Geology from Vanderbilt University, and a PhD in Earth Science from UCLA.

Before starting at the UA, she taught high school math and science at a local charter school. Her husband is Paul Kapp, and they have one son, Andrew, who is 11 months old.

New Advisory Board Member

Steve Natali received a BS degree in Geology from Yale University in 1976 and an MS degree in Geophysics from the UA in 1980.

He worked as an exploration geophysicist for Amoco Production Company in their Denver office for 12 years, drilling wells in the Wyoming and Utah Overthrust, the Mid-Continent, the Green River Basin, and Alaska’s North Slope. He then spent three years working for Advance Geophysical in Denver developing 3-D seismic processing software.

Since 1995, Steve has served as Barrett Resources’ Chief Geophysicist and Vice President of Exploration, and he has been instrumental in the interpretation of 3-D surveys in the Cave Gulch field of Wyoming, the Overthrust belt, and the Arkoma Basin Thrusted Spiro play of Oklahoma. Steve is currently the Vice President of Exploration and Geophysics for Williams Production Company, which took over Barrett Resources four years ago.

Welcome the Geosciences Advisory Board Steve!
Spring & Summer Degrees

Master of Science & Doctor of Philosophy

Patricia Alvarado, PhD
“Crustal seismicity in the back-arc region of the Southern Central Andes from historic to modern times,” Susan Beck

Heidi Barnett, MS
“20th century climate variability in the tropical Indian Ocean from a new network of coral oxygen isotope chronologies,” Julia Cole

Erica Bigio, MS
“An integration of tree-ring and alluvial records of fire history at the Missionary Ridge fire, Durango, Colorado,” Thomas Swetnam

Carlos Cintra Buenrostro, PhD
“Bivalve mollusk paleoecology: Trophic and environmental reconstruction from stable isotopes, sclerochronology, and shell damage,” Karl Flessa

Jessica Conroy, MS
“Paleolimnologic insights into Holocene tropical Pacific variability,” Jonathan Overpeck

Joseph Cook, MS
“Threshold for eolian sand transport on alluvial fans,” Jon Pelletier

Stephen DeLong, PhD
“Landscape development in the Western Transverse Ranges, California: Insights from mapping, geochronology, and modeling.” Jon Pelletier

Anna Felton, MS
“Paleolimnological evidence for the onset and termination of glacial aridity from Lake Tanganyika, tropical East Africa,” Andrew Cohen

Stacie Gibbins, PhD
“The magmatic and hydrothermal evolution of the Ertsberg Intrusion in the Gunung Bih (Ertsberg) mining district, West Papua, Indonesia,” Spencer Titley

Christopher McPhee, MS
“Geographic information systems (GIS) approach to data prospection in dendrochronology: Locating stands of bristlecone pine,” Malcolm Hughes

Rita Pinto, MS
“Geology and mineral zoning of the San Cirilo intrusive complex, Cajamarca Province, northern Peru,” Eric Seedorff

Alexander Pullen, MS
“Cretaceous to Eocene Gangdese retroarc foreland basin strata in the northern Nyainqentanglha Range, southern Tibet,” George Gehrels

Kirsten Rowell, PhD
“Isotopic logs of the Sea of Cortez: Oxygen and carbon stable isotopes in otoliths of marine fish record the impact of diverting the Colorado River from the sea,” Karl Flessa

Jessica Rowland, MS
“Inter- and intra-tooth isotopic variation in mammalian tooth enamel from western Israel: Implications for paleoenvironmental and paleoclimate change over the past 350 kyr,” Jay Quade

William Stavast, PhD
“Three-dimensional evolution of magmatic hydrothermal systems, schultze granite and ruby star granodiorite, Arizona,” Eric Seedorff

Ta-Shana Taylor, MS
“Marine mammal taphonomy of the northern Gulf of California,” Karl Flessa

Alyson Thibodeau, MS
“The strange case of the earliest silver extraction by European colonists in the New World,” Joaquin Ruiz

Maria Zavala Quispe, MS
“3D modeling and interpretation of vein distribution in the Candelaria Fe-oxide-Cu-Au deposit, northern Chile,” Mark Barton

Bachelor of Science

Erin Brenneman • Jennifer Fox
Frank Guerrero • Patrick Mooney
Brianna Muhlenkamp • Gregory Schmidt

Congratulations and best wishes to all of our graduates!

