

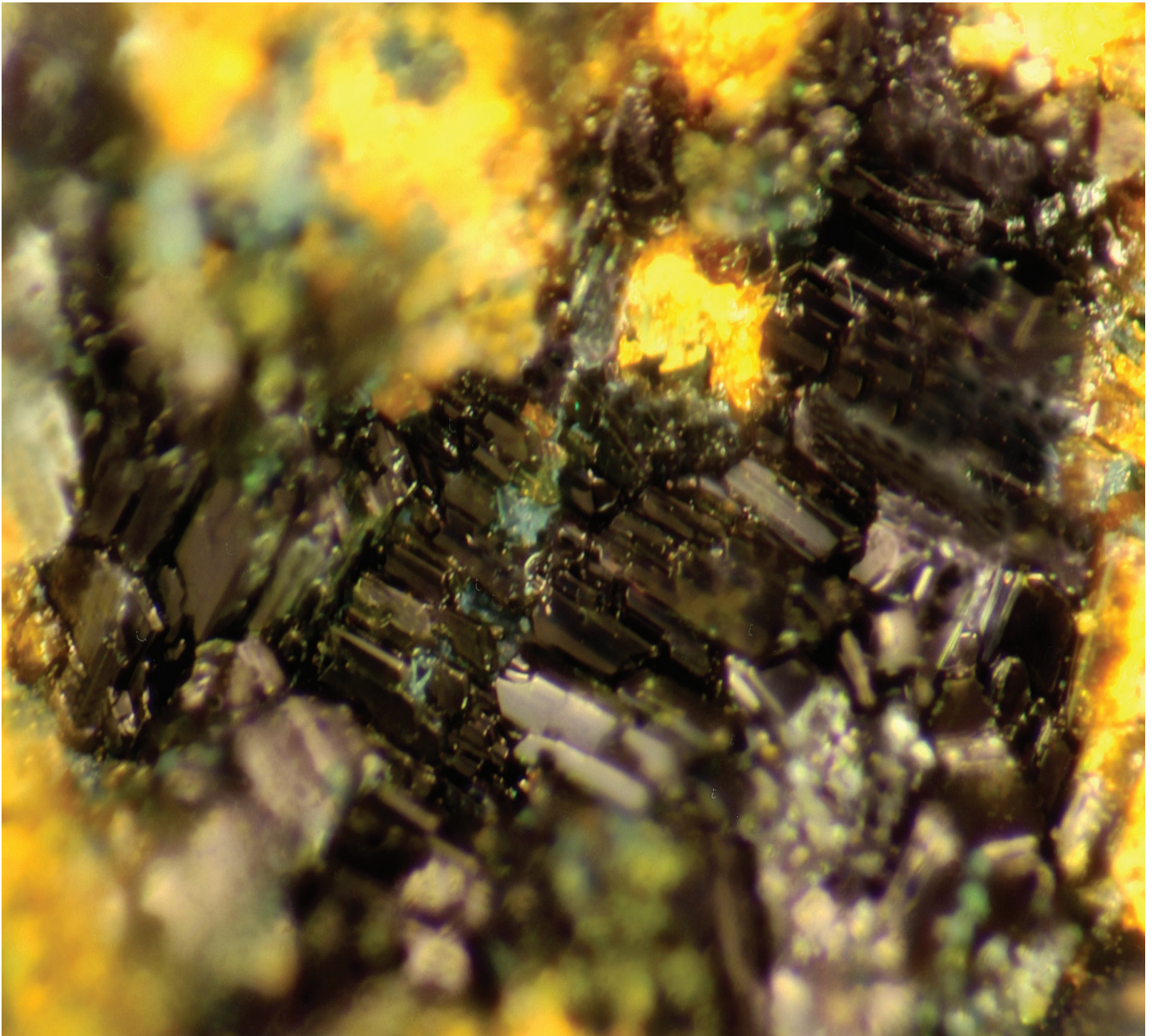
# *Down to Earth*



**Newsletter of the Geology and Geophysics Department**

**University of Utah, Salt Lake City, Utah**

**Fall 2012**



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## Message from the Chair

This is an exciting time to be an Earth Scientist or Engineer. Our global population reached 7 billion about 1 year ago and it is sobering to realize that nearly half of all humans that have ever lived are alive today. Our science and engineering will continue to play a foundational role in this global human enterprise.

I was recently reading a 1994 report from the *Council for Agricultural Science and Technology* that argued it is possible to feed 10 billion or more on the cropland that was in production at that time. A part of that optimism required a major dietary change, but a major part relies on the discovery and production of nutrients; salts of potassium, nitrogen, and phosphorous, along with advances in oil and gas production that fuel mechanized agriculture, exploration and optimization of water resources, and effective control and mitigation of the transport of pesticides and herbicides in the environment. To a large extent the predictions of that report have played out.



John Horgan in a February article in *The Chronicle of Higher Education* points out that over the last two centuries the standard of living in the world has surged. Today, about one-fifth of the global population scrapes by on less than \$1.25 a day (the U.N.'s definition of extreme poverty). That number is shamefully high – especially given our enormous wealth – and yet as a percentage of the total population this is extremely low compared to historical levels.

