YEAR IN REVIEW 2012–2013

Department of Geology

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Triple Crown: Geology alumnae to lead the three major geological organizations

Sharon Mosher, Suzanne Mahlburg Kay, and Margaret Leinen, are president or president-elect of three major earth science organizations.

Three Geology alumnae were elected to top leadership positions this year, making 2013 a year in which the Geological Society of America, the American Geophysical Union, and the American Geosciences Institutes will all be led by Illinois female graduates.

Suzanne Kay is president of GSA, Margaret Leinen is the president of the AGU, and Sharon Mosher will head up the AGI as its president. All three women are also recipients of the Department's Alumni Achievement Award.

"The Department is very excited and proud to see our alums taking these three top roles in the community," says department head Tom Johnson. "As Sue Kay put it, during the period of time when she was here, there was something very special about the people in the department and there were many bright lights among the students."

All three of the women were on the Illinois campus at the same time during the late 60s and early 70s, sharing similar classes and fieldwork experiences, but each went on to study distinct aspects of geology and to become significant players in those areas.

Kay (B.S. '69, M.S. '72), the 2012 Alumni Achievement Award winner, was elected to a three-year stint in the top leadership of GSA. She became Vice President in 2012, is now serving as President, and will continue as past president beginning July, 2014. Kay, currently a professor of geological sciences in the Department of Earth and Atmospheric Sciences at Cornell University, focuses her research on the applications of geochemistry, petrology and mineralogy. She has served as a member of GSA Council, president of the GSA International Division, science editor of *GSA Today,* chair of the 2006 International meeting hosted by the GSA and the Asociación Geológica Argentina on the *Backbone of the Americas,* service as the International Secretary, and Publications Committee Chair.

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Fouke named Director, receives NASA grant

In November of 2012, Professor Bruce Fouke was named Director of the Roy J. Carver Biotechnology Center (CBC) at the University of Illinois Urbana-Champaign. The CBC is a state-of-the-art facility that provides support to researchers and scholars of the life and natural sciences. Fouke is responsible for the overall leadership of the CBC, managing its mission to provide core services in the areas of genomics, proteomics, bioinformatics and DNA sequencing. Currently, the CBC has more than 220 on-campus clients from the Institute for Genomic Biology, the Beckman Institute, the Colleges of Veterinary Medicine, LAS, and Engineering, to name just a few. In addition, the CBC has off-campus contracts with researchers and companies in fields ranging from human and veterinary medicine to the energy sector.

"The services provided by the CBC are essential to ensuring the success of a wide variety of externally funded research programs across the Illinois campus," Fouke emphasizes. "In addition, multiple projects are being completed for other universities, governments and industries around the world. The CBC staff works closely with researchers throughout the life of any given project, engaging in all aspects of planning, analyses and data synthesis and interpretation."

Even before assuming his new position as Director, Fouke's work in molecular geobiology brought him in close contact with the

(continued on page 3)

Faculty and Students Earn Teaching Awards Locally and Nationally

It was another outstanding year for the faculty and teaching assistants in the Department of Geology, as they continue to be recognized for excellence in their teaching endeavors.

Most notably, several faculty members and teaching assistants were recognized with individual awards for their contributions to teaching.

Steve Marshak, Professor of Geology and Director of the School of Earth, Society & Environment, received the Neil Miner Award from the National Association of Geoscience Teachers, given to educators for exceptional contributions to the stimulation of interest in the Earth sciences

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Letter from the Head

Greetings from Champaign! The Department of Geology has moved to the west side of Wright Street, and, officially, we have a Champaign address until we move back into the Natural History Building in a few years. Our temporary home is the Computing Applications Building (CAB) at 605 E. Springfield Avenue, which was once home to the famous National Center for Supercomputing Applications and, at a different time, the Illinois State Water Survey. These days, it is being used as "surge space" for displaced departments as their buildings get renovated. The LAS Dean's office and two other departments were located here during the Lincoln Hall renovations of a few years ago, which, incidentally, resulted in beautiful, modern facilities in a building that retains its magnificent historic character. Soon, renovation work will begin to accomplish the same feat for the Natural History Building.

Over the years, gifts to the department have greatly contributed to our success, by helping us send students to field camp, run field trips, support graduate students, purchase new equipment, bring important speakers to campus, and attract top faculty. Today, the renovation of NHB presents an exciting opportunity for donors to make their mark on the department. As is common on University campuses, important rooms and facilities in the renovated NHB may be named in honor of donors, corporate sponsors, or other notable people who have made great impacts on the department. If you are inspired to do so, please consider a gift to help make NHB a stunning home for Illinois Geoscience for the next 100 years. Naming opportunities, both large and small, are connected with all aspects of the building, allowing you to memorialize yourself or someone you wish to honor. Geology also has strong relationships with various corporations. We know that they, too, will be interested in a visible connection to the renovation project as part of the new NHB. Please contact me if you would like to help with corporate contacts or to learn more about naming opportunities.

Renewal of the building is important, but renewal of the faculty is even more important. This fall, we welcome Profs. Jessica Conroy and Willy Guenthner to the faculty (see more detail elsewhere in this newsletter). We are excited to bring fresh talent into the department! We also expect to carry out searches for faculty in Hydrogeology and Geophysics in the coming year, as we continue to rebuild. The department is very grateful for the support we have received from the administration to make this happen. We sorely miss the faculty members who have retired in the past few years, but the new faces bring new energy and new ideas that will propel the department for decades to come.

We are always hearing about the achievements of our Geology alumni, but this year was an extraordinary one in that regard. In this newsletter, we highlight a few of the prominent positions held and awards received. Inevitably, when we talk to these alums about the keys to their success, they mention the other equally talented students from their cohorts, and the mix of people that inspired them in the department. So each of us can be proud of departmental alumni achievements; education is truly a group effort! When you have news of your own achievements or those of other alumni, please let me know so we can all celebrate.

I hope to see many of you again at the GSA and AAPG meetings, at other occasions, and here on campus. Also, you will soon find the department on LinkedIn and Facebook if you are so inclined. I expect these social media sites will provide a convenient way to connect to our network of students, alumni, and friends. As always, we love visitors so please stop in if you're in the area.

All the best to you and yours,

Tom Johnson

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Awards *(continued from page 1)*

Bruce Fouke, professor, was named the recipient of the LAS Dean's Award for Excellence in Undergraduate Teaching and the Campus Award for Excellence in Undergraduate Teaching.

Jonathan Tomkin, research assistant professor and Associate Director of SESE, received the Academic Professional Award from LAS to recognize his efforts in curriculum development, online education, and undergraduate advising.

Teaching Assistant Stephanie Mager won the Lynn Martin Award for Distinguished Women Teachers of the College of Liberal Arts and Sciences

"There is a long-standing tradition of inspired, dedicated teaching in this department, and these four represent the best of the best." says Department Head Tom Johnson. "Steve Marshak has insired a staggering number of students through his best-selling and top-quality textbook, *Earth, Portrait of a Planet,* and his stellar teaching on campus. Bruce Fouke has boldly pursued new field experiences for undergraduate students, Jonathan Tomkin has led the charge into high-quality online education, and Stephanie Mager is one of the most dedicated teachers I have ever met."

Additionally, thirteen Department of Geology instructors were named to the University's List of Teachers Ranked as Excellent for the spring, summer, and fall 2012 semesters.

The rankings are released every semester and are based on student evaluations maintained by the Center for Teaching Excellence on the Illinois Campus. Faculty and academic professionals appearing on this list include Stephen Altaner, Craig Bethke, Bruce Fouke, Tom Johnson, Steve Marshak, Michael Stewart, and Ann Long.

Graduate students Brooke Eickhoff, Jessica Hinton, Jing Jin, Kelsey Kehoe, Stephanie Mager, and Pragnyadipta Sen were named to the list for their work as teaching assistants in the department.

Triple Crown *(continued from page 1)*

Kay hopes to "advance and facilitate research in the geosciences, to enhance the intellectual growth of members of all ages through the exchange of scientific ideas, and to apply basic geoscience knowledge to human needs—doing all that is possible to promote stewardship of the Earth in a scientifically sound and reasonable manner."

Leinen (B.S. '69), winner of the Department's Alumni Achievement award in 2003, has been elected to President of the American Geophysical Union. Her two-year term began in January of 2013.

Leinen is recognized worldwide for her work as an oceanographer, biogeochemist, paleoceanographer and science administrator. She has helped organize and administer a number of far-reaching, multidisciplinary research projects, including the Joint Global Ocean Flux Study, an integral part of global climate research and considered to be one of the most ambitious ocean biogeochemical research programs ever mounted. She has also served on a multitude of national and international committees dealing with oceanography and climatology as well as serving as an Assistant Director of the National Science Foundation (NSF) where she led the Geosciences Directorate and managed a $700 million annual budget between 2000 and 2007. Leinen currently serves as the Executive Director of the Harbor Branch Oceanographic Institute, and Associate Provost for Marine and Environmental Initiatives, both at Florida Atlantic University.

Meanwhile, Mosher (B.S. '73, Ph.D. '78), winner of the Department's alumni achievement award in 2001, was inducted as the 2013 president of the American Geosciences Institute (AGI). Mosher is currently the dean of the Jackson School of Geosciences at the University of Texas at Austin. Her research focuses on structural petrology and field-oriented structural geology.