Fall Scholarships

Graduate Scholarships

Serkan Arca received a BP Corporation Scholarship for $4,632
Shundong He received a Chevron-Texaco Fellowship for $4,632
Austin Holland received a Conoco-Phillips Scholarship for $4,507
Lepolt Linkimer received a Summer Scholarship for $4,507
Rachael Novak received a Sulzer Scholarship for $3,000
Ryan Porter received a BP Corporation Scholarship for $4,507
Joshua Spinler received a Sulzer Scholarship for $1,838
Sarah Thompson received a Summer Scholarship for $4,507
Maria Soledad Velasco received a ConocoPhillips Scholarship for $4,507
John Volkmer received a Sulzer Scholarship for $4,507
Douglas Kreiner received a Grad College Fellowship for $4,507
Joshua Spinler received a Grad College Fellowship for $2,244
Jason Stein received a Grad College Fellowship for $4,082

Undergraduate Scholarships

Dana Brodie received a Geosciences Scholarship for $700
Erin Gleeson received a Mayo Scholarship for $700
Jared Hamilton received a Geosciences Scholarship for $700
Owen Hurd received a Mayo Scholarship for $700
Michael Strickler received a Mayo Scholarship for $700

A total of $55,477 was awarded to Geosciences students.
University News

On July 1, 2006, The University of Arizona celebrated the inauguration of Robert N. Shelton as its 19th president! Shelton, Vice Chancellor and Provost at University of North Carolina-Chapel Hill, was appointed by the Arizona Board of Regents to succeed President Peter Likins.

Faculty News

Andy Cohen was awarded a Senior Fellowship from the Smithsonian Institute to support his sabbatical research. He will be working with Smithsonian scientists in anthropology and vertebrate paleontology on applying long paleoclimate records from drill cores in Lake Malawi to help interpret the environmental context of human evolution. The fellowship covers 10 months, from August 2006 through June 2007.

Karl Flessa received a Mary K. Upson Visiting Professorship from the College of Engineering at Cornell University for the fall of 2006. He was also named a Centennial Fellow for The Paleontological Society at the annual meeting of the Geological Society of America during October 2006.

Grad Student News

Jessica Conroy was invited to present her research at the International Young Scientist’s Global Change Conference in Beijing, China, in November. For more information about the conference go to http://www.start.org/YSC/YSC2006.html.

Facundo Fuentes and Michael McGlue both received grants-in-aid funding for their individual research from the American Association of Petroleum Geologists Foundation (AAPG).

Tamara Goldin received the best student presentation award at the Impact Craters as Indicators for Planetary Environmental Evolution and Astrobiology Conference held in Sweden last spring.

Lynn Peyton was awarded a Colorado Scientific Society grant and a Geological Society of America grant.

Jennifer Roskowski received a Geological Society of America graduate student research grant.

Kim Tait accepted a permanent position as Associate Curator of Mineralogy at the Royal Ontario Museum in Toronto, Ontario, Canada. She will assume this position after she finishes her degree in the spring.

Memorials

Charles Bock (PhD 63) passed away in July, 2006. Charlie was educated as a Geologist at Miami University in Ohio, earning a BA in 1957 and MS in 1958. In 1963, he earned a PhD from the UA in mineralogy and crystallography.

After graduation, Charlie was commissioned in the Air Force and served as a construction project engineer at Space Systems in Los Angeles. He also worked in the Rocket Propulsion Labs at Edwards AFB with Nobel Prize recipient Jerome Karle on X-ray crystal structure and florescence analysis. He moved to Utah in 1971 to work at Hill AFB as a civil servant and managed the physical science laboratory and Information Systems and Technology before retiring as Hill AFB Logistics Chief Scientist in 1993.

Charlie was a skilled writer. He contributed to technical journals and wrote weekly letters on gardening, cooking, wine tasting, and traveling. He was a voracious reader of many authors. Most of all, he enjoyed the outdoors: hiking, hunting, fishing, and skiing.

