

FALL 2008

THE COLLEGE OF **arts&sciences**

earth & environmental sciences

DEPARTMENTAL NEWSLETTER



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Retrospective

From The Chair



This has been a year of abrupt changes, reversals and diversions; however, at the end of the year (and more importantly at the beginning of the next), the department can see many opportunities on the horizon.

Professor Frank Ettensohn has recently been appointed as the director of the UK Honors Program. The Honors Program has

long been an interest of his, and this is a most appropriate assignment. Though this appointment will remove him from full-time teaching in the department, he will continue to teach at least one course per semester and will remain an active faculty member.

Last year, we welcomed a new faculty member in geophysics, Professor Dhananjay "Tiku" Ravat, Ph.D. Ravat has brought an emphasis on research in potential fields, especially magnetics, and he has had several visiting geophysicists from Egypt in his laboratory here. Ravat has recently become the director of graduate studies for the department.

During this past year, Dr. Sue Rimmer was promoted to the rank of professor. Subsequently, Rimmer has announced that she will be leaving UK at the end of the current academic year (2008-2009) to take a position at Southern Illinois University, and we wish her well in her new position.

During the 2008-2009 academic year, Dr. Ed Woolery will be on sabbatical leave. He will be pursuing his research primarily here in Kentucky on the New Madrid seismic zone.

In July, Dr. Harry Rowe, who had been a faculty member here for six years, announced his resignation and has left the department. We wish him all the best in his new position. Rowe's departure left an immediate void in geochemistry, but his teaching post has been filled by Dr. Kevin Henke of the Center for Applied Energy Research, who is teaching low-temperature geochemistry this fall semester.

Last year, we also welcomed two new lecturers, Dr. Kent Ratajeski and Dr. Rick Bowersox. Ratajeski has taken

on a variety of courses, including the physical geology course for science and engineering students, and the field methods courses for majors. Over this summer, Ratajeski was instrumental in organizing our teaching laboratories for renovation, as well as supervising the moving of materials. (See below regarding renovation.) After one semester with us, Bowersox left the Department to take a full-time job at the Kentucky Geological Survey. He is continuing to teach courses for us as a part-time instructor.

As a result of these unanticipated vacancies in faculty positions, we obtained approval to appoint two additional lecturers. We have been most fortunate to appoint Dr. Jerry Weidner and Dr. John Huntley to those positions, and they have begun teaching courses this semester. More detailed introductions of these new lecturers appear in this issue of the Round Up.

We have been able to make one other significant addition to the department staff. Peter Idstein has been appointed to the new position of academic laboratory coordinator. In this position, Pete has the responsibility for maintaining and upgrading the teaching collections, materials and equipment for our laboratory courses. His efforts have been invaluable in getting all of the teaching materials installed into the newly renovated laboratories. (See below.)

The department was not spared the impact of the much-publicized budget shortfall in Kentucky. Last January, we were scheduling interview visits with candidates for a faculty position in geophysics, with the strongest pool of applicants we had seen for any position recently. All looked excellent, and we were enthusiastic about the prospects. Then the budget ax fell, and we were required to terminate the search. Similarly, a search in organic geochemistry was cancelled. At this time, it is not clear when we will be able to resume building the faculty.

The budget cut and an accompanying hiring freeze were announced less than 24 hours after our staff support associate, Becky Hisel, resigned from our department office to take another position at UK. As a result, Pam Stephens, our administrative support associate, had to manage the department office through the spring semester with temporary help. Fortunately, we have been able to secure the appointment of George

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White, Jr. as staff support associate to work with Pam Stephens, and the department office is back to normal operations.

We do have something to brag about, even with the budget cut. With a substantial contribution from the College of Arts and Sciences, we renovated all of the teaching laboratories on the second floor of the Slone Building and replaced the teaching laboratory in the Funkhouser Building. We have taken three oversized and misshapen rooms with dysfunctional storage in Slone and turned them into four bright, cutting-edge teaching laboratories. This locates all of our teaching laboratories into one area, provides all teaching laboratories with modern projection equipment and designates these rooms exclusively for the department. We now have superior space for all of our teaching endeavors for the first time in more than 40 years.