The role of earth science and engineering in society should not be understated. It has been our understanding of past climates, carefully deciphered from the rock and sediment record that has made the world acutely aware of problems like climate change. You cannot solve a global problem until you identify, articulate, and quantify the issues. Consider for example the global problem of acid rain. Throughout the 1980s and early 1990s earth scientists identified, articulated, and quantified the problem of acid rain, and in the past 15 years this has nearly vanished.

The problems facing the human population are daunting to be sure, but what an exciting time to be an earth scientist and identify, articulate, and quantify earth processes such that solutions can emerge. On top of this societal relevance is the fact that imaging plumes beneath supervolcanoes, thinking about mega (and almost giga) floods on Mars, tracing diets and migration patterns of both modern and ancient species, etc., etc., makes the earth sciences simply a way cool place to be!



Bill Johnson headed a multi-department field trip of students and faculty to Ecuador visiting mining impacted sites and attending a NSF OISE Workshop.

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**Front Cover:** Green-brown crystals of nashite, a newly discovered mineral named in honor of Professor Barbara Nash

**Back Cover:** Greg Carling marking his location in Ecuador with a GPS device. Water from this spring is being piped to a small water treatment plant.

**Down To Earth Editor:** Anita Austin Tromp



## Departmental Activities

### New Mineral Named For One of Our Faculty



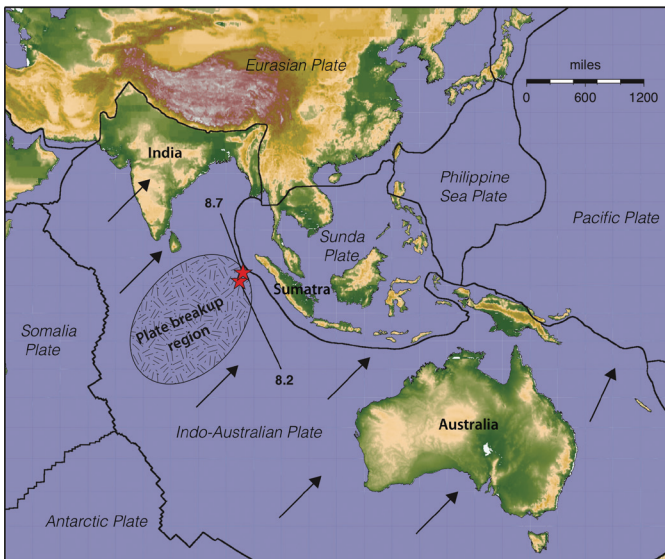
A new mineral, nashite, has been named for Dr. Barbara P. Nash, Professor of Geology and Geophysics in our Department. Professor Nash is known for her many contributions to geochemistry and petrogenesis of volcanic systems, has served as Associate Editor of the American Mineralogist, and has directed the Electron

Microprobe Laboratory at the University of Utah since its inception in 1970. Recently, Dr. Nash has worked extensively on the chemical analysis of vanadium minerals from the Colorado Plateau, contributing to descriptions of several new minerals (e.g., gunterite, hughesite, postite and rakovanite).

Nashite, a secondary mineral with the composition  $\text{Na}_3\text{Ca}_2[(\text{V}^{4+}\text{V}^{5+})\text{O}_{28}]\cdot 24\text{H}_2\text{O}$  is unique in being the first mineral with a  $[(\text{V}^{4+}\text{V}^{5+})\text{O}_{28}]$  vanadylnonavanadate polyanion. It was discovered in the St. Jude mine, San Miguel County, Colorado. Better crystals were subsequently found in the Little Eva mine, Grand County, Utah. Nashite occurs as blades on a sandstone block intimately associated with calcite, gypsum, delrioite and other secondary minerals. Nashite is green-brown, transparent, and has subadamantine lustre. -- by Frank Brown

### Big Quake Was Part of Crustal Plate Breakup

*Study Shows Huge Jolt Measured 8.7, Ripped at Least Four Faults by Lee Seigel*



Seismologists have known for years that the Indo-Australian plate of Earth's crust is slowly breaking apart, but they saw it in action last April when at least four faults broke in a magnitude 8.7 earthquake that may be the largest of its type ever recorded.

The great Indian Ocean quake of April 11, 2012 previously was reported as 8.6 magnitude, and the new estimate means the quake was 40 percent larger than had been believed, scientists

from the University of Utah and University of California, Santa Cruz, report in the September 27 issue of the journal *Nature*.

The new study concludes that the magnitude 8.7 quake and an 8.2 quake two hours later were part of the breakup of the Indian and Australian subplates along a yet-unclear boundary beneath the Indian Ocean west of Sumatra and southeast of India – a process that started roughly 50 million years ago and that will continue for millions more.

"We've never seen an earthquake like this," says study co-author Keith Koper, an Associate Professor in the Department of Geology and Geophysics and Director of the University of Utah Seismograph Stations. "This is part of the messy business of breaking up a plate. ... This is a geologic process. It will take millions of years to form a new plate boundary and, most likely, it will take thousands of similar large quakes for that to happen."