Ronald Kaufmann (PhD 84) died suddenly in Boca Raton, Florida, in July 2005. Ron was a graduate student of Austin Long’s in the 1980s. In his dissertation research, Ron developed the method for high-precision stable chlorine isotope analysis and showed how the technique could be applied in Earth sciences. His work set the stage for a field of isotope geochemistry that is still being explored today.

After graduating, he taught at DeKalb University. At the time of his death, he had been working as a groundwater consultant in Florida for many years. His imaginative use of stable isotope geochemistry greatly contributed to the understanding of groundwater systems in the region.

Laurie Wirt (MS 88) died in June 2006 after a kayaking accident. Laurie was another one of Austin Long’s students. At the time of her death, she worked at the USGS Water Resources office in Denver, Colorado.

Laurie was an active member of the Arizona Hydrological Society and served in many capacities over the years: officer, symposium co-chair, and all-around volunteer. Laurie had a passion for life that extended beyond her adventurous nature to her work with the US Geological Survey, especially on issues concerning the Verde River. Laurie’s work on determining the hydrologic source and flow of the Verde River provides the basis for the Nature Conservancy’s Verde Watershed Association (VWA) seminar series.

Summer Softball League

The (unofficial) Geosciences softball team, The Flying Goats, won the Recreational League championship in the UA Campus Recreation Dept’s summer softball league on August 1, 2006. The team finished the regular season with 8 wins/5 losses, then went 4-0 in the post-season tournament.

The team roster included:
- Andy Frassetto, graduate student
- Chris Gryszan, undergraduate student
- Doug Hirschberg, staff with USGS
- Chris Magi, HWS graduate student
- Dan Ross, undergraduate student
- Mike Takaichi, graduate student
- Jeremy Weiss, staff

For more information, contact Doug Hirschberg at dmhirsch@email.arizona.edu.

Jeremy Weiss (left), Doug Hirschberg, and Dan Ross with the trophy won during the Recreational League Championship.
List of the Lost (N to S)

The Department has lost track of some alumni. If you have contact information for anyone on the list below, please send an email to lesa@email.arizona.edu.

— N —
David M. Nagi
M.T. Nassereddin
Kathryn Nejdl
Matthew T. Nelson
Suzan R. Newkirk
Emanuel Jose Nieves
Jeffrey B. Norberg
Mustafa F. Nuseibeh

— O —
Ernest Ohle
Keith E. Olinger
Mark D. Olivares
Richard L. Orr
Russell M. Owens

— P —
Norm Page
Brian R. Parks
Virginia L. Passmore
Julio A. Pastor Figueroa
Charles R. Paulson
David M. Peabody
Don P. Pearson
Chi-jui Peng
Deborah A. Peters
John W. Petersen
Richard C. Peterson
Charoen Phiancharoen
Blaise N. Poole
Steven C. Potter
Jon S. Powell
Loyd Pray
Jeff W. Prellberg
Lesley Presmyk
Keith Proctor
James C. Puckett, Jr.
William J. Purves

— Q —
Kevin P. Quick

— R —
Dale Ralston
Kim S. Raymond
William G. Reay

— S —
M. Kathryn Reece
Alan Reed
Sol Resnick
Theodore James Reynolds
Kyle S. Rhuebottom
Leon Richardson
James J. Riley
Eleanor Robbins
Brad A. Robison
Robert G. Rohrbacker
Steven Rooke
John M. Rose
Martin R. Rose
Judith A. Ruffner
Luis Jesus Ruiz Gomez
Creighton G. Ryno