Mosher is an exemplary scholar and a dedicated educator: her experience includes 38 years of field mapping experience and 34 years of teaching at both undergraduate- and graduate-levels. She has also served as President of the GSA, Chair of the Council of Scientific Society Presidents, and acted in leadership roles in the NSF Advisory Committee for Geosciences, the Texas State Board of Education, Earth Science Task Force, and the NSF Committee of Visitors for Deep Earth Processes Section. Her work has garnered her multiple awards including the GSA Distinguished Service Award in 2003 and the AWG Outstanding Educator Award in 1990. She is a GSA Fellow and an Honorary Fellow of the Geological Society of London.

Individually and together, the three women embody the spirit of excellence and stewardship that the Department of Geology strives to promote. Each credits their successes to the strong foundation they built at U of I and with the Department's continued record of excellence, it is likely we'll see more alums at the helms of these very significant organizations.

Fouke *(continued from page 1)*

Center's services and staff, during which time he established significant professional relationships with other academics across our campus. The most recent example is Fouke's participation in an interdisciplinary faculty team that has received a five-year, $8 million award to establish a NASA Astrobiology Institute (NAI) on the Illinois campus. The newly developed research program is formally based upon the work of Fouke's friend and colleague, the late Carl Woese, a U of I professor of microbiology, whose research indicated that the sustainable beginning of life on Earth may have been due in large part to a the collective sharing of genetic information between unique early cells.

The theory is remarkable, according to Fouke, in that it suggests that those early cells differ drastically in structure from modern-day cells and that they may have evolved quite rapidly, using the free sharing of genetic information to adapt to their harsh environment. Therein, the collective behavior of cells may have led to their survival and the development of life as we know it. As a result, instead of evolution being viewed as "survival of the fittest", success may be more accurately described as "survival of those who are fit best" as a result of collective and communal behavior.

The NAI team hopes to further investigate this theory by conducting controlled experiments that will examine the sharing of genetic information across cells, the development of the structures that control cell life, and the evolution of cells in extreme environments. The team is led by Nigel Goldenfeld, U of I physics professor, and includes 11 researchers from Illinois, two from Baylor University, and one from the University of California-Davis. Fouke's previous work on the microbial life of hot springs provides a foundational guide for the team's efforts to test their theory that early life evolved in thermal conditions.

Fouke will also be in charge of the project's educational component and public outreach, with the development of two new LAS On-Line courses, a massive open online course (MOOC), and a series of short science education "SciFlix" videos in coordination with middle and high schools throughout the country and in Europe. Additional components include a series of courses at the Illinois Osher Lifelong Learning Institute, and a program in which middle school students and their teachers are taken to study and observe firsthand the extreme microbial environments of Yellowstone National Park's Mammoth Hot Springs.

"This NASA grant creates an exceptional opportunity for re-evaluation of several fundamental aspects about the Origin of Life, as well as re-examination of the entire 4 billion-year history of Life on Earth through the new lens of Carl Woese's 'Tree of Life.'" Fouke explains. "Results will generate new ideas about what early Life and evolution looked like before the root of the Tree, the role of Darwinian evolution within the Tree, and use of the Tree to search for Life throughout the universe."

Two new faculty members for 2013-2104!

The department is excited to welcome Jessica Conroy and William Guenther in August, 2013. The department's infusion of new blood continues this year with TWO hires. Jessica Conroy will begin as an assistant professor. Willy Guenthner will begin as a research assistant professor and is slated to change to assistant professor in two years. We look forward to the contributions they will make to the department's instructional and research strengths.

Q&A with Jessica Conroy, Assistant Professor

Q. Can you give us a bit of your background? What degrees do you hold?

A. I grew up in rural western New York, and received my B.A. in Geology from the College of Wooster in Wooster, OH. In 2011 I received my Ph.D. from the Department of Geosciences at the University of Arizona in Tucson, AZ. Currently I am an NSF postdoctoral fellow in the School of Earth and Atmospheric Sciences at Georgia Tech in Atlanta, GA.

Q. What are your research interests? Can you describe any recent fieldwork you've done.

A. I am a paleoclimatologist by trade. My research focuses on reconstructing past climate and environmental change during the Holocene. To do this I explore biological and geochemical variability in lake sediment records. I also investigate stable water isotope geochemistry across the tropical Pacific. I have been lucky to study many important aspects of the Earth's climate system, such as El Niño and the Asian monsoon, in some exotic places: my field areas include the Galápagos, the Tibetan Plateau, and Kiribati. I'm also launching a new project in Papua New Guinea this coming April!

Q What drew you to the Illinois campus?

A. I'm very excited to begin my career at Illinois! I'm so impressed by the stellar science going on across campus, as well as the spirit of collaboration among the faculty. I'm also looking forward to teaching at a research institution that is so committed to undergraduate education.

Q&A with Willy Guenther

Q. Can you give us a bit of your background? What degrees do you hold?

A. I was born in Chicago and grew up in nearby Oak Park where I attended Oak Park and River Forest High School (same colors as the U of I!). I graduated from Carleton College in Northfield, MN with a B.A. in Geology in 2007, received my M.S. from the University of Arizona in 2009. I will receive my Ph.D. from the University of Arizona this summer.

Q. What are your research interests? Can you describe any recent fieldwork you've done?

A. My research focuses on understanding the kinetics of geochemical systems, and using these insights to describe the dates and rates of change in mountain belts. My recent research has combined laboratory experiments with field methods and modeling in an attempt to expand the utility of (U-Th)/He thermochronometry in the mineral zircon. Over the last several years I've used this and other thermochronometers to describe the geologic history of mountain ranges in central Utah and the Antarctic Peninsula.

Q. What drew you to the Illinois campus?

A. It starts with the high quality of research conducted at the University of Illinois. Both in terms of the material published by the faculty, but also the amazing facilities on campus that are readily available to someone with an interest in geochemistry. I was also struck during my visit by the strong commitment to teaching at the U of I, something that is refreshing to see at a tier 1 research institution. As someone who graduated from an undergraduate institution that placed a major emphasis on teaching, I value this aspect of a university's mission and look forward to contributing to this mission in the future. A final consideration is that I grew up in Illinois and the opportunity of joining the research faculty at my home state's land grant institution is something that greatly appealed to me.

Professor Kieffer steps down from teaching

Susan Kieffer became an Emeritus Professor this spring. After about ten years on the Illinois faculty, she decided to take retirement. Her research and teaching career, spanning over 40 years, has been eclectic, adventurous, and "impactful". And as you read below, you will see there's no sign she will slow down. We just hope we get a chance to see here once in a while!

Q. What are your plans for retirement?

Lots of science and travel to do it! Just in the first two months, I've had a Board of Science Education (of the National Research Council) meeting at Stanford, a meeting with two colleagues of the USGS in the D.C. area, a week with two former UIUC colleagues (Pinaki Chakraborty and Gustavo Gioia) on Okinawa, and a meeting with four other volcanologists on Whidbey Island. Why Whidbey? My husband and I have our retirement home there, along with two other volcanologists and two more in near-by Seattle. We're planning future work on some unique deposits on the flank of Kilauea. If these two months are typical, I'm just hoping that I can keep up the pace!

Q. What will you miss the most about your work as a U of I faculty member?

A. Interactions with people younger than myself--students and faculty alike. Such interactions, abundant in the university life, are much more difficult to generate outside of it.

Q. What advice to you have for incoming faculty members or for incoming professors in general?

A. Get to know your colleagues and all they have to offer, not only in the department but across campus. UIUC is rich in intellectual resources, so tap into them.

Generous alum recognized by campus

Roscoe G. Jackson II (M.S. '73, Ph.D. '75), received the LAS Quadrangle Award from the University of Illinois in recognition of his strong support of research and graduate students in the Department of Geology, as well as the School of Earth, Society, and Environment.

Jackson's generous contributions over the last several years have been focused on supporting the central figures in the research productivity of the department—our graduate students. The Department was able to purchase equipment that provides astonishingly clear images of bedforms and sedimentary processes in river and lake systems, due in large part to Jackson's funding. Most notable, perhaps, is the funding that has enabled graduate students to attend conferences, conduct field studies, and cover equipment costs as they work to complete their degree.

Stephanie Mager, current graduate student and last year's recipient of the Roscoe Jackson Award, received essential support for her field work and was able to travel to the 2012 annual meeting for the Geology Society of America.

"The funding provided the opportunity for me to attend the meeting, which I otherwise could not have afforded," says Mager, "Having field expenses such as gas, lodging, and food taken care of by this funding leaves grant money available for much more direct use, such as lab expenses, or sample prep. It is really nice to have this funding to cover small, but necessary, details so more focus can be put towards the more important aspects of our research.

Another graduate student, Ryanne Ardisana, used the funding to support her research expenses related to coral reef research on the island of Curaçao, where she collected essential coral samples to support her master's thesis work, studying the adaptive mechanisms of modern and ancient corals.

"The analysis of these vital samples will be the backbone of my M.S. project," says Ardisana.

Dr. Jackson is intensely interested in departmental activities, especially those related to fluvial sedimentology. "Roscoe hops into his truck and drives to Urbana from Kansas about twice each year, to see what's new in the department," says Department Head Tom Johnson. "He has developed strong ties to some of the students and researchers, and is particularly interested in making sure they have what they need to do excellent research. Many students have tapped into the funds, and this has been of great benefit to them and to the department as a whole."

Jackson, a 1970 University of Kansas graduate, earned a M.S. and a Ph.D. in geology at Illinois and was on the geology faculty at Northwestern University and the University of Michigan before returning to Kansas to work in the family oil-production business, Jackson Brothers, L.L.C.