The 8.7 jolt also "is probably the largest intraplate [within a single tectonic plate of Earth's crust] ever seismically recorded," Thorne Lay, Han Yue and Koper add. Most of Earth's earthquakes occur at existing plate boundaries.

The researchers cannot be certain the April great quake was the largest intraplate quake or the largest strike-slip quake because "we are comparing it against historic earthquakes long before we had modern seismometers," says Koper.

### Professor David Chapman Retires

On July 1, 2012, Professor David S. Chapman retired after 36 years of distinguished service in the Department of Geology and Geophysics.



*Photo of David and Inga Chapman taken at the 2009 AGU award Ceremony where David was made Fellow of the AGU.*

To honor David's extraordinary career as researcher, educator and mentor, four of his former PhD students—Kevin Furlong (Penn State University), Rob Harris (Oregon State University), Bill Powell (ExxonMobil) and Sean Willett (ETH Zurich)—organized a day-long research symposium—"Why Heat Matters—Thermal and Related Studies of the Lithosphere, Hydrosphere and Atmosphere"—that was held in our department's Sutton Building on April 27th. Talks from former students and a post doc spanned diverse topics of thermal geophysics and the thermal aspects of geological processes: continental

geodynamics and thermal isostasy; plate tectonics; mountain uplift and exhumation; crustal fluid flow (shallow groundwater, hydrothermal circulation in the sea floor, and continental geothermal systems); thermochronology; global warming and climate change. The presence of so many former students—who have all developed successful careers in academia and industry—speaks well of David's impact as researcher and mentor. Henry Pollack, David's PhD advisor at the University of Michigan, concluded the symposium with an overview and scientific retrospective on David's extraordinary impact on research in thermal geophysics, geodynamics and climate change, and as mentor of future generations of earth scientists.

That evening, Kevin, Rob, Bill and Sean organized an excellent banquet at the Officer's Club in Fort Douglas. Former and current students, colleagues, family and friends gathered to honor both David and his spouse, Inga, for their friendship, support and for the important roles that both David and Inga have played in their lives. A diverse group of siblings, friends and colleagues spoke eloquently about the positive impacts that David and Inga have had on their careers and lives. The warmth and depth of good feeling for David and Inga as friend, colleague, parent and spouse was felt by all present that evening. A highlight of the evening was the announcement that David's former students have set up the David and Inga M. Chapman Scholarship Fund in Geology and Geophysics to support special opportunities for students in our Department during their graduate studies. The endowment for this fund already exceeds \$112,000!

*In honor of Dr. Chapman's penchant for writing important notes on envelopes, he was presented with an oversized framed envelope filled with notable messages and signatures from his colleagues.*



Perhaps the term extraordinary is overused; however David Chapman has truly had an extraordinary career here at the University of Utah. He and his students have published over 150 scientific papers, a rich legacy in his principal research areas of thermal geophysics and thermal aspects of climate change. David has received numerous externally funded grants totaling over 4.6 million dollars to support this research. In recognition of his international impact on research, David was elected Fellow of the American Geophysical Union in 2008 (pictured on page 1).

A measure of his impact as mentor of future earth scientists is his supervision to completion of 19 PhD and 24 MS students at the University of Utah. David is a wonderful

teacher. He has been awarded outstanding teaching awards at the Department, College and University levels, including the Presidential Teaching Scholar in 1994, the University Distinguished Teaching award in 1998, and the Calvin S. and JeNeal N. Hatch Prize for Excellence in Teaching in 1999. He was named University Professor in 1991 to support his development of a new course dealing with global warming and climate change. David has been an effective and innovative leader within the University, serving as Associate Dean (1993-1998) and then Dean (1998 to 2009) of the University of Utah Graduate School. In recognition of his outstanding contributions in research, teaching and service/administration, David was awarded the University's highest honor, the Rosenblatt Prize for Excellence, in 2006. In 2009, he was awarded the Governor's Medal for Science and Technology from the State of Utah, and in 2010, David was elected as University Distinguished Professor.

David has now been appointed as Distinguished Professor Emeritus. As a result, we can continue to benefit from David's keen intellect, wise counsel, good humor and collegiality.

-- by John Bowman

## Faculty Focus

We are happy to welcome five new outstanding faculty members to our department – Gabriel Bowen, Jeffrey Moore, Lowell Miyagi, Brenda Bowen, and Pier Bruno.

### Gabriel Bowen



Dr. Gabriel Bowen, a former University of Utah postdoctoral researcher (2004-2005), has returned as of July 1, 2012 as an Associate Professor in Geology and Geophysics.

Recently Dr. Bowen won the prestigious James B. Macelwane Medal award from the American Geophysical Union. The medal is given annually to three to five people "for significant contributions to the geophysical sciences

by an outstanding early career scientist." Bowen was among three winners this year.

Bowen, who earned his bachelor's degree at the University of Michigan and his doctorate at University of California, Santa Cruz, was a postdoctoral research associate in biology at the University of Utah during 2004-2005. From 2006 until joining us, he was on the faculty of Purdue University. Dr. Bowen uses stable isotopes to study the connections between the water cycle, the carbon cycle and ecology and evolution.

