

The KU Geologic Record



Celebration Launches the Earth, Energy and Environment Center

With a celebration honoring lead donors in November and planning by architects and consultants picking up speed in January, the new Earth, Energy and Environment Center is on its way to becoming a reality.

On Nov. 21, donors A. Scott Ritchie and Carol Swanson Ritchie and their family, R. Todd Slawson, Judy Slawson and their family, and Robert M. Beren and his family celebrated the new center with KU Chancellor Bernadette Gray-Little and other KU officials. The campus event included speeches and food. The donors also signed the cornerstones that will be laid in Ritchie Hall and Slawson Hall. A longer report about the event will be in *The GHawker*.

On Jan. 21, the first public signs of work appeared as consultants dug holes in the Lindley Hall parking lot to test for vibration. Understanding vibration in the parking lot – the site of the new center – is important because of the sensitive equipment the new center will house.

Alumnus Pays It Forward

A 1942 KU graduate says his donation for KU Geology has fulfilled his lifelong desire to “pay forward” the education he received from the University.

Neil Ferry’s gift will increase the scholarship fund for students studying geochemistry that Emeritus Professor Ernest Angino and his wife Margaret established. With Angino’s permission, the name of the scholarship has been changed to the Angino-Ferry Geochemistry Scholarship, and it is being expanded to provide aid to undergraduate as well as graduate students.

Neil, 95, lives in San Angelo, Texas, with his wife, Terry. A member of the ROTC at KU, Ferry was called to service in February 1942 as a lieutenant in the Army Corps of Engineers. He did not receive his BS in metallurgy and mining engineering from KU until June 1942.

During World War II, he worked on engineering and construction of the Alcan Highway in Alaska and Canada. He later served in Europe during the Invasion of Normandy and the Battle of the Bulge. After the war, he worked for several engineering companies. He was with the Ralph M. Parsons Co. in Pasadena, Calif., for over 20 years as a Senior Process Engineer. There were many interesting projects, he said. One he particularly enjoyed was a project with the Arab Potash Co., in Amman, Jordan, to harvest potash from the Dead Sea. Calling himself a “true Jayhawker,” Neil said he will always be grateful to KU for providing him with a sound education.

Funding Scholarships a Plate at a Time

The Osage Chapter of the Association for Women Geoscientists raised more than \$3,300 for their student scholarship fund at their annual holiday wine and cheese party in December. The scholarships benefit research by female and male students at several Kansas universities.

Our Students' Winning Ways

Senior Jason Jones has won a \$1,000 KU Undergraduate Research Award. Under the mentorship of Visiting Assistant Professor Kelsey Bitting and Associate Professor Jennifer Roberts, Jason is working on "Observations of Geologic Building Materials at the Introductory Level: Predicting and Scaffolding Student Success in Developing Expert-like Geocognition."

The winners of the 2014 G-Hawk Symposium are: undergraduate students Danielle Woodring (1st place), Ben Campanaro (2nd place) and Hannah Hubert (3rd place), and graduate students Alexa Goers (1st place), Adam Jackson (2nd place), and Jose Velez (3rd place). Winners get up to \$700 to help support their research.

Geology majors took three of nine Center for Undergraduate Research Travel Awards this fall. The winning students each receive \$500 to help pay their expenses to attend and present at the Geological Society of America annual meeting. The winning geology majors are Katelyn Whitt, Jason Jones and Wade Welton.

KU Solves a Tibetan Mystery

In the most comprehensive study of its kind, KU geologists have unraveled one of the geologic mysteries of Tibet. The research published in *Nature Geoscience*, shows that it is the northward movement of India, thrusting under Tibet's surface like a shovel pushing through a winter's snow, that is causing the largest and thickest mountains on Earth to stretch in the east-west direction.

The paper is the work of Mike Taylor, associate professor of geology, and two of his former students, Richard Styron and Kurt Sundell. The lead author, Styron, now heads Earth Analysis, a consulting firm in Seattle.