While the department is facing a temporary reduction in faculty, the current vacancies present an unprecedented opportunity for the department to design and plan a longterm future. With the move into the new labs, we anticipate further modernization in the near future. The department will emerge from the budget cuts and faculty reductions to remain a top-flight center for the study of environmental and earth sciences, contributing to UK's vision of a top-20 university. With the help of our loyal alumni, we will succeed. Go Big Blue!

Sincerely,



William A. Thomas (UK B.S., 1956; M.S., 1957)
Chair, Department of Earth & Environmental
Sciences

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COVER PHOTO: UK Geology students at the "Big Nickel" Sudbury, Ontario (Spring 2008 field trip).

Department News

In Memory Of

William H. Dennen, 87, died Jan. 20, 2008 in Bonita Springs, Fla. He was the husband of Shirley (Anderson) Coombs Dennen. Born in Gloucester, Mass. on April 8, 1920, he was the son of the late William L. and Ruth (Lufkin) Dennen. He was a U. S. Marine Corps veteran of World War II, serving in the reserves until 1964, when he retired as a Lt. Colonel. Mr. Dennen received his Bachelor's of Science in Geology from M.I.T. in 1942, followed by his Ph.D. in 1949. He was an Eagle Scout at the age of 14. He first worked as an instructor in 1949 at M.I.T. and continued as an assistant professor from 1952 to 1957 and as an associate professor from 1957 to 1967. He then came to the University of Kentucky, where he was a professor from 1967 to 1972, served as chairman of the Geology Department from 1967 to 1972 and was the acting dean of the Graduate School from 1970 to 1972. He was also the director of Cabot Spectrographic Lab in the mid 1950's and from 1972 to 1983, and conducted consulting and exploration in Pennsylvania, Nevada, Yukon Territory, Nova Scotia, New Brunswick, Colorado, Maine, Spain, Venezuela, Ecuador, Brazil, Australia, Liberia, Guinea and Ghana. Mr. Dennen was also instrumental with the U.S. Geologic Survey, publishing bedrock maps for Cape Ann, Ipswich, and Marblehead. He also published numerous technical articles and textbooks, including "Principles of Mineralogy," "Geology and Engineering," and "Mineral Resources." In addition to his wife, he is survived by two sons, William Dennen of Leesburg, Va., and Peter Dennen of Harrodsburg, Ky., a daughter, Susan Dennen De Rodriguez of Tlalpan, Mexico, a brother, Richard Dennen of Palos Verdes, Calif., a stepson, David Coombs of Ft. Walton Beach, Fla., a stepdaughter, Barbara Thompson of San Francisco, Calif., nine grandchildren and eight great-grandchildren. He was also predeceased by his first wife, Charlotte (Davidson) Dennen and a brother, David Dennen. A memorial service was held in the Trinity Congregational Church, Gloucester, on April 12. Contributions may be made to the Hope Hospice, 9470 Healthpark Circle, Ft. Myers, FL 33908.

We have recently learned that William T. (Bill) Stoeckinger (B.S. 1956, M.S. 1957) passed away on September 11, 2008, in Bartlesville, Okla. Bill and Ina have been retired for some time, living in Bartlesville.