Since 2006 Dr. Bowen has generated 3.04 million in research funding. In addition, Dr. Bowen has authored or co-authored 61 peer-reviewed papers/book chapters. These have been published in high profile journals such as *Nature Geoscience*, *Journal of Geophysical Research*, *Earth and Planetary Science*, and *Water Resources Research*. He has developed and maintains a website (<http://www.waterisotopes.org>) providing scientific and educational content on stable isotope ratios of water, serving over 400 unique visitors per month.



## Jeffrey Moore



Dr. Jeffrey Moore graduated with a B.S. in Geological Engineering from the University of Arizona in 2000. He then studied at the University of California, Berkeley where he obtained an M.S. in Civil (Geotechnical) Engineering in 2002, an M.S. in Geomorphology in 2007, and his Ph.D. in Civil (Geological) Engineering in 2007. His research focuses on landscape evolution, rock mass and slope stability, and

geological hazards. Dr. Moore's background in geology as well as engineering is unusually broad, and makes him an ideal fit for a position in our Geological Engineering Program both in terms of professional skills and areas of research.

Dr. Moore has done exceptional research work in alpine slope stability and landscape evolution, with a growing reputation in the field of geological engineering. His rare background in both engineering and geology will make him a major asset to our Geological Engineering faculty, as well as within the department at large. Dr. Moore, who will begin January 2013, will replace Aurelian Trandafir who took a position in Houston.

## Lowell Miyagi



Dr. Lowell Miyagi received a Ph.D. in Earth and Planetary Science from the University of California at Berkeley in 2009 and holds a B.A. in Geology and East Asian Studies (2004) from Oberlin College. From 2009 to 2011 he held the Bateman Postdoctoral Fellow at Yale University in the Department of Geology and Geophysics.

Dr. Miyagi is a geoscientist with an outstanding record of research in high

temperature and pressure mineral physics. His research has focused on the anisotropy on polycrystalline rocks and minerals. He has applied his research towards an understanding of seismic wave propagation and deformation of the deep earth. He has employed a combination of laboratory deformation experiments and polycrystal plasticity modeling. In particular, he has employed novel deformation devices such as the Diamond Anvil Cell that is capable of achieving pressure conditions equivalent to Earth's inner core. Overall, Dr. Miyagi could be characterized as an experimentalist who is using sophisticated experiments to gain insights into properties and processes occurring in the deep earth.

Although Dr. Miyagi received his Ph.D. less than two years ago, he has authored or co-authored 14 papers in peer reviewed journals. He was the recipient of the Outstanding Student Paper Award from the American Geophysical Union in 2007, and won the George B. Wharton Prize for Excellence in geology in 2004.

## Brenda Bowen

Dr. Brenda Bowen joins our department as a Research Associate Professor. In addition, Dr. Bowen has agreed to be the new Associate Director of the Global Change

and Sustainability Center at the University of Utah. Previously she was an Associate Professor at Purdue University in the Department of Earth and Atmospheric Sciences where she had an active research program in the broad area of sedimentary geology. She currently has grants from (1) The National Science Foundation for studying the evolution of extremely acid lakes and groundwater in Western Australia, (2) the U.S. Department of Energy for studying the petrological and petrophysical characteristics of the Mount Simon Sandstone in support of carbon sequestration, (3) U.S. Department of Energy to develop an analytical-numerical model of CO<sub>2</sub> sequestration, and (4) U.S. Department of Energy to train students to analyze spatial and temporal heterogeneities in reservoir and seal petrology.



## Pier Paolo Bruno



Dr. Pier Paolo Bruno joined our department as an Assistant Research Faculty member in the fall of 2011.

Dr. Bruno holds a Doctorate of Research in Geophysics and Volcanology from University of Naples Federico II in Italy (1996). His doctoral research focused on the shallow, intermediate, and deep structure of Mt. Vesuvius and surrounding areas using

active seismic methods. He also holds an M.Sc. from the Polytechnic of Turin, Italy in Environmental Engineering (1992). His B.S. was in Geology from University of Naples Federico II (1988). He is currently on a leave of absence as an Assistant Professor in Geophysics at INGV (roughly equivalent to the Italian Geological Survey). He is teaching several courses in the Department including Seismology II, and a course designed to introduce seismic exploration methods to students who are interested in oil and gas exploration.

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## Robert Smith



The Geological Society of America will present its George P. Woollard Award for outstanding contributions to geophysics to Dr. Robert Smith, a geophysicist, who is a world-renowned expert on earthquakes and volcanism in the Yellowstone National Park region. He will be recognized during the group's annual meeting in November in Charlotte, N.C. It is the latest in a string of

awards for Dr. Smith, who last fall was honored with the 2011 John Wesley Powell Award from the U.S. Geological Survey.

Smith is a Professor Emeritus and Research Professor of geophysics in our Department, and a coordinating scientist at the Yellowstone Volcano Observatory which is run jointly by the USGS, the University of Utah and National Park Service.