Natural History Project Moves Forward

The Department of Geology offices have vacated the Natural History Building after 119 years, marking the first phase of a multi-year process that will, ultimately, lead to our return to a completely renovated building. During the next several months, the building will be prepared for the heavy construction, which will begin next June. The preparation phase includes removal and storage of some historic displays mounted on the walls, salvaging of historic woodwork and other items, and removal of asbestos. Faculty, staff, and student offices, and the petrographic microscopes lab are now in the Computing Applications Building, at the corner of Wright and Springfield, where they will remain until the NHB project is complete.

Classrooms and laboratories will remain active in NHB for a while longer, while space in other buildings is renovated to accommodate them. The NHB classrooms controlled by Geology will then be moved to converted space in Davenport Hall, the Mineral Physics Laboratory will be relocated to the basement of CAB, and the Geochemistry Laboratory will be moved to renovated space in Burrill Hall. The latter move includes relocating the multicollector ICP-MS, which weighs 3600 pounds, and is about 8 feet long. Plans for the renovation of the Burrill Hall spaces are complex, and involve installation of fume hoods, cooling water lines, and substantial electrical upgrades.

Department Head Tom Johnson says, "This past spring was a very busy time. Essentially the department had three simultaneous planning challenges: The move to CAB, the construction of temporary lab spaces, and the big one—the permanent design for NHB." The design phase of the NHB project was delayed for about a year, because the state's procurement board took issue with the contract between the university and the original architectural firm appointed to draw up plans. A new firm, LCM of Chicago, has been hired. "Some alumni and friends of the department were expecting to see final floor plans several months ago, but we had some unexpected delays," Johnson said.

Stephen Marshak, Director of SESE, who has played a central role in the planning, notes that, "All three SESE departments and the SESE business office will be housed in the renovated Natural History. Thus, planning must accommodate for laboratories, office space, and teaching space. The building will be completely gutted inside, but the hallways must remain roughly similar to their current configuration, because of the locations of support columns." Advanced laboratory infrastructure will be co-located in one part of the building, and the third floor vaulted space that once housed the Natural History Museum will become a student commons area. With all these constraints, coming up with the best design is like solving a 3-D puzzle. Marshak, a field geologist, has spent many hours developing "maps" of possible building configurations to illustrate SESE's needs to the architects.

If all goes well, completion is slated for summer, 2016, after which the Department of Geology will resume its proud position on the Quad!

Kay receives Alumni Achievement Award

Dr. Suzanne Mahlberg Kay receives the Department of Geology Alumni Achievement Award from Department Head Tom Johnson.

Suzanne Kay (B.S. '69, M.S. '72) was selected by faculty members to receive the 2012 Alumni Achievement Award, highlighting her work in petrology, geochemistry, and mineralogy. An award-winning educator, a tireless researcher, and a proven leader, Kay epitomizes the Department of Geology's core missions of research, education, and public engagement.

After obtaining her B.S. and M.S. in geology from the U of I, she went on to earn her Ph.D. in geological sciences from Brown University in Providence, Rhode Island. Kay was a postdoctoral fellow and assistant professor at the University of California at Los Angeles before arriving in 1976 at Cornell University, where she has remained for over thirty years and is currently the William and Katherine Snee Professor of Geological Sciences in their Department of Earth and Atmospheric Sciences. She has also been a visiting associate in petrology at the California Institute of Technology and Fulbright fellow at the University of Buenos Aires in Argentina.

Kay's research focuses specifically on the origin and evolution of the continental crust, the relation of regional tectonics to magmatic processes at convergent margins, the formation of the lower crust, the shape of subducting oceanic slabs, and the evolution of ore deposits. This work has implications for understanding volcanic eruptions and earthquakes. Most recently, Kay is the principal investigator from Cornell on a project funded by the National Science Foundation to deploy a passive seismic array on the Central Andean Puna plateau to test ideas of the removal and recycling of continental crust and lithosphere that have evolved from studies of magmatic rocks. Her other projects have included the study of tertiary to recent magmatic rocks; the transition regions between shallow and steep subduction zones; crustal and mantle evolution in Patagonia and the terrane-accretion history of central and southern South America; and the formation of the late Paleozoic-early Mesozoic Gondwana granite-rhyolite provinces.

As of July 1st, 2013 she is serving as president of the Geological Society of America (GSA); her service to GSA is three years in total, with one year each as Vice-President, President, and Past-President.

Dan Blake gets Gilbert Harris award

Professor Emeritus Daniel Blake was named the 2012 recipient of the Gilbert Harris Award by the Paleontological Research Institution (PRI). The Gilbert Harris Award is presented annually by PRI in recognition of a scientist who, through outstanding research and commitment to the centrality of systematics in paleontology, has made a significant contribution to the science. The award was presented at the fall, 2012 GSA meeting in Charlotte.

Some of you may have assumed that since Dr. Blake retired from teaching, he has also given up his research aspirations, but in reality, he has been as busy as ever. He is still a fixture in the department, at work almost every day in his office high up on the fourth floor. His vigorous research work continues, and his publication record has grown on par with many of the younger faculty members.

As a child growing up in Chicago, Blake cultivated a fascination with the natural world on fishing trips with his parents or while spending summers on his grandparent's farm in New York state. He pursued an undergraduate degree in Geology at the University of Illinois, after which he completed his graduate degree at Michigan State, where he studied echinoids. His dissertation at UC Berkeley. He returned to I to join the faculty at U., where he has been a researcher and educator for nearly fifty years and has mentored countless students as they pursued their degrees.

"Working with my graduate students was the most rewarding aspect; I know that might sound a little trite, but it is true," says Blake, "They enjoyed and most (a few, like me, are retired) continue to enjoy successful, productive careers, and that is a positive."

Dr. Blake's contributions to the field of systematic paleontology, particularly of stelleroid echinoderms and bryozoans, have been significant and far-reaching.

Blake has spent an extensive amount of time in the field, including several trips to Antartica, where he collected and studied fossils to determine the effect of climate change at the end of the Eocene epoch on marine ecology.

"My most memorable moments must be the field seasons in Antarctica, the Antarctic Peninsula with its splendid, desolate beauty, "says Blake, "There were penguins croaking outside the tent at 3 a.m.'"

Blake was also the editor of the *Journal of Paleontology*, one of the premier journals of paleosystematics, for a number of years. This was before email exchange was the typical practice, so he'd often have to work through a stack of mail every day and spend much of his time at his desk.

In regards to winning the prestigious award, Blake says, "A this point in my life, these become career rewards or markers that provide some answer to the inevitable questions such as 'what should I be doing at this point in life'? and 'is my own curiosity enough to keep doing this'? The awards brought to mind a paragraph on 'The Scientist,' by H.L. Mencken, this from the last sentence, 'His {i.e., of the scientist} prototype is not the liberator releasing slaves, the good Samaritan lifting up the fallen, but a dog sniffing tremendously at an infinite series of rat-holes.' I am curious about my fossils, but it was nice to have colleagues tell the old dog to keep sniffing."

Spring Break Field Course:
Classic Structures, Sediments, and Terrain in the Arid Southwest

Sleeping under the stars and in close proximity to scorpions and rattlesnakes isn't everyone's ideal version of Spring Break, but the students and faculty didn't bat an eye when it came to roughing it as they explored the geological structures of the American Southwest during this year's Geology 415/515 field course.

"The journey was intense, but also a lot of fun," says Professor Steve Marshak, who, along with Prof. Michael Stewart, Dr. Steve Hurst, and University of the Pacific Prof. Kurt Burmeister (Ph.D. '05), led thirty-three undergraduate and graduate students through a ten-day interdisciplinary exploration of the tectonic history of the North American Cordillera in Arizona, California, and Nevada. "Sometimes it felt like we were in the middle of nowhere, which was pretty neat, and we were able to see an amazingly diverse set of rocks, landscapes, and structures."

The trip, funded in part by a generous gift from Shell Oil Company, provides an opportunity to apply classroom concepts to the real world. After several weeks of lectures on campus, the group flew to Phoenix, rented SUVs and vans, and headed out into the Sonoran Desert, where they studied a combination of structural geology, sedimentology, and geomorphology amid the region's arid terrain. Highlights included the Basin and Range Province, the San Andreas fault, Joshua Tree National Park, and Death Valley. Along the way, the group pondered shear zones, alluvial fans, granites, and volcanoes.

The desert environment was certainly gorgeous but it presented its fair share of challenges.

"There were the usual logistical glitches such as four blown tires, and difficulty finding sources for drinking water," says Marshak, "But the geology was great, the students were really into the experience, and Michael Stewart was a gourmet chef who showed students how to create wonderful meals in the middle of the desert. The weather was fine too—most of us just slept under the open sky."

Top: Field camp students traverse the Ubahebe crater in Death Valley National Park
Bottom: University of the Pacific Prof. Kurt Burmeister (Ph.D. '05) lecturing in the Sonoran Desert

Field Camp Recognized for Excellence

The Wasatch-Uinta Field Camp Program has been named the 2013 recipient of the prestigious GSA/ExxonMobil Field Camp Excellence Award. The field camp is run by a consortium that includes the Department of Geology at Illinois and its instructors include Department professor Michael Stewart and Illinois alum Kurt Burmeister (Ph.D. '05).

