

Department of Geosciences

Geology, Geography, and Earth Science

FALL 2011



UNIVERSITY OF
ARKANSAS
J. WILLIAM FULBRIGHT
COLLEGE OF ARTS & SCIENCES



2011 SUMMER FIELD COURSE

Last summer our department set a record with 49 students attending GEOL 4666, Summer Field Geology Course. Fourteen were our own, but the rest came from the University of Texas-San Antonio, Mississippi State University, Arkansas Tech University, Bloomburg University, the University of Tulsa, the University of Texas Permian Basin and Utah State University.

Ph.D. Program Planned. Arkansas is the only state without a Ph.D. in geosciences, yet the UA is situated in an area of abundant natural resources. Together, the department, the university, and the geosciences advisory board are working to boost our geosciences programs and research standing with the addition of a Ph.D. in geosciences. Pending approval by Arkansas Board of Higher Education, by fall 2012 the department will admit its first group of Ph.D. candidates. Led by the holder of the Maurice F. Storm Endowed Chair in Petroleum Geology, Ph.D. candidates will be offered graduate fellowships and research support to make the program a regionally-competitive model. University and private funding will support the program. The curriculum will require additional faculty. In addition to the Storm Chair in Petroleum Geology, three faculty will be hired to advance research in petroleum geology and geoinformatics, a specialty of the Center for Advanced Spatial Technology (CAST). The search committee for the Storm Chair is being led by Dr. Doy Zachry.

Sustainability Minor - new offering

Dr. Stephen Boss was appointed to lead the University's new sustainability minor initiative. The minor is accessible to every University of Arkansas student, regardless of discipline, yet still has meaning and academic identity as a minor in sustainability.

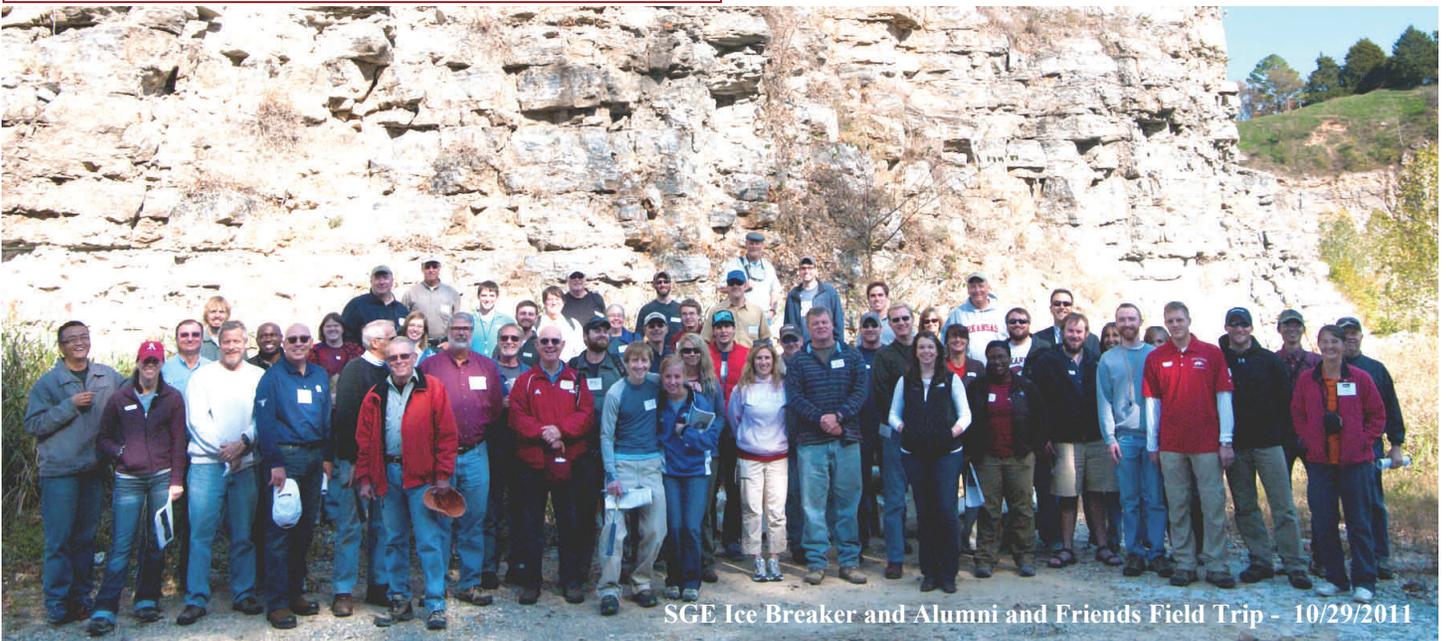
Dr. Tahar Messadi, associate professor of architecture, will be the co-director with Boss. The 2011-2012 *Catalog of Studies* describes the purpose of the minor as providing foundational knowledge and skills related to the emerging discipline of sustainability. The minor is organized around four thematic areas reflecting strength in scholarship: social systems, natural systems, built systems and managed systems. The required coursework is broadly interdisciplinary and accessible to all UA students, regardless of major, with a capstone course in foundations of sustainability.

