



## **NOT A NATIONAL CHAMPIONSHIP?**

Did you know that KU graduate students in geology were awarded more AAPG energy-related research grants in 2008 than any other school? The American Association of Petroleum Geologists supports research grants for graduate students and has an annual competition. This year KU won the greatest number of research grants out of the 237 applicants. The purpose of the AAPG Foundation's Grants-in-Aid program is to foster research in the geosciences. Factors weighed in selecting successful applicants include: the qualifications of an applicant as indicated by past performance; originality and imagination of the proposed project; support of the department in which the work is being done; and perceived significance of the project to petroleum, energy minerals and related environmental geology. This year, 9 graduate students from the KU Department of Geology were awarded research grants, winning the competition for the greatest number of grants. Another Big-12 school, University of Texas-Austin, took second place with six awards. Overall, there were 119 research awards made to students from seven countries and 65 Universities. KU awardees were Paul Kenward, Brooke Perini, Brian Platt, David Riese, Joshua Schmerge, Marina

Suarez, Travis Glauser, Jesse Thompson, and Lindsay Walters. So why is this not a national championship akin to what our basketball Jayhawks won this year? Well, first of all, it was an international competition rather than a national one. We asked, but alas, we could not get the parade, and ESPN declined to cover the event for some reason. Perhaps we didn't rate these things because our celebration didn't involve 80,000 screaming fans? In contrast, our celebration took place over several months, and is still going on, with nine students doing energy-related research all around the world. This is the second year in a row in which KU has earned this international champion honor with AAPG. What a great group of students. None have yet declared their intent to enter the NBA draft.

## **PUERTO RICO MEETS KANSAS IN SPAIN**

As part of the Department's diversity initiative with University of Puerto Rico-Mayaguez (UPRM), KU faculty and students met in southeastern Spain over Spring Break for a joint field course. The experience was designed to teach the diverse geology of this exceptional field area, but also to fully integrate the two groups from different cultures. Funding was provided by a grant from the ExxonMobil Foundation

as well as from the generosity of donors to the Geology Associates program. In the field, students from the two groups were combined into diverse teams to complete exercises. Everyone helped to complete a ground penetrating radar survey. During travel, the makeup of each van was repeatedly reshuffled. In daytime, the teams worked hard; during each night, let's just say they played hard too. The net result was excellent student learning, but also new personal, cultural, and professional connections made between the two groups. The trip culminated in a banquet hosted by the UPRM group in which they prepared Puerto Rican specialties for all of the participants. The most difficult part of the trip was saying goodbye to so many new friends and colleagues. It's unusual to see a field trip end with tears and hugs, but that is just what happened. The KU-UPRM initiative is progressing nicely and planning another joint field seminar for next Spring.

## **NSF CHOOSES CHINLE**

The Upper Triassic Chinle Formation of the western United States is a familiar unit because of its colorful strata and petrified wood. A thorough understanding of the tectonic setting, source area, and chronostratigraphy remains to be worked out. The answers to these research

questions may be close at hand thanks to a new National Science Foundation grant to Doug Walker and colleagues. Doug's work will concentrate on zircon geochronology of Chinle volcanic clasts, ashes, and possible volcanic source regions in northern Mexico. He hopes to find the arc that was active late in the Triassic as a way of improving our understanding of Triassic tectonic history of North America. Moreover, much work has been done on the continental record of climate, vertebrate paleontology, and sedimentation in the Chinle. Establishing dates on the ashes will refine the chronology of those very important records.

## **GOLDRING GOLDEN FOR KU**

Erin Saupe, Master of Science student in the Department of Geology is used to looking at gold; colors at least. She studies fossil spiders in beautiful specimens of golden amber; and now she has won the Association for Women Geoscientists Winifred Goldring Award. The award consists of a one-year membership in both the Paleontological Society and AWG, and is presented annually to the outstanding female student interested in pursuing a career in paleontology. The award is named for Winifred Goldring, a pioneering woman paleontologist, who became State Paleontologist of New York in 1939 and the first female president of the Paleontological Society in 1949.

Applicants are judged on a one-page statement discussing their interests in paleontology, career plans, and any pertinent extracurricular activities (e.g., research projects, educational outreach, museum volunteerism) related to the realization of goals. This award is great recognition for an excellent paleontology student at KU.

## **GSA GRANT CHAMPS**

The Geological Society of America (GSA) has just released the results of its student research grant competition, and for the second year in a row, the University of Kansas Department of Geology has taken the prize for most research grants. The Geological Society of America is a professional society with a membership of more than 21,000 in 85 countries. The role of the GSA research grants program is to provide support for student thesis research in the geological sciences for students enrolled in universities in the United States, Canada, Mexico and Central America. Student research proposals are judged on the basis of scientific merit, the practicability of each project, the qualifications of the applicant for the proposed investigation, and the budget. This year, students of the KU Department of Geology were among grantees from 158 institutions. A total of 302 grants were awarded and KU students won more than any other institution with 10 of the awards. Penn State came in a close second with 8 grants. All of the KU award winners are off to great scientific adventures with

their successful grants: James Adamski is studying how bacterial remains are preserved as fossils in salt crystals hundreds of millions of years old, and investigating whether enough genetic material is preserved for some of them to be brought back; Joshua Schmerge is investigating the effects of climate change on fossil mammals in rocks from Wyoming; Lindsay Walters is off to do field work in Spain on rocks that serve as direct analogs to producing oil fields around the world; Melissa Marietta is working on the effects of pressure-treated lumber in soils from Panama; Amanda Falk is working on fossilized footprints of ancient birds during the time of the dinosaurs; Erin Saupe is investigating fossil spiders preserved in amber; David Riese is investigating traces of organisms that lived in a 180-million-year-old desert that existed in Utah; David Lobue is studying strange sedimentary environments that preserved an exceptional record of the environment from a lagoon that was more than 300 million years old; Bethiah Hall is off to Capitol Reef National Park to study how the tides worked 220 million years ago; Jesse Thompson is doing field work in Colorado to improve our understanding of rocks that are important unconventional gas resources and to improve our ability to produce natural gas here in the United States.