## Student News

Student activities remain a focus of the Department. One of the highlights for the University of Utah AAPG (American Association of Petroleum Geologists) chapter was attending the AAPG Annual Convention and Exposition in Long Beach, California. Twenty-seven graduate and undergraduate students were able to attend thanks to the generous donation from an alumnus and support from the Department of Geology and Geophysics. At this convention, our chapter received honorable mention for the best chapter in the United States, an honor in which they take great pride.

All members managed to make a side trip to La Jolla to study the deep sea turbidites that form the sea cliffs surrounding this beautiful area. During Spring Break the AAPG chapter continued from where last year's field trip (in the basin and range) left off. They drove from Utah to Santa Barbara, California to look at structurally complex regimes as well as prolific oil fields both on and off the coast of southern California.



*Several members of the AAPG field trip take a moment to appreciate the large scale deep water channel complexes exposed along the coast north of La Jolla, California.*

The beginning of the school year 2011-2012 was filled with recruiting visits from seven oil companies—visits that ended with 26 positions (11 full-time and 15 internships) offered to students of our AAPG chapter. Also, six chapter members attended the 2011 Rocky Mountain Rendezvous where they were able to interview with a diverse assembly of petroleum companies.



*AAPG Student Chapter members volunteered at the Salt Lake City School District Science Fairs.*

Our AAPG chapter has prioritized volunteering around the community and in local school districts this year. They hosted a food drive for the Utah Food Bank, spent two days teaching introductory earth sciences to junior high students, and ten

days teaching at a Montessori school. Several of our chapter members volunteered for one of the premiere recruiting events for the university, "Science Day at the University of Utah" where they presented posters to nearly 700 students and their parents throughout the day (see picture at left bottom). Members also volunteered at the Salt Lake City School District science fairs, serving as both project mentors and judges where they were able to provide guidance and encouragement to middle school students. -- by *Brendan Horton*

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**Billie Smathers**, a graduate student, won the 2012 AEG Platinum Corporate Sponsorship Scholar award which includes a cash prize which covers the cost of attending the convention. It was awarded for his presentation on fault scarp analysis.

## Moving Forward

### *The Sutton Building is Now on YouTube!*

See the award-winning Frederick Albert Sutton Building, home of the Department of Geology and Geophysics at the University of Utah now on YouTube! Join Professor Marjorie A. Chan on a virtual tour of this innovative "green" building that showcases the earth sciences. There are 36 short clips of our different building displays accessible at [www.youtube.com](http://www.youtube.com) (type in the search box "Welcome Frederick Albert Sutton Building"). These are also linked to Quick Response Codes in the building so people can scan the codes with their smart phone to get their own guided tour. You can also view the clips on our department website at <http://www.earth.utah.edu/about/virtual-building-tour/index.php>. Hope you LIKE it!



### *Record Number of Oil Recruiters Visited Our Department in Fall 2012*



*Our Welcome Petroleum Industry Recruiters banner. (Pictured David McGee and Michael Abrams from Apache Corporation.)*

Every year we see more oil company recruiters take an interest in our students. For Fall 2012, we had nine companies visit our Department -- some for the first time (alumni in italics).

**Anadarko** - Andy Taylor and Tony Williams

**Apache** - Michael Abrams and David McGee



**BP** - John Naranjo (B.S. 2005) and Sam Buist (M.S. 2009)

**Chevron** - Jacob Umbriaco (M.S. 2004), Tyson Perkes, Keith Christianson (M.S. 2009) and Jessica Moore (M.S. 2005)

**ConocoPhillips** - Joe DeVay and Sam Hudson (Ph.D. 2008)

**EOG Resources** - Kelly Scharkopf, Craig Cormany and Amy Noack

**ExxonMobil** - Eric Wildermuth and Shane Long

**Hess** - John Byrd (Ph.D. 1995), Will Gallin (M.S. 2010), Hannah LaGrone, and Mihaela Ryer

**Schlumberger** - Winston Anyanwu

## Annual Awards Salute Exceptional Achievements

The following awards were received this year:

- **John Bartley** - Exceptional Reviewers (Geosphere)
- **Marjorie Chan** - Exceptional Reviewers (GSA Bulletin)
- **Michael Thorne** – 2012 Reviewer of the Year for Geophysical Journal International

**David Chapman** this year received the rank of Distinguished Professor Emeritus. (See the Chapman article on page 1.)

## Distinguished Alumnus Recognized

### Charles (Chuck)

**Williamson** won the Distinguished Alumni Award. Chuck is a rare individual with the combination of science and technical skills as well as business savvy and communication skills to rise to CEO of a major oil company. He knows how to be part of an integrated solution that includes science, politics, business, economics, and human factors. Few geologists in the last few decades have achieved such a status within a major oil company. He got his MS degree in 1973 in Geology from the University of Utah. He was nominated by Marjorie Chan.