New Atlas of Arkansas Illuminates the Natural State

Dr. Tom Paradise has created a comprehensive tour of the state using colorful maps, diagrams and photos. Recently published by Butler Center Books, *Arkansas: An Illustrated Atlas* is an innovative and comprehensive look at the Natural State. The atlas uses graphics, fun "Did You Know?" fact boxes and up-to-date statistics to explain, describe and reveal the state. Designed for middle school through adult audiences, this atlas will become the must-have book for every Arkansan.

Paradise says that his office is barraged with requests for maps and information about the state from individuals, agencies and schools. "Basically, we created a 'think tank' of geographic specialists who were then able to contact various specialists for all of the sections in the book," Paradise said.

The atlas covers such topics as geology, population, politics, and history and features reference maps. Paradise, who was trained in the earth sciences and in cartography, has written, designed and produced three previous atlases. The book was published as a collaborative effort between the Butler Center for Arkansas Studies and the Diane D. Blair Center of Southern Politics and Society at the University of Arkansas.



SGE Ice Breaker and Alumni and Friends Field Trip - 10/29/2011

FACULTY



REX WEEKS JOINS THE DEPARTMENT

The Department of Geosciences welcomes an addition to our faculty. Dr. Rex Weeks (Ph.D. 2009, Arizona State University). A reappointment from the Department of Anthropology indicates the positive direction of his career. Weeks strives for the coordination of multidisciplinary projects and advances in the application of digital and spatial technologies. His research, teaching and service focus on the indigenous cultural geography and archaeology of North America, particularly in the Southwest and Eastern Woodlands. He brings a strong theoretical and methodological background

on the conservation, documentation, analysis, and interpretation of landscapes marked by epigraphy and Native American ancestral rock art - carved and painted pictures on geological surfaces.

Weeks offers undergraduate and graduate courses on the Southwest, Native American rock art and global surveys of archaeology's greatest discoveries and ancient religious sites. He guides students in the Historic Preservation minor, the cultural aspects of the Environmental Dynamics program, and collaborative efforts with the CAST.

PETREL SOFTWARE DONATED

Last summer we received the Petrel Software Platform donation from Schlumberger Technology Corporation. The donation includes a three-year contract for 20 licenses and maintenance with an option to renew.

Three-year software license value: \$5,981,460.00

Three-year maintenance value: \$3,588,480.00

Petrel E&P Software Platform is a Windows based software for 3D visualization, 3D mapping and 3D reservoir modeling and simulation. It helps increase reservoir performance by improving asset team productivity. Geophysicists, geologists and reservoir engineers can develop collaborative workflows and integrate operations to streamline processes.

This software will be used for both teaching and research. Combined with other software hosted in the department, UA geology students will have the opportunity to get hands-on experience and training on the latest technology used by the petroleum industry.

DINOSAUR FOOTPRINTS

The discovery of a large set of fossilized dinosaur tracks by gypsum miners in Howard County has kept UA geoscientists busy recording the first footprints of three-toed dinosaurs in the state. In early June, Dr. Stephen Boss got a phone call from a former UA student who took GEOL 1113 from Dr. Walt Manger many years ago. A photograph received later that day revealed three or four tracks. Boss arranged for a team to make three-dimensional images, photos and plaster casts. Funding was obtained from the National Science Foundation and the J. William Fulbright College of Arts and Sciences. These dinosaur tracks are perhaps the most remarkable UA paleontological discovery since 2003, when a group of geology students unearthed a world-record-setting 8-foot cephalopod in Fayetteville. (from the *Arkansas Democrat-Gazette*)



Terryl Daniels, Alex Hamlin and Jo Ann Kvamme making a plaster cast.

NEW INSTRUCTORS

Due to dramatically increased enrollment at the university, our department has added many sections of our most popular classes to the Fall schedule. To facilitate teaching these classes, we have hired five top-quality instructors who recently received graduate degrees from UA.