The camp, based in Park City, Utah, has been thriving for many years as a six-week capstone course designed to prepare students for successful careers in the geosciences and provide hands-on learning experiences that are essential to the development of creative, effective scientists. Most of the field exercises are located in geologically diverse areas of the Wasatch and Uinta mountains of Utah, the San Rafael Swell of southeastern Utah, Grand Teton National Park in Wyoming, and the Carlin-type gold deposits of Nevada. The basic goals are the same ones that have served students so well for many decades: Students learn to collect their own field observations and measurements, compile detailed rock descriptions, measure stratigraphic sections, work to interpret their data and create geologic maps and cross sections.

The GSA/ ExxonMobil award annually recognizes field camps that excel in educational quality, diversity, and safety awareness. The award included a monetary prize of $10,000 that assisted with preparations for the summer field season.

Harold R. Wanless –

"AND GLADLY WOULD HE LEARN AND GLADLY TEACH", The Clerk's Tale, Chaucer

by Ralph L. Langenheim

Editor's Note: "Windows into the Past" is a regular feature of the Year in Review *contributed by Professor Emeritus Ralph L. Langenheim. Ralph's writing represents a long-serving faculty member's recollections and his perspectives of the Department's past.*

Left: Harold Wanless, USS Orcadea en route to Australia 1958

Above: l to r Harold, wife Grace, and son Hal

Harold R. Wanless holds the record for length and perhaps extent of service to the Department of Geology (1923 to 1970). He also supervised the most graduate and honors theses: 97 Master's, 27 Doctoral, and 7 honors.

Career and Scientific Contributions

Wanless was born December 5th, 1888 in Chicago, and spent his childhood and youth there. He entered Princeton University as a scholarship student, and completed his baccalaureate in 1920. Appointed to fellowship in the graduate school, he continued for a MA, 1921, and a doctorate in1923. Immediately thereafter, he joined the faculty of the University of Illinois Department of Geology where he remained for the rest of his life. At his death, on June 32, 1970, he had held the rank of Prof. Emeritus for 3 years. He remained active in research and publication to the very end. His last publication, 'Our Changing Shorelines' with Francis A. Shepard appeared in 1971. This work traces evolution of the United States' shoreline by comparing ancient charts and aerial photographs and is the last product of an association with Shepard that began when they were fellow junior faculty at Illinois. Their earliest work, Permocarboniferous Coal Series Related to Southern Hemisphere Glaciation, 1932, proposed that cyclical Pennsylvanian-age deposits, Cyclothems, resulted from cyclic rise and fall of sea level caused by waxing and waning of continental ice sheets. An opposing theory, widely accepted at the time, explained the phenomenon as caused by pulsating crustal movement. This mechanism now is referred to humorously as 'yo yo' 'tectonics.

Harold Wanless' forty-four year career at Illinois encompassed tremendous changes in geologic concepts and practices. When he began his professional career, field geology was a matter of plane table surveying and Brunton Compass traverses. Aerial photography, which had barely begun in 1923 became widely available in the 1930's and quickly became the dominant field mapping technique except for detailed maps of small areas. Wanless soon threw himself into efforts to establish their use in geologic mapping as well as in other branches of field science. He was instrumental in establishing a library collection of aerial photographs at Illinois and instituting instruction in their use. Several of his graduate students employed air photos in their mapping projects, one of which was a thesis study mapping well exposed anticlinal structures along the Colorado Font Range near Loveland, Colorado. This was published in 1946 when I was a graduate student at the University of Colorado and was well aware of the Loveland structures. We visited them for instructional purposes because they were obviously uncomplicated and near at hand. One of my professors reacted to publication of the Illinois thesis with raucous humor—he was not impressed with remapping 'sheepherder' anticlines and had failed to see the project as a demonstration of a dawning field mapping technique.

Later, near the end of his career, Wanless employed aerial photographs, along with navigational maps in studies of shoreline evolution. One of Wanless' doctoral students, Mohammed el Ashry, PhD, rose to fame in such studies. Wanless' last Honors student, Margaret Whaley (Leinen), 1969, also a participant in shoreline studies went on to prominence in Oceanographic circles. Wanless 'posthumous publication, 'Our Changing Shorelines', sums up his work on shoreline evolution.

Field Work in the Region: The "Wanless Chain" of Hotels

When Wanless began fieldwork on Illinois, studying Pennsylvanian rocks in Central Illinois and operating a field geology course based at Marion, Kentucky. Later his efforts expanded throughout Illinois and environs. Geologists and everybody else working off the main lines of travel, had to sleep and eat in small town hotels and restaurants. In 1928, when Wanless began his field career in Illinois, motels were non-existent, fast food joints catering to highway traffic had yet to be invented, and country hotels and restaurants were the only facilities available. Harold, however, pretty much continued to patronize them until his retirement; long after they had lost their glory, such as it was. As generations of youthful Illinois geologists passed through these establishments, many memorable moments were had. As time passed, tales of experiences in the 'Wanless Chain' of hotels and restaurants became a major part of departmental lore.The Crittenden Hotel Operated by Mrs. Effie Dadd at Marion Kentucky served as headquarters for Wanless' spring break field course. Women students were segregated on the first floor; the site of the only public bathroom. The males occupied the second floor and a room was devoted to a reference collection of local

rocks and fossils, Meals were taken at a restaurant around the corner on the courthouse square. The county, as in almost all of the rural Midwest was 'dry;' no beer! Presumably 'moonshine' was available; in fact, part of student indoctrination had to do with heeding local farmers who might tell you that you didn't want to hike up certain valleys which presumably lodged bootleg stills. Evening entertainment when I served as Wanless' assistant in the early 1960's consisted of sitting in on Effie and her overall-clad boyfriend's card game, 'Wahoo.' This took place before the lobby TV; generally tuned in to the wrestling show out of Paducah.

The Rose Hotel, across the Ohio River at Elizabethtown, Illinois, housed Wanless' fall semester Geology of the Upper Mississippi Valley on its more or less annual visits to the fluorspar district. The Rose is a beautiful two-story hotel standing atop a rocky twenty-foot bank of the Ohio River. At the time, it had been in continuous operation, presumably by the same family, since 1815. It has since been taken over by the State of Illinois as an historical site, but still operates as a bed and breakfast inn (see http://www.therosehotelbb.com for recent images; also see wikipedia). A pergola sits in front of the main building, and a graveyard, purportedly holding bodies of slaves along with those of the family, occupied the rear of the lot. There is a two-story veranda and an outside staircase to the second floor, which contains the sleeping rooms. The first floor contained a lobby backed by a kitchen-dining area and lodging for the owner. At the time of my remembered stay at the hotel, it was presided over by an elderly white woman, assisted by an equally elderly black woman. Wanless had known them for years and they soon were ensconced in the kitchen reminiscing over old times while the students and I, a small group, amused ourselves as best we could in the lobby. Perhaps the most amusing incident that evening was overhearing the quavering voice of the proprietress asking, "What ever became of Little Marvin Weller?" Of course, we knew Marvin Weller as a senior professor at Chicago and an acclaimed Middle Western geologist! She knew him as the young son of Stuart Weller (1870-1927), an active field geologist studying the fluorspar district for the Illinois State Geological Survey (see http://www.isgs.illinois.edu/about-isgs/heritage/wellers.shtml for more). The hotel's register, incidentally, contained signatures of many other geological notables, as well as other famous folks. The Rose essentially was the only hotel in the area.

Grand Tower is a small village huddled below a big levee opposite a rocky Paleozoic limestone island in the Mississippi River, not far above Cape Girardeau (Home town of Rush Limbaugh). It attracts geologists because one can see of the offset of the Ste. Genevieve Fault as its trace crosses the River. It is also popular as the site of Ma Hale's, an economical "all you can eat" restaurant specializing in bountiful helpings of fried chicken—or at least that was the case when Wanless was active in the area. He always tried to schedule his visits to arrive at Grand Tower at the dinner hour. When I succeeded Wanless as instructor of the regional field trip course, I did likewise and always managed to spend the evening after dinner at Al and Sally's, a bar snuggled under the levee. The bar is the usual 'pub' characteristic of rural Illinois. The most memorable incident that I recall involved a female member of our field party who returned from a trip to the bathroom barely able to control her giggles. It turned out that when she went to the 'ladies' it was closed with a sign on the door directing customers to the 'men's'- the plumbing was out of order. It turned out that only the urinal was operable in the men's room. A couple of beer cases had been stacked in front and another sign invited the women to use the facility!

There are many other stories; one, which may be apocryphal, of a hotel that had become a very active house of prostitution—according to the story, Wanless complained about the noise in the halls after the field trip party had left. On another occasion, I can remember driving up and down many streets in Gary, Indiana, seeking his regular hotel, only to find that it had burned down. Another memorable occasion involved the waitress in a small hotel advising us to not order the soup, inferring that it had been sitting around unrefrigerated for too long. The hotel happened to be located in Montezuma, Indiana.

The Hotel in Canton Illinois is probably the most famous of the "Wanless chain." It was his base of operations during mapping of the Beardstown, Glasford, Havana, and Vermont Quadrangles, ultimately published in 1957, in Illinois State Geological Survey Bulletin 52. Later he continued staying at the hotel as he visited the area annually with his field trip course, Geology of the Upper Mississippi Valley. I well remember the place and the crowd of local folks assembled to greet their old friend. On a particularly memorable visit, we followed Wanless from the back door through the hallway towards the lobby as he was greeted by his old friends. An elderly woman's voice shouted, proclaiming, "Here he is now!" It was a group of local people he had known over the years during his working and teaching in the area who had gathered to greet him and share supper. After being briefly introduced, the students and I repaired to the bar around the corner for our dinner and a beer or two. Later that night we were awakened by shouts and sounds of combat rising from the backyard of the bar, which adjoined the hotel parking lot. A mass fistfight had erupted in the bar. After the police came and quelled the mini-riot we got a good night's sleep.