**Lloyd Cluff** also won the Distinguished Alumni Award for 2012. Lloyd graduated from the U of U in 1960 in Geology, an education that took his career into the engineering geology sector. While attending the University of Utah, Lloyd was introduced to the Wasatch Fault, and investigated his first destructive earthquake, the 1959 Hebgen Lake earthquake in Yellowstone. He has stated that these two factors caused him “to get hooked on



active faults and earthquakes.” Lloyd has recently retired from a distinguished career at the Geosciences Department of the Pacific Gas and Electric Company in San Francisco where he was responsible for making seismic reviews of facilities and assessing their ability to accommodate earthquakes. For his long term contributions in earthquake engineering geology he was awarded EERI’s highest honor, the Housner Medal, in recognition of his work in the application of geologic knowledge to critical facility and building safety and his support of public policies to reduce earthquake risk and hazards throughout the world. He was nominated by Robert Smith.

## Scholarships, Fellowships, and Awards Given

We thank the College, the Department and our many friends who made substantial and important support possible for the following students:

**Alumni Scholarship:** Ian Feltt

**James and Ann Anderson Award:** Paul Harrie

**Thomas Parry Billings Scholarships:** Melanie Cooke, Heather Judd, John Roylance

**Ken and Nedra Bullock-Keller Scholarships:** Jordan Culp, Iain Harvey, Zachary Jensen, Kelsey Jolley, Jon Peterson, Jillian Turner

**Chevron Exploration Scholarship:** Eli Workman

**Chevron Graduate Fellowship:** Christine Gammans

**Orlo Childs Field Camp Scholarships:** Mequette Gallegos, Roxanne Winegar

**ConocoPhillips Graduate Fellowships:** Julia Mulhern, Leah Toms

**Ken Cook Geophysics Award:** Zachary Stebly

**Cooper-Hansen Undergraduate Scholarships:** Kirby Anderson, Andrew Bell, Allison Boyer, Gordon Chapdelaine, Ian Feltt, Derek Herndon, Kristine Honsvick, Land Huegel, Levi Huish, Afe Langi, Britni Lowe, Patrick McAtee, Kevin McCormack, Jackson Penrod, Nicole Reid, Audra Thomson

**Cooper-Hansen Graduate Fellowships:** Patrick Loury, Theresa Zajac

**Departmental Scholarship Fund:** Allison Boyer, John Carricaburu, Jared Farmer, Ian Feltt, Deborah Grant, Audrey Grey, Allyson Harward, Kristine Honsvick, David Jamison, Joshua Johnston, Alexander Leibold, Britni Lowe, Robyn Lyons, Patrick McAtee, Sarah Moore, Abbey Smith, Brittney Thaxton, Ryan Thomas

**Eardly Graduate Scholarship:** Allie Jackson

**Earl Family Scholarships:** Kelsey Jolley, Alexander Leibold

**Etta Keith Eskridge Scholarships:** Molly Ellowitz, Abbey Smith

**FHB Rosenblatt:** Louise Hollander, Jonathan Root, Ryan Thomas, Hailee Wright

**Frischknecht Scholarship:** Leah Moelling

**GCEC Fellowship Award:** Crystal Tulley-Cordova, David Wheatley

**Geophysics Scholarships:** Kyle Brennan, Abdul Halid, Kevin McCormack, Nurul Mohammad Jamaal, Roger Quinonez, Seth Stoddard, Audra Thomson, Tunku Kammaruddin Tunku, Yeou Hui Wong

**Dorothy Rice Goode Scholarships:** Rials Christensen, Jessica Page

**Gerald W. Hohman Memorial Fund:** William Hurlbut

**H. Honda Sedimentary Scholarship:** Lars Petersen  
**Earl S. Johnson Scholarships:** Matthew Fenoglio, Deborah Grant, Ali Sherman  
**G. Frank and Pamela M. Joklik Scholarship:** Casey Duncan  
**Kennecott Meritorious Awards:** Bradley Smithson, Taylor Wessman, Isaac White  
**Kennecott Scholarships:** Mallory Millington, Eric Thomas  
**Kenneth Larsen Scholarship Fund:** Mequette Gallegos, Dolan Lucero  
**Matt Mikulich Scholarship:** Kevin Kwong  
**Mineralogical Society Scholarships:** Casey Duncan, Gennelyn Eldredge, John Fullmer, Andrew Park, Nicole Reid, Jonathan Root, Christopher Tingey  
**Alex G. Oblad Energy:** Taylor Witcher  
**M. Dane Picard Scholarship Fund:** Ryan Hillier  
**Ricardo Presnell Scholarships:** Vanessa Chavez, Adriana Garcia, Kevin Jimenez, Alexander Lowe, Paris Morgan, Stephen Ruegg, Ali Shearman, Sabita Silwal, Christopher Smith  
**Questar Scholarships:** Hannah Durkee, Ian Feltt, Kelsey Jolley, Paris Morgan, Jonathan Root, Christopher Tingey,  
**SAGE:** Scott Greenhalgh, Christopher Volk  
**Think Globally, Learn Locally (TGLL) Graduate Fellowships:** Thomas Good, Joel Pierson  
**UGA Field Camp Scholarship:** Derek Herndon, Jonathan Root  
**University Graduate Research Fellowship:** James R. Lehane  
**University of Utah Continuing Scholarship:** Hannah Durkee, Jacqueline Farnsworth  
**University Teaching Assistant:** Alexandre M. Turner  
**Marta S. Weeks Legacy Scholarship:** Kayla Weiser, Roxanne Winegar  
**WEST Fellowship Award:** Danielle D'Alfonso  
**AWG Susan Ekdale Award:** Hailee Cox, Kelsey Jolley