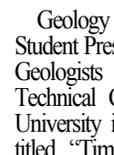
Dorian Burnette received his Ph.D. last year in Environmental Dynamics. He is teaching General Geology and General Geology labs.



Rashauna Mickens Hintz received her M.A. in Geography last year. She is teaching two sections of Human Geography.



Kathy Knierim received her M.S. in Geology last year. She is teaching General Geology as well as working on her Ph.D. in Environmental Dynamics.



Leiaka Welcome received her M.S. in Geology last year. She is teaching General Geology and General Geology labs.

Byron Winston received his Ph.D. in Environmental Dynamics last year. He is recruiting for the University and is teaching in Geosciences and Environmental Dynamics core courses.

Geology senior **Chven Mitchell** was awarded Best Student Presentation at the National Association of Black Geologists and Geophysicists (NABGG) Annual Technical Conference hosted by San Francisco State University in September. Chven's winning paper was titled, "Time Dependent Inversion of the August 2010 Northern Cascadia Slow Slip Event." She conducted the research during her Summer Research in Geosciences and Engineering (SURGE) at the School of Earth Sciences at Stanford University. Her research experience was guided by Dr. Paul Segall and graduate mentor Noel Barlow. We were well represented at this conference with nine participants from our NABGG student chapter, financially assisted by a grant from the National Science Foundation (NSF).



Katherine Knierim, MS Geology 2010, a doctoral student in the Environmental Dynamics program, and previous recipient of a distinguished doctoral fellowship, was recently awarded a Science To Achieve Results (STAR) doctoral fellowship from the United States Environmental Protection Agency (EPA) to continue her doctoral study of water quality. Knierim learned in September that she has been awarded the EPA national fellowship to complete her doctoral research. The grant will provide \$37,000 per year to Knierim for tuition, stipend and expenses.

"I feel so honored to have received this fellowship. It will allow me to focus on my research and help me pay some research expenses, which will help me immensely," Knierim said.

The fellowship is for three years of study and research.

"STAR fellowships are among the most prestigious doctoral fellowships, awarded via a national competition," said Dr. Steve Boss, director of the interdisciplinary doctoral program in Environmental Dynamics. "Kathy is the second Environmental Dynamics student to win this award, and we are very proud of Kathy's achievements. We look forward to her future success in the academy."

WE'RE GROWING!

Our department now has ongoing searches for two new Geosciences faculty: 1) the Maurice F. Storm Endowed Chair in Petroleum Geology; and 2) Assistant Professor of Geoinformatics. Job ads can be found online at: <http://hr.uark.edu/jobs/default.aspx>.



University of Arkansas officials, faculty and students broke ground Tuesday, August 30, on the renovation and expansion of Ozark Hall, in the historic core of campus. It will be updated and added on to create a fully-accessible, energy-efficient home for our department, the Honors College and the Graduate School and International Education. A new 275-seat auditorium is included in the plans.

Ozark Hall was originally built in two phases. The original Classroom Building was completed in 1940. An addition in 1947 linked it to the Commerce Building, which was later razed.

Ozark Hall has been home to hundreds of geology and geography students and faculty for more than 30 years. The renovation is scheduled for completion in August 2013. The \$27.1 million project was made possible by the Walton Family and a bond supported by the student facility fee.

In the interim, our department is housed in two buildings. The main office is located at 346 Arkansas Avenue. This former fraternity house is now called Stone House South. This location also holds the offices of 22 professors and instructors, 18 graduate students and part of the Graduate School's staff. Forty-seven GEOL 1111 labs are also taught in Stone House South.

Five professors and 22 graduate students are housed at 13 N. Duncan Street in a renovated apartment building now called Stonehenge. We are teaching in classroom space all over campus: Ferritor Hall, the Poultry Science Building, Home Economics Building, the Science Building and Old Main.



Geosciences Advisory Board Members

Eddie Valek, Marathon Oil Company, Chair
Jeff Hall, Devon Energy, Vice Chair

Douglas 'Bug' Bailey, Northrop Grumman-Electronic Systems
Don Castleberry, National Park Service (retired)
Sean Chenoweth, PhD, University of Louisiana Monroe
Clayton 'Yarri' Davis, Vitruvian Exploration
Erica Doerr, Northwest Arkansas Community College
Tom Freeman, PhD, University of Missouri Columbia (retired)
Glen Harrison, University of Kansas Transportation Research
Tim Kresse, United States Geological Survey
Chris Liner, PhD, University of Houston
Gerry Lundy, Hogback Exploration
Shane Matson, Spyglass Energy
Thomas 'Mac' McGilvery, PhD, ConocoPhillips
Ron Snyder, Ceja Corporation
Jane Spellman, FTN Associates
Maurice Storm, formerly Crow Creek Energy
Heath Wallis, Samson Investment Company
Alex Warmath, Greenfields Petroleum
John Glynn Williams, Endeavour (retired)
William Willis, Weyerhaeuser
Edith Newton Wilson, PhD, Rock Whisperer, LLC