An account of Wanless' leading Illinois field Geology Students to Michigan's Camp Davis in Western Wyoming and his establishment of the first Illinois Summer Geology Field Camp at Fort Lewis Colorado will be included in subsequent articles on Wanless' career. Material for this article, including the photographs, has been gathered from the University of Illinois Archives. In addition, accounts have been drawn from my memories of accompanying Wanless on many field excursions during our eleven-year joint tenure in the Department between 1959 and 1970.

We enjoyed having the chance to visit with our alumni at the 2012 GSA Annual Meeting on November 5th at the Charlotte Convention Center in Charlotte, North Carolina, and the 2013 AAPG Annual Convention on May 20th at the David L. Lawrence Convention Center in Pittsburg, Pennsylvania. Please be sure to join us for our alumni receptions at the 2013 GSA Annual meeting in Denver, Colorado on October 28th and at the 2014 AAPG Annual Convention on April 7th in Houston, Texas.

During a recent trip to Texas, Professor Steve Marshak was thrilled to get to visit with a group of alumni who are currently employed at Shell, including: **Jeff Fritz (M.S. '81), Chris Griffith (B.S. '75), Jessica Palmer (M.S. '10), Philip Miller (B.S. '08, M.S. '11), Sam Dwyer (B.S. '09, M.S. '11), Michael Fortwengler (M.S. '02), Kelly Hutchings (B.S. '04, M.S. '06), Tom Schickel (M.S. '06), and Chris Hedlund (B.S. '90).** Marshak also visited individually with **Bill Soderman (M.S. '60, Ph.D. '62), Glenn Buckley (Ph.D. '73)** and **Susan Buckley (M.S. '72, Ph.D. '75), Patricia Santogrossi (B.S. '74, M.S. '77), Jack Threet (B.S. '51), Susan Collins (B.S. '83),** and **Stuart Grossman (M.S. '52, M.S. '53).**

2010s

Adam Angel (B.S. '11) is a doctoral student at Virginia Tech, working in the research group of Professor Patricia Dove.

Daniel Beach (B.S. '12) reports that he is currently mud logging in West Texas, working 12-hour shifts. With a year of experience, he is looking to move up to a better position, perhaps offshore, and is also thinking about grad school in the near future.

Charles Bopp (Ph.D. '11) has joined the rather large group of Illinois grads at Shell in Houston.

Alex Bryck (M.S. '13) is attending University of California, Berkeley for his Ph.D., working in the research group of Professor Bill Dietrich, one of the top geomorphologists in the world.

Ted Flynn (Ph.D. '11) is a post-doc at Argonne National Laboratory.

Ashley Howell (B.S. '11) is working hard to finish her M.S. in sedimentology at Louisiana State University and has accepted a position as a geologist at ExxonMobil, and will start there in October. She also won an award for her entry in the LSU Geology-Geophysics Student Poster Competition and received a Devon Scholarship from Devon Energy.

Mauricio Perillo (Ph.D. '13) is now a post-doc at university of Texas at Austin.

2000s

Kurt Burmeister (Ph.D. '05) is Associate Professor of Geology at the University of the Pacific in Stockton, CA. We see Kurt quite often, as he is currently director of the Wasatch-Uinta summer field camp**.**

Scott Clark (Ph.D. '07) doing well as an assistant professor at University of Wisconsin at Eau Claire.
Fang Huang (Ph.D. '07) is Professor of School of Earth and Space Sciences, at the University of Science and Technology of China (USTC). He has been very busy and very successful at USTC. A few months ago, he received a prestigious award, the "National Science Fund for Distinguished Young Scholars" from the National Science Foundation of China. This award is for the best Chinese scientists younger than 45 years old. Each year the NSFC receives more than 2500 applications from all over the country, but only 200 applications will be approved. He has a new mass spectrometer on order for his lab; it will be installed quite soon.

Andre Ellis (Ph.D. '03) has been promoted to associate professor with tenure at Cal State Los Angeles! He and **Yoshie Hagiwara (M.S. '00)** have two of the cutest kids on earth. Yoshie teaches part-time at CSLA.

Alex Glass (Ph.D. '06) is enjoying his position as an instructor at Duke University

Mike Kandianis (M.S. '07) completed his Ph.D. at MIT and has joined the crowd of Illinois people at Shell in Houston.

Matt Kirk (M.S. '04) has taken a faculty appointment as an assistant professor at Kansas State University in their Department of Geology in Manhattan, Kansas.

Scott Lepley (B.S. '02) and **Vineeth Madhavan (M.S. '09)** and are both at BP in Houston. We see them each fall as they come to recruit in the department each.

Joannah Metz (B.S. '04) is also part of the Illinois Crowd at Shell in Houston.

Tom Schickel (M.S. '06) is still with Shell, but has moved to Pittsburgh to work on shale gas production in the PA/OH region.

Matthew Wander (M.S. '01) received a Ph.D. from SUNY Stony Brook and is now a post-doc at Drexel University in Philadelphia.

Aubrey Zerkle (B.S. '99, M.S. '01) is a lecturer at the University of St. Andrews in Scotland. She earned her Ph.D. several years ago at the University of Maryland doing cutting edge sulfur isotope work in the lab of Professor James Farquhar.

1990s

Dr. Hannes Leetaru (Ph.D. '97) was awarded the A.I. Levorsen Memorial Award by the Eastern Section of the American Association of Petroleum Geologists (AAPG). The award recognizes the best paper presented at each AAPG Section meeting, with particular emphasis on creative thinking toward new ideas in exploration. Hannes works full time at the Illinois State Geological Survey, but also teaches the Department's petroleum geology course, with the latest offering this spring enrolling 23 students.

Tim Paulsen (Ph.D. '97) has been named the Edward M. Penson Endowed Professor at the University of Wisconsin, Oshkosh. He and **Christie Demosthenous (MS '96)** have a daughter, Ellie, who is "talking up a storm."

Judd Tudor (B.S. '97, M.S. '00) and his wife Holly live in Midland, Texas with their son Castor. He is the manager of the Schlumberger Midland Data Services Group, and oversees a team of geologists and engineers that interpret wireline logs for oil and gas wells. He and his family love living in Midland, but he has fond memories of grad school days at UIUC

1980s

Sylvia Maria Couto dos Anjos (M.S. '84, Ph.D. '87) is the General Manager of Geology of Petrobas, the largest multinational energy corporation in South America, and is currently organizing the XV International Clay Conference, which will be held in Rio de Janeiro in July 7-11, 2013.

Michael L. Sweet (M.S. '83) has been elected to a three-year term as editor of the Bulletin of the American Association of Petroleum Geologists. **Steve Laubach (M.S. '83, Ph.D. '86)** recently completed his three-year term as editor.

1970s

William I. Ausich (B.S. '74) retired from his position as Professor of Earth Sciences and Director of the Orton Geological Museum at The Ohio State University in June. He retired after teaching at Ohio universities for 35 years – 6 at Wright State University and 29 at The Ohio State University. Bill is a paleontologist specializing in the paleoecology, systematics, and phylogeny of echinoderms – especially Paleozoic crinoids. Prior to announcing retirement, Bill was named an Ohio State University Distinguished Scholar.

Frank Ettensohn (Ph.D. '79), Professor of Geology at University of Kentucky, has received a prestigious Jefferson Fellowship to work at the U.S. State Department in Washington D.C.

Patricia Santogrossi (B.S. '74, M.S. '77) earned the distinguished Service Award from the Houston Geological Society for her service as editor of the *Houston Geological Society Bulletin.*

Nahum Schneidermann (Ph.D. '72) is the AAPG - Africa Region's first president, and was honored by the World Petroleum Council (WPC) at their 20th World Petroleum Congress in Doha, Qatar. Dr Schneiderman was given the WPC Outstanding Achievement Award in recognition of his many years of service to the petroleum industry.

Larry Wu (M.S. '79) lives in Indianapolis and combines his backgrounds in geology, chemistry, and law in his work for the Indiana Department of Environmental Management.

1960s

John Hawley (Ph.D. '62) reports from Santa Fe that he is "busier than ever with my consulting work." He continues to run Hawley Geomatters, with various hydrologic projects in the New Mexico region.

Bill Soderman (M.S. '60, Ph.D. '62) a longtime benefactor of the Department and a former recipient of the U of I Quadrangle award for his support, is currently recovering from severe injuries incurred in a car accident. He hopes to get back to enjoying the dream home he and his wife built near Houston and appreciates the well wishes from faculty and staff and the Department.

John B. Tubb,Jr (Ph.D. '63) received the Gerald A. Cooley Award, the highest honor given by the Houston Geological Society, for long-term and dedicated service including President, Treasurer, and member of its Board of Directors, amongst other contributions.

1950s

Al Broun (B.S. '55) was honored by AAPG with the public service award at the Pittsburgh convention. He's being honored for his detailed investigative volunteer work in the study of the groundwater systems of the Cretaceous of central Texas. His work has been published as an Atlas and is being used by the various water districts and communities in central Texas.

Bob Fox (M.S. '53) was recently honored with a Pioneer Award by AAPG at the Annual Meeting in Pittsburgh. Bob had a varied and exciting career as a leading international exploration geologist, and was involved with opening major plays in Libya and the North Sea.