"Understanding how north-trending rift valleys formed within the Tibetan plateau is something that has puzzled geoscientists for over three decades," Mike said. The team studied the mechanism that formed and continues to mold the mountains by collecting and analyzing rock samples. Sometimes hiking nearly 14 miles across a single mountain range and back, they collected more than 60 samples from a long rift valley that cuts the Tibetan plateau and forms large mountains with extensive granite exposures.

Fowle Peers Into the Archean

Associate Professor David Fowle and his former PhD student Sean Crowe have a new paper in *Science*. In "Sulfate was a trace constituent of Archean seawater," Crowe, Fowle and their co-authors use the oxygen-starved, iron-rich bottom waters of Indonesia's Lake Matano as a modern analog to conditions in the Archean ocean more than 2.5 billion years ago. The authors find that sulfate levels were below 0.01 percent of their concentrations in modern seawater and that single-celled organisms called sulfate-reducing prokaryotes could have survived and been active in such an environment. The work was done at a field site Dave started developing in Indonesia over 10 years ago.

Marshalls Refine Method for Mars Exploration

In a paper published in *The Philosophical Transactions of the Royal Society A*, Associate Professor Craig Marshall and Assistant Professor Alison Olcott Marshall showed that the European Space Agency (ESA) would be making a mistake if it used Raman spectroscopy alone to search for life on Mars. ESA plans to launch a portable Raman spectrometer on its ExoMars rover in 2018. In a paper called “Raman spectroscopy as a screening tool for ancient life detection on Mars,” Craig and Alison reported that their testing showed that carbonaceous material will yield the same Raman spectra whether they are synthesized biologically or non-biologically. However, a method that combines Raman spectroscopy with gas chromatography–mass spectrometry biomarker analysis showed promising results.

NSF Supports New Geology Course

Three faculty members have received a SENCER-NSF Award in support of a new freshman seminar that will be offered for the first time this coming fall. Designed to improve education in the sciences, technology, engineering and mathematics, SENCER-NSF awards support innovative educational offerings.

The course by Visiting Assistant Professor Kelsey Bitting, Assistant Professor Alison Olcott Marshall and Associate Professor Craig Marshall will use the framework of exploration missions searching for life on Mars to teach the scientific process of geologic investigation. Among other activities, students will visit Mars analog field sites on Earth, collect and analyze geochemical and biological evidence, and communicate their questions, process, and findings in writing for the public. The class will also include a strong emphasis on the societal questions of whether, when, and how governments should invest taxpayer funds in the extraterrestrial search for life and the science of understanding other planets.

KGS Gets a Green Light

The U.S. Department of Energy has given the KGS a green light to proceed with the next phase of its multiyear study of the safety and efficacy of injecting carbon dioxide into the ground. The CO₂ will be permanently stored underground after its injection helps produce hard-to-reach oil.

KGS will drill wells for enhanced oil recovery and CO₂ sequestration in the Wellington oil and gas field southwest of Wichita. DOE has provided \$11.5 million since 2009 to the KGS for project. This phase of activity will involve another \$11.2 million investment by DOE.

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Steeple to Become Interim Dean

In what may be one of the shortest retirements in history, McGee Distinguished Professor Don Steeples shifted from a life of semi-leisure on his western Kansas farm in May to announcing that he will become interim dean of the College of Liberal Arts and Sciences in January. CLAS is KU's broadest, most diverse academic unit, with more than 50 departments, programs and centers.

Don will take over as interim dean in March as the current dean, Danny Anderson, prepares to leave KU to become president of Trinity University. Over the years, Steeples has held various administrative roles at KU, including deputy director of the KGS, chair of KU Geology and senior vice provost. "We are fortunate to have someone of his caliber serving as interim dean," said Jeffrey S. Vitter, provost and executive vice chancellor.

Don said he is pleased to serve. "This is truly an exciting time for the College, and it's an honor to serve as interim dean. My goal is to continue the tremendous progress the College has made under Danny's leadership and help ensure a smooth transition to the next dean."

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