## Honors Awarded

### Outstanding Faculty and Staff Awards

**Research:** Ronald Bruhn and Francis Brown  
**Teaching:** David Dinter

### Outstanding Graduate Students

**Ph.D. Candidate:** Kevin Uno  
**M.S. Candidate:** Brendan Horton  
**Outstanding Teaching Assistant:** Danielle D'Alfonso

### Outstanding Undergraduate Students

**Geology:** Daniela Anguita  
**Environmental Earth Science:** Kimberly Koeven  
**Geological Engineering:** Brooks Black  
**Geoscience/Geophysics:** Scott Greenhalgh  
**Earth Science Teaching:** Iain Harvey  
**Ronald Terrill Award:** Hailee Cox

**AAPG Award:** U of U Student Chapter - Honorable Mention

### GSA Awards:

**Exceptional Reviewers (Geosphere):** John Bartley  
**Exceptional Reviewers (GSA Bulletin):** Marjorie Chan

### Geophysical Journal International:

**Reviewer of the Year - 2012:** Michael Thorne

**SEG Award (2012 AEG Platinum Corporate Sponsorship Scholar):** Billie Smathers

## Alumni and Friends

### 1950's Graduates

**Donald Runnells** (B.S. 1958) is traveling in his retirement. He enjoyed a recent trip to Russia including two weeks on a river ship on the Volga River.

### 1960's Graduates

**Stephen Stouffer** (M.S. 1964) is now semi-retired. He is doing seismic interpretations in Oklahoma, Kansas, and Williston Basin as well as taking annual cruises and fly-fishing trips to Colorado and Wyoming.

### 1970's Graduates

**Edith Allison** (M.S. 1979) received the 2012 AAPG Service Award. She has been doing some consulting, a lot of volunteer work, and a little more traveling along with welcoming a first grandson into her life.

**John Dorrier** (B.S. 1975) made a very generous donation to aid our undergraduates.

**Howard Fishman** (M.S. 1976) retired in June 2010 after 35 years with Chevron.

**Matt Mikulich** (PhD 1971) and his wife Donalyn took a 3-week vacation to Europe in October 2011. He has been doing some singing shows and his health continues to improve.

### 1980's Graduates

**Bill Bashore** (M.S. 1982, BGL 1980) is working at Transform.

**Kevin Kilty** (PhD 1982, M.S. 1978) is on the Board of Trustees at the University of Wyoming after ending his career as a professor of physics/engineering at the community college.

**Richard P. Langford** (Ph.D. 1988) who is an auxiliary faculty member in our Department received the GSA Exceptional Reviewers 2011 Award (Geosphere).

**Brad Larsen** (M.S. 1989) still works in the computer software industry but continues to consult on XRD/XRF questions regarding nano-termite particles in dust samples from the 9/11 collapse of the World Trade Center.

**Thomas Little** (M.S. 1988) left working in the geologic sciences in 1997 to stay closer to his family. He managed a microprocessor manufacturing facility for Intel for 12 years. He then transferred to New Mexico in 2009 to take a public relations position with an environmental regulatory slant. He is working on a sustainable water supply initiative that gets him back into groundwater hydrogeology.

**Sue Lutz** (M.S. 1989, BGL 1982) still manages the XRD lab at TerraTek and leads a geothermal energy group. She and other Utah alumni and friends (Jackie Huntoon, M.S. 1985 and Diane Kamola) enjoy their land in the Teasdale-Torrey area outside of Capitol Reef National Park.

### 1990's Graduates

**James Conder** (B.S. 1994) is enjoying life as an Assistant Professor of Geophysics at Southern Illinois University. His specialty is seismology with an emphasis on geodynamics and plate-boundary processes. James had received his M.S. and PhD from Brown University and afterwards served as a post



doc and research scientist at Washington University before moving to Illinois in 2008.

**Jennifer Helm** (M.S. 1994) is working for Craig Nelson at Western GeoLogic and still manages a very busy family household.

**James Magwood** (Ph.D. 1996) teaches high school science and enjoys inspiring young minds.

**Brian McPherson** (Ph.D. 1996, M.S. 1992) and his wife Stacy added a bundle of joy to their lives this Spring 2012 -- a new baby named Ethan!

**Jeanne Richter** (M.S. 1994) is working for Barrick in Elko, Nevada. She has two children, but is able to telecommute on her projects of 3-D modeling of mines.

### 2000's Graduates

**Jody Gisseman** (BGL 2002, BGE 2002) is now officially "retired" from the Army Reserve and now enjoys her own rock-hound jewelry business.

**Dan Neuffer** (BGE 2012) has now moved to Palmer, Alaska and is working out of SRK's Anchorage office on projects across the state.

**Jessica Moore** (BGL 2002, M.S. 2005) reported on the PROWESS committee success at the AAPG conference. She was one of the recruiters for Chevron this year.

**Winston Seiler** (M.S. 2008) took a 3-week once-in-a-lifetime trip to Antarctica. He had a fantastic time. Winston was also in one of Chevron's "We Agree Science" television commercials in fall 2011.