Send us your personal and professional updates by e-mailing us at geology@illinois.edu or by regular mail to:

Department of Geology
University of Illinois at Urbana-Champaign
156 Computing Applications Building, MC-235
605 E. Springfield Avenue
Champaign, IL 61820

Please include degree(s) earned and year, along with your current affiliation.

In Memorium

Richard L. Threet
November 17, 1924 - December 5, 2012

The geology world lost a preeminent scholar and teacher on December 5, 2012, when Richard Threet (BS xx, MS '49) passed away peacefully at his home in Anacortes, Washington.

Threet was a three-time graduate of the University of Illinois, obtaining first a bachelor's degree in chemistry in 1944 and then returning to complete both his undergraduate and graduate degrees in geology after a two-year stint serving as an interpreter in World War II. After receiving his Ph.D. in structural geology and geomorphology from the University of Washington, Threet taught went on to teach at both the University of Nebraska and the University of Utah. In 1961, he joined the faculty at San Diego State University, where he eventually became Head of the Department of Geology.

Threet taught structural geology and, geomorphology, as well as engineering geology, hydrogeology and photogeology at SDSU. His strict grading policies were as well known among his students as his love for fieldwork, and many graduate students benefitted from his dedication to teaching both inside and out of the classroom. He was annually involved in SDSU's summer field trips, one of which, in 1980, was marked by the volcanic unrest in the Long Valley Caldera near Mammoth Lakes, Californiaeruption of Mount Saint Helens.; Threet and his students were camped on the edge of the caldera and witnessed there to directly experience the strong earthquake swarm that, includinged four Richter magnitude 6 earthquakes, that kicked off a new phase of activity and raised alarms of impending eruptions. struck the southern margin of Long Valley Caldera.

Threet was married to his childhood sweetheart, Dorrie Stevens Threet, for sixty-six years. Following his retirement from SDSU, the pair settled in Anacortes where they were able to build their dream home in the Pacific Northwest woods and enjoy sailing the waters of Puget Sound. Threet continued to teach part time at Western Washington State University in Bellingham while pursuing his interests in gardening and designing and building sundials.

He is survived by his wife and his daughters: Patty Unger and her husband Bob of San Diego, CA and Nancy Carlson and her husband John of Anacortes, and by his son Bob and his wife Margie of Santee, CA; eight grandchildren; his brothers: Jack C. Threet (BS '51) and his wife Katy of Houston, TX and James K. Threet and his wife Doris of Savoy, IL, and his sister Sue Petrea and her husband Buddy of Salisbury, NC; also, by many nieces, nephews and other relatives.

Allen F. Agnew (BS '40) died on September 12, 2012, at the age of 94. Allen worked for the for the U.S. Geological Survey in various capacities and was particularly known for his relentless work with the Colorado Geological Survey. Later, he was also a professor of geology at the University of South Dakota, the director of water resources research centers at Indiana University and at Washington State University.

Jeannine Balsamo (B.S. '83) died on July 3, 2012, at the age of 50. Professionally, she worked as a real estate asset manager at Denver Public Schools, served as the vice president at Equitable Investments, and directed the redevelopment of Stapleton Airport in Denver. She was also an avid world traveler, climbing the summit of Mt. Kilimanjaro and even carrying the Olympic torch in Denver in her efforts to raise cancer awareness.

William G. Dady (B.S. '45) died on February 24, 2013, at the age of 91. He was highly respected and much sought after consulting geologist, oil-gas-mining exploration specialist, and petroleum engineer in Nebraska, Montana, Wyoming, Idaho, Washington, Colorado, Arizona, and Oregon.

Charles J. Hoke (B.S. '37) died on December 30, 2012, at the age of 97. One of the first employees at Murphy Oil Corporation, he eventually rose in the ranks to become the company's executive vice president. He was a member of the American Association of Petroleum Geologists, the Geological Society of America, and the American Petroleum Institute.

Lois Huse, nee Lois Titus, (B.S. '46) died on November 25, 2012, at the age of 89. After receiving her undergraduate degree in geology, she and her husband moved to New York, where she was a homemaker and the proud mother of three sons.

Virgil John Kennedy (B.S. '47, M.S. '48) died on March 22, 2013, at the age of 87. Virgil spent his professional career with Shell Oil Company and retired after 38 successful years to enjoy traveling and golfing with his wife.

Marvin Meyer (B.S. '40) died on December 25, 2012, at the age of 94. He worked at the U.S. Corps of Engineers-Waterways Experiment Station as a soil tests engineer and was a frequently published researcher.

Robert S. Roth (Ph. D. '51) died on July 16, 2012, at the age of 85. He worked at the National Bureau of Standards as a supervisory research chemist. From 1991 until his death, he served as Scientist Emeritus, NIST Ceramics Division as well as a consultant to the Structure Determination Methods Group, American Ceramic Society. His publications include over 200 technical papers in the fields of x-ray crystallography, crystal chemistry, and phase equilibria of ceramic materials. He was a fellow of the American Currency Member of Mineralogical Society of America, the Geological Society of America, the American Crystallographic Association, the Washington Academy of Sciences, and the Mineral Society of Great Britain and Ireland.

Edwin W. Tooker (Ph.D. '52) died on February 26, 2013, at the age of 89. He spent forty years with the U.S. Geological Survey, researching and mapping the economic and precious metal deposits of the western U.S. He also served in executive positions in Washington D.C. as well as Menlo Park, received the Department of the Interior Gold Medal for distinguished service, and retired as Scientist Emeritus in 1992.

Adolph W. Walter (B.S. '43) died on July 7, 2012, at the age of 89. He was a sergeant in the U.S army and trained at the Anti-aircraft Artillery School in North Carolina after completing his degree in geology. He later joined his father in operating their family hardware store and also served as president of the Advertising KFC Co-Op.

No further information is available for the following people:

Carl G. Davis (B.S. '59)
Raymond McAllister (M.S. '51)
James F. McDivitt (M.S. '51, Ph.D. '54)
Elliott A. Riggs (M.S. '61, Ph.D. '62)
James E. Winkleman (B.S. '53)

Around the Department

The 2013 **Annual Research Review** was held at the Illini Union on March 1, highlighting research posters from all three departments in the School of Earth, Society and the Environment. This symposium provides students, faculty, and staff with an opportunity to showcase new research ideas in a casual and open environment. The Department of Geology awarded Xiangli Wang first place for his poster, "Uranium as a Paleo-redox Proxy: A Case Study of Sediments from Cariaco Basin, Venezuela" Gideon Bartov's poster "Mercury isotope ratios in fish, sediment, and water as tools for detecting chemical transformations in East Fork Poplar Creek, Tennessee" earned second place, while Ryanne Ardisana took third place with her poster, "Dynamics of coral-zooxanthellae symbiosis: adaptive response to environmental change."

Steve Altaner is now the new Associate Head of Geology due to the retirement of Chu-Yung Chen, who was the previous Associate Head for many years.

Jay Bass was invited to serve on the Scientific Advisory Committee (SAC) for the National Synchrotron Light Source II (NSLS_II), which is under construction at Brookhaven National Laboratory, NY. The NSLS-II will be the newest synchrotron in the US, with a number of unique capabilities. The SAC is the main advisory body to the NSLS management on scientific priorities for the facility, and on beamline construction. The NSLS-II is scheduled to open in October, 2014. Bass will serve a 3-year term on the SAC, to May 2016.

Jim Best conducted fieldwork in Argentina, Paraguay, Columbia, Labrador, and Ireland. He also co-convened 'Advances in Field and Laboratory Measurement Methodologies for Quantifying Geophysical Flows' at the annual meeting of the American Geophysical Union (AGU). Additional, he co-authored the paper "Bed morphology, flow structure, and sediment transport at the outlet of Lake Huron and in the upper St. Clair River," which won the 2012 International Association of Great Lakes Research Chandler-Misener Award.

Bruce Fouke was named the recipient of the LAS Dean's Award for Excellence in Undergraduate Teaching on the Illinois campus.

Eileen Herrstrom completed the Making the Virtual Classroom a Reality faculty development program and received a Master of Online Teaching certificate through the Illinois Online Network.

Tom Johnson served on the advisory board for an NSF-sponsored workshop on the Biogeochemistry of the Great Lakes, and also gave an invited talk, "Micronutrient Dynamics in Lakes and Their Investigation Using New Isotopic Tools," at the workshop.

Gary Parker and his colleagues Kory Konsoer and Jessica Zinger submitted a paper to the Journal of Geophysical Research-Earth Surface paper, entitled "Bankfull Hydraulic Geometry of Submarine Channels Created by Turbidity Currents: Relations between Bankfull Channel Characteristics and Formative Flow Discharge" that was selected for the AGU "Research Spotlight."

George Devries Klein is the recipient of the 2013 Houston Geological Society' Geological Legends Award' for his contributions to sedimentology and its application to the petroleum industry. The Award was presented on January 14, 2013 at the Houston Geological Society's annual fund raising dinner for its scholarship funds. The Houston Geological Society is the largest local geological society in the world.

Jonathan Tomkin received the Academic Professional Award from LAS to recognize his efforts in advising and curriculum development in online education

Graduate student **Jin Zhang,** working with advisor Jay Bass, discovered a new, previously unknown phase of the mineral orthoenstatite, which is presumably the second most abundant phase in Earth's upper mantle. The crystal structure of this phase was determined at the Advanced Photon Source synchrotron at Argonne National Lab. The results were published in American Mineralogist with co-authors Przemek Dera (Adjunct Professor in Geology) and Jay Bass.