— T —
Rose Samardzich
Cyrus Samii
R. J. Sandberg
Anos Sanders
Victor W. Sargeant
William Sauck
Jay Savaer
Mary Savina
Robert W. Sayers
Megan S. Sayles
Robert W. Schafer
Don W. Schafroth
Asher Schick
John H. Schieffer
Ernie Schlichter
Gregory Schmidt
Nancy Schmidt
Carl W. Schnell
Thomas R. Schultz
Lawrence P. Seeger
Marc H. Selover
David A. Senske
Margaret Severson
Michael S. Sewell
David Shafer
Abdul Mannan Sheikh
Ijaz Ahmad Sheikh
Jonathan D. Shenk
William E. Sherwonit
Ernest Hsiao Hsin Shih
Debra Siddle
Elizabeth Simpson
Yehia A. Sinno
Jeffrey H. Slevin
David G. Smith
Merritt L. Smith
Stephen A. Smith
Verl L. Smith
Walter J. Smith
Eleanor Snow
Charles T. Snyder
Stephen M. Sodeman
Michael S. Solot
Charles H. Soule
David L. South
Wade E. Speer
Joanne K. Spiess
Julia A. Staines-Hill
Marvin Stauffer
Marc F. Stengel
Nicholas Stern
Craig R. Stevens
Frederick Stevenson
Robert Streitzy
Chandler Swanson
Andrew T. Swarthout
Wilbur E. Sweet

— V —
Frank Valenzuela
William L. Van Horn
Steven D. Van Nort
Luis A. Vargas-Mendoza
Norman Vaugn
Luis A. Velazquez
Carlos G. Velez
Timothy Vick
Timothy R. Vidra
Ellen L. Vineyard
Wolf Vishniac
Klaus Voelger
Sheryl L. Vrba

— W —
Michael H. Wagner
Clarence H. Walker
David J. Walker
Rebecca A. Walker
Delmar E. Wallace, Jr.
Wayne J. A. Walton, Jr.
Julian D. Warner
Michael R. Waters
David M. Wayne
David Webb
William L. Weibel
A. J. Wells
Gary C. West
John L. White
Robin S. White
Robert D. Whitman
Richard L. Whitney
Martin Wiggins
Kristin K. Williams
William C. Williams
Clyde A. Wilson
John Winston
C. Larrabee Winter
Jun Wu

— Y —
Toshiko Yasuda
John L. Young

— Z —
Jeffrey Zauderer
Eugene Zimmerman
Martin Zinn

Mark Your Calendars

The 35th annual GeoDaze will take place April 12-13 in the UA Student Union. See www.geo.arizona.edu/geodaze/2007/.


Alumni Drawing Winner

Sanford Ballard from Albuquerque, New Mexico, will receive a Geosciences T-shirt for sending in his updated contact information.

Send in your updated contact information, and have your name added to the next drawing for a Geosciences T-shirt!
Alumni News

Talib Al-Ajami (BS 90)
Talib is currently in Muscat, Oman, working as Production Geology Discipline Leader for the Petroleum Development Company of Oman. He’s building reservoir models for one of the country’s premier LNG developments. He was in Houston for a couple months this spring working at the Shell Research and Development center.

J.P. Akers (BS 51, MS 60)
No news, just living the life of Riley on a hill overlooking Sierra Vista, with a 360 degree view! I retired from the USGS, Water Resources Division, as a Ground Water Specialist for the California district in 1982.

James Blankenship (BS 79)
After 25 years of being away, I’ve moved back to Arizona. I’m selling concrete admixtures for the Sika Corp in Arizona and New Mexico. I chose to live in Arizona City, as Tucson (not to mention Phoenix) has grown too big for me; I need open spaces to ride my horses.

Maxine Dunkelman (BS 77)
During this past 12 months (since July 2005), I toured Ireland with my Mom (she was in a wheelchair from an accident on the first day, but we had a great time never-the-less); first marriage (age 49!) to Ray Philen (also his first marriage) (BS, U of Idaho 83, Peace Corps Dominica 83-85, MBA 87 George Washington U); rowed the Middle Fork of the Salmon River; finally saw the geology in the Canadian Rockies; bought land and built a house (our own eco friendly design, we are doing wiring, plumbing, cabinetry); retired from Washington State Department of Health, was rehired (most lately as an inspector of radioactive materials used in the state), and will probably retire again real soon! I’m 50, 25 years of jobs related to radioactivity is enough! Hi to Gail, Lucy, Horton, Greg, Bob, and Danny, and all the others with whom I shared geology, volleyball, and country swing. Come visit us in Olympia, Washington.

Brad Esser (BS 83)
After graduating, I worked on a field geophysics crew out of Tucson for a couple of years and then headed off to finish my education in a foreign and exotic land. At least that’s the way Connecticut seemed to someone who grew up in Arizona. I am now a staff scientist and group leader in isotope geochemistry at LLNL (Lawrence Livermore National Laboratory), still working as a scientist, and still having fun.