New Members:
Reginal Spiller, Petra Novus and Osyka Exploration
Jonathan Gillip, US Geological Survey
Teresa Turk, NOAA
John Sharp, Chesapeake Energy



SGE update: This semester has been a busy one for SGE! The move from Ozark Hall to Stone House put us in a new rock room, which has been a perfect set up for making rock bags. It is a cozy little room that is a fun place to meet with friends, eat pizza and make rock bags. We sold about 110 bags and are in the process of replenishing our supply of rocks. We are planning a rock and mineral collection field trip in the near future, and we are going to place an order for the rocks we don't have locally. We are having rock bag parties every Tuesday at 4 pm in the rock room and are always happy to have extra help.

Our annual philanthropic highway trash pick-up was as successful as the rock bag sales. We certainly are doing our part to keep Devil's Den clean.

The t-shirts and koozies have come in, and we have plenty of medium, large, XL, and XXL shirts available. Shirts are \$15 and koozies are \$5. Both may be purchased from Karen in G24. They will also be available at the Fall Banquet/ Chili Cook-Off, which was held on Thursday, December 8th, at the Garden Room on Dickson.



It has been a busy fall for the University of Arkansas Student Chapter! We have grown from 21 members to 30: 18 graduate and 12 undergraduate students.

Current Officers: Caroline O'Keefe, President; Trenton Rogers, Vice President; Shailyn Abbott, Treasurer; and Leiaka Welcome, Secretary.

In early September Mr. Steve Milligan led a discussion with students to improve their interview skills and resumes in preparation for Fall interview rounds. This preparation was valuable, particularly for those students who attended the Fall conferences.

The University of Arkansas was well-represented, with seven students attending the Fall AAPG Student Expo in Houston, TX. Each student had multiple opportunities to interact and interview with many major companies involved in the oil and gas industry.

Following the Houston Expo, the AAPG student chapter hosted a presentation by Mr. Randy Lawson of Lawco Energy Group. Lawson offered a great deal of insight into the planning and execution of successful drilling programs.

At the end of October, Mr. John Sharp and Chesapeake Energy were kind enough to host a group of 11 students for a day on the Chesapeake Energy Campus in Oklahoma City. Students saw firsthand the technology and skills used on a daily basis in the life of a Chesapeake Geologist. The trip included tours of the Reservoir Technology Center, the 3D Visualization Room, and campus offices as well as discussions led by young up-and-coming geologists within the company including recent UA Alum Drew Kremen. A big THANK YOU goes out to Sharp and Chesapeake Energy for hosting such a wonderful event.

In early November, the AAPG Student Chapter had a fantastic opportunity to host a Seismic Interpretation Short Course and Introduction to our brand new SMT Kingdom Suite Software. Mr. Steve Milligan led the two day course.

This fall, Chesapeake Energy, Southwestern Energy, Marathon Oil Corporation and Core Laboratories came to recruit at the University of Arkansas. These interviewing opportunities, in addition to the Houston Student Expo, resulted in five students with full time positions and four students with summer internships.

Fundraising is the AAPG Student Chapter's primary goal for the rest of the year. We hope to raise enough funding to allow a portion, if not complete, financial support to students wishing to attend AAPG Student Conferences this Spring in Norman, OK and next Fall in Houston, TX; Arlington, VA; or Laramie, WY. We also hope to host additional short courses in well log interpretation, seismic interpretation, SMT Kingdom Suite, Petra and Petrel.

More photos from the Alumni Fieldtrip / SGE Icebreaker are at: <http://geosciences.uark.edu>



Student Jobs and Internships. If you or your corporation want to recruit UA geosciences students for jobs or internships, please contact the department to discuss recruitment opportunities.

Please consider a contribution to the Geosciences Ph.D. Program.

If you are considering a major gift and would like more information, please contact us, and we will guide you to the appropriate office.



Department of Geosciences
Stone House South
346 Arkansas Avenue
University of Arkansas
Fayetteville, AR 72701

NON-PROFIT
US POSTAGE PAID
FAYETTEVILLE, AR
PERMIT NO. 278