Faculty

Stephen Altaner (Associate Professor)
Alison Anders (Assistant Professor)
Jay Bass (Ralph E. Grim Professor of Geology)
Jim Best (Threet Professor)
Jessica Conroy (Assistant Professor)
Bruce Fouke (Professor)
Tom Johnson (Associate Professor and Head)
Susan Kieffer (Walgreen Professor)
Lijun Liu (Assistant Professor)
Craig Lundstrom (Associate Professor)
Steve Marshak (Professor & Director of the School of Earth, Society & Environment)
Gary Parker (Johnson Professor)
Xiaodong Song (Professor)

Affiliate Faculty

Stanley Ambrose (Professor, Anthropology)
Kenneth T. Christensen (Kritzer Faculty Scholar & Associate Professor, Mechanical Science and Engineering)
Marcelo Garcia (Seiss Professor, Civil and Environmental Engineering)
Feng Sheng Hu (Professor; Plant Biology)
Scott Olson (Associate Professor, Civil and Environmental Engineering)
Surangi Punyasena (Assistant Professor, Plant Biology)
Bruce Rhoads (Head Department of Geography)
Charles J. Werth (Professor, Civil and Environmental Engineering)

Research Staff

Willy Guenthner (Research Assistant Professor)
Stephen Hurst, (Research Programmer)
Rob Sanford (Senior Research Scientist)
Michael Stewart (Lecturer)
Jonathan Tomkin (Research Assistant Professor & Associate Director, School of Earth, Society, and Environment)

Office Staff

Marilyn Whalen (Assistant to the Head)
Lana Holben (Office Support Specialist)

Library Staff

Tina Chrzastowski (Geology Librarian)

Adjunct Faculty

Ercan Alp
Kurtis Burmeister
Brandon Curry
Przemyslaw Dera
Robert Finley
Leon Follmer
Dennis Kolata
Hannes Leetaru
Thomas Phillips
George S. Roadcap
William Shilts
Wolfgang Sturhahn
Scott M. Wilkerson

Graduate Students

Ryanne Ardisana
Elizabeth Armstrong
Abigail Asangba
Gideon Bartov
Anirban Basu
Curt Blakley
Alex Bryk
Ron Cash
Stefanie Domrois
Brooke Eickhoff
Ye Feng
Norbert Gajos
Johanna Gemperline
Theodore Grimm
Armando Hermsoillo
Jessica Hinton
Jing (Johnny) Jin
Kelsey Kehoe
Tiffany Leonard
Jiangtao Li
Stephanie Mager
Conor Neal
Eric W. Prokocki
Mary Seid
Pragnyadipta Sen
Sam Slaven
Xiangli Wang
Katelyn Zatwarnicki
Guimiao Zhang
Jin Zhang

Emeritus Faculty

Thomas F. Anderson
Craig Bethke
Daniel B. Blake
Albert V. Carozzi
Chu-Yung Chen
Wang-Ping Chen
Donald L. Graf
Albert T. Hsui
Susan Kieffer
George D. Klein
Ralph Langenheim
John C. Mann
Alberto Nieto
Lois M. Pausch
Philip Sandberg

Colloquium Speakers for Fall 2012 and Spring 2013

Fall 2012

September 14
The R. James Kirkpatrick Lecture in Geology
Mark Harrison, UCLA
"Hadean (4.4-4.0 Ga) Plate Boundary Interactions"

September 21
Craig Lundstrom, Univ. of Illinois, Dept. of Geology
"The Process of Making Felsic Crust with Hydrous Low Temperature Melts: Should We Love It or Fear It?"

September 28
The Richard L. Hay Lecture in Geology
Adam Simon, Univ. of Michigan
"Assessing the Role of Sulfides and Aqueous Fluid on Metal Mobility in Magmatic-Hydrothermal Systems"

October 5
Mike Russell, NASA Jet Propulsion Laboratory
"Serpentinization and Beating the Acetyl Coenzyme: A Pathway to the Origin of Life"

October 12
The Buckley Lecture in Environmental Geology
Sridhar Anandakrishnan, Penn State
"Slip Slidin' Away: Glaciers and Ice Sheets in a Warming Climate"

October 19
Department of Geology Alumni Achievement Award Presentation
Suzanne Mahlburg Kay, Cornell University, 2012 Alumni Achievement Award Winner
"Magmatic and Seismic Constraints for Destruction of the Central Andean Crust by Delamination and Forearc Subduction Erosion"

October 26
Laura Wasylenki, Indiana University
"Metal Isotope Fractionation During Adsorption to Oxide Minerals: Patterns, Predictions, and Puzzles"

November 2
Jonathan Tomkin, Univ. of Illinois, Department of Geology and School of Earth, Society and Environment
"Massive Online Education – How It Works and What It Means for Universities in the (near) Future"

November 9
Ken Nealson, University of Southern California
"Microbial Adventures and Challenges: Extracellular Electron Transport, Life at pH 12, and New Approaches to Imaging Microbes on Rocks"

November 30
Center for Nanoscale Control of Geologic CO2 Distinguished Lecture
Ian Bourg, Lawrence Berkeley National Laboratory
"The Nanoscience of Geologic CO2 Sequestration"

Spring 2013

January 25
Carl Woese Memorial Lecture, sponsored by the Department of Microbiology and the Institute of Genomic Biology
Norman Pace, University of Colorado
"Following Carl Woese into the Natural Microbial World"

February 1
Max Boyanov, Argonne National Lab
"Understanding Contaminant and Iron Biogeochemistry: The X-ray Advantage"

February 8
Rajveer Singh, Univ. of Illinois, Civil and Environmental Engineering
"The GeoBioCell: A Window into Lifestyles of the Deep Subsurface Microbial Biosphere"

February 15
John Weber, Grand Valley State University
"Trinidad and Tobago Tectonics, Neotectonics, and Landscape Evolution"

February 22
The Buckley Lecture in Environmental Geology
John Peters, Univ. of Montana
"An Alternative Path for the Evolution of Biological Nitrogen Fixation"

February 27
2013 Ralph O. Simmons Distinguished Lecture, Univ. of Illinois, Department of Physics
David Kohlstedt, Univ. of Minnesota
"Shearing Melt out of the Earth: The Coupling Between Rock Deformation and Melt Transport"

February 28
2013 AAPG Distinguished Lecture Series, hosted by the Illinois State Geological Survey
Ron Blakey, Northern Arizona University
"Using Paleogeographic Maps to Portray Phanerozoic Geologic and Paleotectonic History of Western North America"

March 8
The Richard and Jack Threet Lecture in Sedimentary Geology
Joe Mcquaker, Memorial University, Newfoundland, Canada
"Are Shales Really That Dull? Shining Light into Dark Places and the Effects of Opening Pandora's Box"

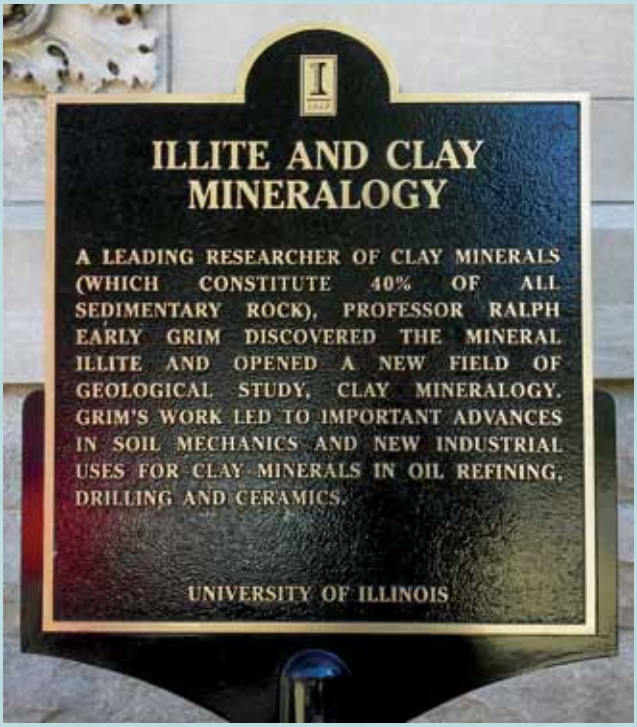
March 29
The Lundstrom Research Group
"GigaPan: Chile and Arizona in High Resolution"

April 5
The Ralph E. Grim Lecture in Sedimentary Geology
Doug Edmonds, Univ. of Indiana
"A Sedimentological Perspective on River Delta Restoration"

April 12
The R. James Kirkpatrick Lecture in Geology
Kelsey Druken, Carnegie Institute, Washington
"Subduction-disfigured mantle plumes: Plumes that are not plumes?"

April 19
Alyssa Shiel, Postdoctoral researcher, Univ. of Illinois, Deptartment of Geology
"Non-Traditional Stable Isotope Systems to Trace Metals in the Environment"

April 26
Department of Geology Award Ceremony



The new historic marker commemorating Professor Ralph Grim and his pioneering work in the scientific discipline of clay mineralogy and its application to geology, soil science, civil engineering, and mineral resources. Grim was a faculty member in the Department from 1948 to 1967 and is considered the "founding father" of clay mineralogy. The plaque is located on the west side of the Natural History Building.