## **KU KAN-DO LIDAR**

LiDAR systems (Light Detection and Ranging) are

at the cutting edge of acquiring basic data to visualize and analyze all aspects of exposed geology in three dimensions. The ability to “see” the Earth in three dimensions and project surface information into the Earth presents one of the most difficult skills to teach students. In addition to traditional field approaches, the future of field outcrop characterization for teaching and research lies in creation of accurate computer models of the surface and sub-surface geology. LiDAR systems can be used at distances up to 2km away, making an accurate terrain model with a laser scanner. Then images from a digital camera integrated with the LiDAR scanner are draped directly on the terrain model to create a photo-realistic, three-dimensional image of the target area that can be extended into the sub-surface.

At a cost of just under two hundred thousand dollars, acquiring this sort of capability would normally be impossible without a big grant, but KU’s can-do attitude has made it a reality. The Geology Associates Equipment Fund covered 14% of the cost and used it as leverage to fund the remaining 86% from the Kansas Geological Survey, College of Liberal Arts and Sciences, Transportation Research Institute, Mike Taylor’s startup funds, and Doug Walker’s National Science Foundation Grant. Now, KU’s Department of Geology and Kansas Geological Survey “kan-do” LiDAR.

## ROCK JOCKS

KU Geology students are mentally and physically

tough. They proved the physical part this year by winning three intramural sports championships. The department intramural teams finished the fall season as champions in three categories (men’s and co-rec floor hockey, and co-rec dodge ball). Domination in floor-hockey was led by Canadian import Ezra Kulczycki (Toronto, Ontario) and Wisconsin native Justin Fairchild who demonstrated “razzle dazzle” stick handling and playmaking skills. The scoring distribution was balanced from Jeff Schroeder (McLean, VA), Pete Schillig (Marlboro, OH) and Eugene Szymanski (Philadelphia, PA), who seemed to pull off miracles for our team “Geochronic” when success seemed beyond reach. Meanwhile, Celina Suarez (San Antonio, TX) led the ladies on the co-rec team in scoring with 2 for the season.

The co-rec floor hockey team entered the season as the reigning champions and went 3-0-1. They defeated a testy Air Force ROTC team for a repeat performance as co-rec champions. The men’s floor hockey team won a heated and impressive come-from-behind victory in the semifinal round for a berth in the finals. Down 2-5 in the third period, the men came back to tie the game. After 2 OT periods, both teams had players in the penalty box, resulting in a shootout that included the goalies. Canadian goal tender, Paul Kenward (Ottawa, Ontario), saved all three shots and then took a shot on goal himself. His shot put Geochronic up 1-0 in the shoot out. Paul took the opposing goalie’s shot, and had

an excellent save, sealing the victory and a berth in the finals. In the finals, the team dominated A.K.Psi and won 2-0.

Even though the team went 1-2 in the regular season, the co-rec dodge ball team had a huge turn around in the playoffs and made it to the finals. They won the finals with a best of 5 games, 3-2. The fourth game was highlighted by the powerful arm of 5’0” sophomore undergraduate Breanna Huff who took on 4 players single handedly. Bre caught out two and hit out two players to win the game.

## EARTHSCOPE, EARTHQUAKES AND KANSAS

EarthScope, funded by the National Science Foundation, is working with KU Associate Professor Ross Black to install an earthquake-recording observatory (USArray) across the U.S. The array consists of 400 seismic stations spaced about 70 km apart that will roll across the nation in a leapfrog fashion over the next decade. The University of Kansas Department of Geology is participating in this national project by providing site reconnaissance for installation of 47 stations in Kansas. This summer, Ross Black is supervising teams of students who are traveling around the state to identify the sites. Each team has been using computer-based tools to identify potential seismograph sites, conducting field investigations to confirm the suitability of potential sites,

and preparing reconnaissance reports documenting the selected site. The data generated from these seismometers will be used in improving understanding of Earth structure and dynamics, and the physical processes controlling earthquakes.

## **PETROLOGY TRIP TO CALIFORNIA**

Do you remember the extended field trip in your undergraduate petrology class? Most of us went somewhere nearby, like the St. Francois Mountains in Missouri. This year our undergraduate petrology group had an opportunity to study petrology

in action, traveling to northern California's active margin with Professors Andreas Möller and Danny Stockli. It was a long way to go, but it was also a great opportunity for students to be exposed to types of geology they might otherwise never have seen in the Midcontinent. Highpoints of the trip were beautiful ophiolites. Imagine making the trip from the arc to the trench succession within a single day. Geologists and tourists alike would all appreciate an outcrop of bedded chert immediately below the Golden Gate Bridge. This exceptional field experience was made possible by generous donors to the Geology Associates program, and especially to the Laudon Fund.

## **NEW BOOKS ON G-HAWK HISTORY**

Our Department Historian, Dan Merriam has been hard at work documenting the history of the KU Department of Geology. Look for a new book out later this year entitled "Geology at The University of Kansas: the First Century (1866-1966) With Bits Beyond." This will be followed by a history of our field camp, "Rocks Up Close: Story of the University of Kansas Geology Field Camp." If you have field camp stories to tell for this book, please send them to Dan (dmerriam@kgs.ku.edu) for consideration.

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