I am quite happily married to Sally, and have a 9-year-old soccer player (Rachel) and a 12-year-old Boy Scout (Matthew). I am still climbing (despite a broken back in a climbing accident about two years ago and some severe frostbite 12 years before that — some people never learn), and more recently, I am biking, paddling, and long boarding. Today, Livermore reached 104 degrees. It made me a bit homesick for Arizona. I still miss the eight years I spent in Tucson going to school, working, and climbing. Students — don’t take your time in Tucson for granted!!

Hamdi El-Ghonemy (MS 88)
I am currently Associate Director at RSK ENSR Ltd. in Chester, UK. RSK ENSR is partly owned by ENSR in the US. My responsibilities include business development in North Africa, risk assessment team management in England, and developing groundwater assessment and modeling capability.

Jessica Graybill (BS 97)
Jessica started a tenure-track position in the Geography Department at Colgate University in the fall of 2006. She completed her PhD in Geography and Urban Ecology at the University of Washington in June. She continues her work on two research projects, one domestic and one international. In UW’s IGERT (Integrated Graduate Education and Research Training) Program on Urban Ecology, she worked on team research investigating science and policy (dis)connections regarding the protection of critical biological habitats in urban settings. Internationally, she continues to work in Russia on the political ecology of oil and gas on Sakhalin Island, Russia.

Yohei Kaga (BS 00)
Another hot summer has come to Tokyo. This heat reminds me of summer camp in 2000. It would be great if I could get in touch with those folks with whom I spent countless days in the desert. I am now a father of a two-year-old daughter. Some day I must show her a “Crisco Bomb,” the most important thing I learned during my BS in Geosciences.

Lindsey Link Tierney (BS 03)
I recently got married to Kenneth Tierney (also a UA alum) in Tempe, AZ. I changed my name to Lindsey Link Tierney. I am still a graduate research assistant and doctoral candidate in Geological Science at the University of Colorado at Boulder.

Kathleen Nicoll (PhD 98)
Kathleen has been hired as an Assistant Professor in the Geography Department at the University of Utah.

David Schaller (BS 70)
In April of 2006, David received the Distinguished Service Award from the Wirth Chair in Environmental and Community Development Policy in the Graduate School of Public Affairs, University of Colorado at Denver. The Wirth Chair was established to honor former Colorado Senator Tim Wirth, currently President of the United Nations Foundation established by businessman Ted Turner.

Christine Smith Siddoway (MS 87)
Christine is Associate Professor at Colorado College, specializing in structural and metamorphic geology of Antarctica and the Colorado Front Range, and Gondwana tectonics. In between spending the middle of the year in Australia (at the Australian National University SHRIMP geochronology lab), and the third and fourth quarters of the year in Antarctica (as Principal Investigator, US Antarctic Program), she manages to squeeze in a few weeks at home in Colorado Springs.

Jeffrey Warren (BS 94)
I received my PhD from UNC Chapel Hill in May, 2006 (dissertation title: “The Sequence Stratigraphy of the East China Sea Continental Margin”). I continue to work as the State’s coastal hazards policy specialist for the NC Division of Coastal Management. My wife Missy and I just welcomed our first child, Chapman Graves Warren, into the world on April 9th, 2006 (7 lbs 13 oz).

Chapman Graves Warren, into the world on April 9th, 2006 (7 lbs 1 oz).

~ Chapman Graves Warren, into the world on April 9th, 2006 (7 lbs 1 oz).
Please update your contact information!

Name: ____________________________________________

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

☐ Home Address: ___________________________________

__________________________

__________________________

Phone: ____________________________

Email: ____________________________

Company: ____________________________

Department: ____________________________

Job Title: ____________________________

☐ Business Address: ___________________________________

__________________________

__________________________

Phone: ____________________________

Email: ____________________________

Please 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 which will be returned) for the next newsletter.

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Send your information by US mail, Email (lesa@email.arizona.edu), or the web (http://www.geo.arizona.edu/people/alumni.htm).