Publications

Altaner, S. Physical Resources: Water, Pollution, and Mineral. In Theis, T. and Tomkin, J. (Eds.), *Sustainability: A Comprehensive Foundation*. http://cnx.org/content/m41523/latest/?collection=col11325/latest

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Blois, G., Christensen, K.T., Best, J.L., Elliott, G., Austin, J., Dutton, C., Bragg, M., Garcia, M.H., Fouke, B.W. A versatile refractive-index-matched flow facility for studies of complex flow systems across scientific disciplines. *50th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition, AIAA,* 2012-0736

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Zhang, J.S., Dera, P., Bass, J.D. A new high-pressure phase transition in natural Fe-bearing othoenstatite. *American Mineralogist,* 97.7, 1070-1074.

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Degrees Conferred in 2012-13

Bachelor of Science Degrees

August 2012
Stacy Dwyer
Serena Gountanis
Trever Hines
Stephen Picek
Michael Walsworth
Jacob Wikle

December 2012
Shatosha Maddix

May 2013
Rebecca Alberts
Alexander Fleshman
Hayden Passarelli

Master of Science Degrees

August 2012

Xiaoxiao Li, *"Variations in δ56Fe During Magma Differentiation at Cedar Butte Volcano: Signatures of Thermal Diffusion?"*
Liqin Sang, *"Brillouin Studies of Diopside and H2O"*
Zheng Tang, *" Tomographic Inversion of Pn Travel Times in Western China"*

May 2013

Brooke Eickhoff, *"Relative Timing of Dolomitization and Silica Cementation in the Cambrian Potosi and Eminence Dolomites, Illinois Basin, USA"*
Ye Feng, *"Teleseismic tomography beneath Hi-CLIMB station array in western Tibetan Plateau"*
Samuel Slaven, *"Monitoring Tracer Stones through the Potholes of Fall Creek Gorge near Williamsport, Indiana"*
Guimiao Zhang, *"The Elastic Properties of Fine-Grained Polycrystalline and Amorphous Samples by Brillouin Scattering"*

Doctor of Philosophy Degrees

May 2013

Anirban Basu, *"Isotopic Fractionation of Chromium and Uranium During Abiotic and Microbial Cr(VI) Reduction and Microbial U(VI) Reduction"*
Mauricio Perillo, *"Flow, Sediment Transport and Bedforms Under Combined Flows"*

Student Awards

Carly Hill received the Harriet Wallace Award, presented to an Outstanding Woman Graduate based on academic performance and research performance in the memory of Harriet Wallace, past librarian in the Department of Geology.

Jing Zhang received James R. Kirkpatrick Award, a college award for a graduate student for their research efforts, established to honor past Department Head, James R. Kirkpatrick.

Jing Jin and **Jessica Hinton** were recognized as Outstanding TAs, based on ICES results and faculty supervisors' comments.

Stephanie Mager received the Morris Leighton Award, an award designed to support graduate student research in geology and established by Brud Leighton to honor his parents.

Ryanne Ardisana, Abigail Asangba, Alex Bryk, Stephanie Domrois, Jing Jin, Kelsey Kehoe, Stephanie Mager, Conor Neal, Deep Sen, Sam Slaven, Xiangli Wang, and **Katelyn Zatwarnicki** were the recipients of the Roscoe Jackson Award, designated to support needs of graduate students who are completing thesis research. Dr. Jackson has been a strong supporter of research in the department over the years.

Maxwell Shaper received the Estwing Pick Award, made annually in the spring to an undergraduate who will attend field camp that summer. The principal criterion is academic achievement in geology courses and in cognate science and mathematics courses. Consideration is also given to involvement in undergraduate research and to participation in departmental activities. The award is an Estwing Pick given by the Estwing Corporation.

Research Grants Active in 2012

AIR FORCE

Xiaodong Song—Joint Inversion of Crustal and Uppermost Mantle Structure in Western China

ARCADIS US

Tom Johnson—Chromium Stable Isotope Analysis

ARGONNE NATIONAL LABS

Jay Bass—High-Resolution Inelastic X-ray Scattering at High P&T: A New Capability for the COMPRES Community

EXXON-MOBIL

Jim Best—The Sedimentology of Tidally-Influenced Fluvial Bars in High-energy River Systems: the Modern Columbia River
Jim Best—Sedimentology of Fluvial-Tidal Meander Deposits

NATIONAL SCIENCE FOUNDATION

Alison Anders—Co-evolution of Orographic Precipitation Patterns and Topography in the Western Ghats, India
Jay Bass—Consortium for Materials Properties Research in Earth Sciences (COMPRES): National Facilities and Infrastructure Development for High-Pressure Geosciences Research
Jay Bass—Community Facilities and Infrastructure for High-Pressure Mineral Physics and Geosciences: COMPRES II
Jay Bass—Collaborative Research: High Pressure Calibration at High Temperatures
Jay Bass—Sound Velocities and Elasticity of Deep-Earth Materials at High Pressures and Temperatures
Jim Best—Collaborative Research: Modifications of Turbulent Boundary Layer Structure by Wall permeability and Surface Subsurface Interactions: An Innovative Experimental Approach
Jim Best—Collaborative Research: Role of Interfacial Turbulence in Hyproheic Exchange and Fine Particle Dynamics
Jim Best and Bruce Rhoads—Fluvial Cutoffs and Abandoned Channel Development
Jim Best, Ken Christensen, Marcelo Garcia, Joanna Austin and Greg Elliott—MRI: Development of a Large-scale Refractive-Index Matched Flow Facility
Jim Best, Marcelo Garcia, and Bruce Rhoads— Morphodynamics of Complex Meander Bends on Large Rivers
Jim Best, Praveen Kumar, Bruce Rhoads, Marcelo Garcia and Gary Parker— RAPID: Mississippi Flood of 2011— Investigation of Initial Impact on Landscape
Craig Lundstrom—Collaborative Proposal: Integrated Investigations of Isotopic Fractionation in Magmatic Systems
Craig Lundstrom—Collaborative Research: Investigating MORB differentiation through non-traditional stable isotope analyses
Steve Marshak—Collaborative Research: Structure and Dynamics of the North American Craton - An Earthscope Swath from the Ozarks to the Grenville Front

NETHERLANDS ORGANIZATION FOR SCIENTIFIC RESEARCH

Tom Johson—Tracing Novel Selenium Metabolisms in the Geological Record Using Selenium Stable Isotopes

OAK RIDGE ASSOCIATED UNIVERSITIES

Tom Johnson—Geochemical and Isotope Characterization of TVA Coal Combustion Products: Identification of Contaminants and Modeling Their Fate in the Environment

OFFICE OF NAVAL RESEARCH

Jim Best and with Marcelo Garcia—Characterization of Bed Morphodynamics Using Multi Beam Echo Sounding (MBES) and Wavelet Transform (WT) analysis

RUTGERS UNIVERSITY

Tom Johnson—Microbial Oxidation of Hg(0): Its Effect on Hg Stable Isotope Fractionation and Methylmercury Production

SHELL INTERNATIONAL

Gary Parker and Marcelo Garcia—Channelization by Turbidity Currents in Submarine Fairways and On Fans

TOYOTA RESEARCH INSTITUTE OF NORTH AMERICA

Jay Bass—Technical Testing Agreement on Advanced Materials

U.S. DEPARTMENT OF ENERGY

Jay Bass—Aqueous Geochemistry at High Pressures and Temperature
Tom Johson—Microbial Oxidation of Hg(0): Its Effect on Hg Stable Isotope Fractionation and Methylmercury Production
Craig Lundstrom and Tom Johnson—Development Of U Isotope Fractionation As An Indicator Of U(VI) Reduction In Uranium Plumes
Robert Sanford—Microbiological-enhanced Mixing Across Scales During In-situ Bioreduction of Metals and Radionuclides at Department of Energy Sites
Robert Sanford—MURMoT: Design and Application of Microbial Uranium Reduction Monitoring Tools
Robert Sanford—PUNCS: Toward Predictive Understanding Nitrogen Cycling Soils

UNIVERSITY OF TENNESSEE

Robert Sanford - Towards Predictive Understanding of Nitrogen Flux in Soils

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Courses Taught in 2012-13

GEOL 100	Planet Earth
GEOL 103	Planet Earth QRII
GEOL 106	Extinction: Dinosaurs to Dodos
GEOL 107	Physical Geology
GEOL 117	The Oceans
GEOL 118	Natural Disasters
GEOL 143	History of Life
GEOL 199	Undergraduate Open Seminar
GEOL 201	History of Geology
GEOL 208	History of the Earth System
GEOL 333	Earth Materials and the Env
GEOL 370	Water Planet, Water Crisis
GEOL 390	Individual Study
GEOL 391	Individual Honors Study
GEOL 406	Fluvial Geomorphology
GEOL 411	Structural Geol and Tectonics
GEOL 415	Field Geology
GEOL 417	Geology Field Methods
GEOL 432	Mineralogy and Mineral Optics
GEOL 436	Petrology and Petrography
GEOL 440	Sedimentology and Stratigraphy
GEOL 450	Physics of Earth
GEOL 460	Geochemistry
GEOL 470	Introduction to Hydrogeology
GEOL 492	Senior Thesis
GEOL 493	Honors Senior Thesis
GEOL 497	Special Topics in Geology AB - Geomicrobiology & Geochemistry
GEOL 515	Advanced Field Geology
GEOL 531	Structural Mineralogy
GEOL 540	Petroleum Geology
GEOL 562	Isotope Geology
GEOL 563	Analytical Geochemistry
GEOL 573	River Morphodynamics
GEOL 575	Alluvial Boundary Layer Dynamics
GEOL 591	Current Research in Geoscience
GEOL 593	Advanced Studies in Geology
GEOL 599	Thesis Research