**Kevin Jensen** (BSG 2009) moved to Melbourne, Florida with his family in June for a job with Science Applications International Corporation (SAIC). Kevin is very excited.

### 2010's Graduates

**William Gallin** (M.S. 2010) has been traveling to Indonesia for work lately. He is a foundation geologist for Hess Corporation and this fall, visited our Department as one of Hess's recruiters.

**Bandar Ghassal** (M.S. 2010) is currently a petroleum geochemist at Saudi Aramco doing source and reservoir geochemistry studies as well as oil and gas geochemistry. He also does tar modeling studies in eastern Saudi Arabia. Recently he got involved in an oil and gas exploration project in the southern Red Sea.

**Melinda Hilber** (M.S. 2010) received some great experience working at ExxonMobil, but now is happy to be back in Salt Lake City, where she is working for TerraTek.

**Leeann Diamond** (BGE 2011) has been doing some consulting and keeps busy enjoying the great outdoors.

**Michelle Cotton** (M.S. 2012) is starting as a geophysicist at Schlumberger.

**Megan Crocker** (M.S. 2012) is enjoying her new position as a petrologist at TerraTek. She feels very fortunate to be able to have a job in Salt Lake City.

**Brendan Horton** (M.S. 2012) accepted a job at Chevron this year as a geologist.

**Sally Potter** (PhD 2012) is a lecturer in the Department of Physical and Environmental Sciences at Colorado Mesa University. She will be working with students on a structured research project next semester looking at the local geology with application to petroleum geology and Mars sedimentology and geochemistry.

**James Schloss** (M.S. 2012) is a Hydrogeologist for HRS Water Consultants in Lakewood, Colorado.

*Correction: Doug Hollett graduated in 1979 not 1969 as listed in last year's newsletter.*

### In Memoriam

**Margaret Herrick Best** (B.A. 1939) died June 12, 2012 in Salt Lake City at the age of 93. She was the first woman to graduate from the University of Utah in Geology in 1939.

**Max Perry Erickson** (M.S. 1940, B.S. 1938) died on January 24, 2012. He worked for the U.S. Geological Survey for several years and in 1946, he began his teaching career at the University of Utah. For more than four decades he taught mineralogy and geology.

**Edwin Guenther** (M.S. 1973, B.S. 1971) passed away on September 28, 2009.

**George Neil McDonald** (B.S. 1955) passed away on December 11, 2011.

**William Robert Wright** (B.S. 1960) died on January 13, 2012.

### Friends of Our Department

**Matt Affolter** (friend) who is teaching 9th grade Earth Systems Science at Fort Herriman Middle School, recently got married and says everything is going great.

**Jordi Maria de Gibert** (post-doc and visiting instructor, 1997-2000) passed away on September 23, 2012. He did research and taught paleontology classes in the department in the late 90's, and was currently working on trace fossil projects in Spain with Tony Ekdale.

**Michael Manship** (friend) is finishing up his last year as a Trustee of the GSA Foundation Board, with the intent to focus on projects closer to home for a few years. He was also a major instigator in getting the GSA-Gold For Gold booth, where folks can donate their gold items to GSA and receive tax deductible cash equivalent value.



*Santa Barbara Spring break trip at the ophiolite sequence on Vandenberg Air Force Base.*

*Dear Alumni: Your fellow alumni and colleagues in the Department of Geology and Geophysics would like to hear about your professional accomplishments, job promotions or changes, address changes, or any other news you would like to hear. You can also update your information on our website at: [www.earth.utah.edu](http://www.earth.utah.edu) > Alumni > Update Information.*

**Include my news in the next Down to Earth.**

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Address \_\_\_\_\_ New Address? Yes \_\_\_\_\_ No \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

Position \_\_\_\_\_ Email \_\_\_\_\_

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My News: \_\_\_\_\_

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Mail, fax, or e-mail to:

**Down To Earth  
Geology & Geophysics  
University of Utah  
115 South 1460 East, Room 383  
Salt Lake City, UT 84112-0102  
Fax: (801) 581-7065  
Email: [gg@utah.edu](mailto:gg@utah.edu)**



*New opportunities to expand our facilities and services come to our attention constantly. Needless to say, there is seldom room in the budget to accommodate them. Gifts from our friends and alumni provide many extras that enhance our students' educations. We appreciate your support. If your company has matching grants, please send us one of their forms.*

**Yes, I would like to provide support!**

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\_\_\_\_\_ Ricardo Davis Presnell Memorial Scholarship Fund

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*Shells donated  
by Balthazar and  
Monica Korab  
Family in 2012.*



*Scallop - "Lions  
Paw"*



*Volute-Junonia"*

*The above listings are for donations received from September 1, 2011 to September 1, 2012. If we have inadvertently left someone out, we sincerely apologize. Please inform us of any corrections for our records.*



*A new slab of Eocene Green River fish fossils showing a mass mortality event was recently donated by Dr. Lonnie Paulos. This slab honors the work of Dr. Marjorie Chan in overseeing Sutton displays and is located on the 3rd floor opposite the door to the Department office.*

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