2007 Degrees

Bachelor of Arts

Matt Burton
Joshua Dahl
Angelina Gordon
Daniel Hedges
Jason Lambert
Allison Richardson
Lindsay Wagenblast

Bachelor of Science

Nathan Hendren
Jason Lambert
Nathan Landrum
Bryan Loudon
Jessica Rosenberg
Neil Russell
Shannon Daugherty

Master of Science

Donald Brent Wilhelm
Title of Thesis: "From Clastic to Carbonates: Tectonic and Eustatic Controls on the Transition from the Borden Delta to the Slade Carbonate Platform"
Advisor: Dr. Frank Ettensohn

Doctor of Philosophy

Jennifer Marie Klein O'Keefe
Title of Dissertation: "Paleogene Mirelands of the Upper Mississippi Embayment, Western Kentucky"
Advisors: Dr. James C. Hower and Dr. Alan E. Fryar

Donald Matthew Surles
Title of Dissertation: "Interactions between Structures in the Appalachian and Ouachita Foreland beneath the Gulf Coastal Plain"
Advisor: Dr. William A. Thomas

James Wade Ward
Title of Dissertation: "The Mobility of Fecal Indicator Microorganisms within a Karst Groundwater Basin in the Inner Bluegrass Region, Kentucky"
Advisors: Dr. Alan E. Fryar

Renovation of teaching laboratories in Slone Building

During the summer, the teaching laboratories on the second floor of the Slone Building were completely renovated. The destruction phase involved removing all of the partitions and most of the utilities, while the construction phase included new walls, white boards, screens and projectors. All of the renovation was accomplished between the end of the spring semester and the beginning of classes in the fall. The new rooms provide us with adequate space for teaching all of our laboratory courses in the undergraduate program, as well as for the lecture and seminar meetings of graduate courses. In the original estimate for the renovation, we asked for new lab tables and cabinets specific to the purposes of each lab. The available budget was not adequate to furnish the labs; however, we do have nice new rooms with old tables and inadequate cabinets. This brings an opportunity. We hope to obtain corporate sponsorship for each of our labs, including a naming opportunity. This is an appeal to the alumni to help us obtain such sponsorship.

Room 201: Optical Mineralogy and Petrology Laboratory

This laboratory is equipped with student-model petrographic microscopes, a research microscope and microscope projection equipment. We are using our old laboratory tables with electrical connections for the microscopes; however, the microscopes are housed on the table tops in the absence of appropriate storage cabinets. We hope to furnish this room with a built-in individual microscope work station for each student, and each station will have a storage cabinet to secure the microscope when it is not in use. In addition, we need storage cabinets for teaching materials. The room will have a capacity of 14 students per laboratory section. The preliminary estimate is approximately \$35,000 to furnish this lab.

Room 203: Geologic Map Laboratory

This laboratory houses all courses that use geologic maps, other large-format graphics, and/or hand-specimen rocks and minerals; which includes the field methods courses, structural geology, petrology, historical geology, landforms and similar graduate courses. The preliminary estimate is \$10,000 for new lab tables and chairs, storage cabinets, and display cases and boards.

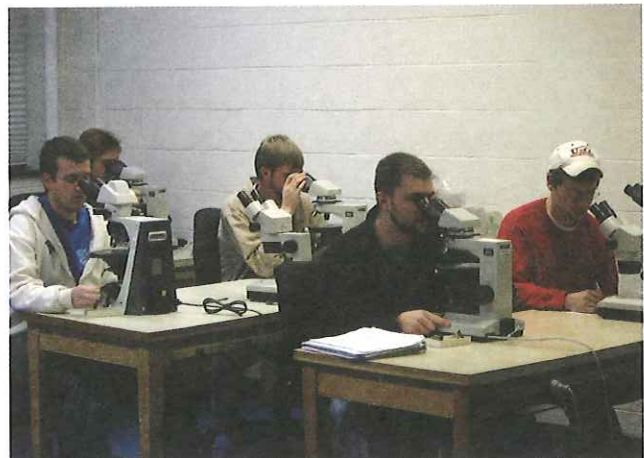
Room 209: Physical Geology Laboratory

The primary use of this laboratory is for the laboratory sections of our physical geology course. For those who remember Funkhouser 307, the new Slone 209 is the replacement. We also use this laboratory for lecture sections of undergraduate courses for majors and for graduate classes and seminars. This laboratory needs new lab tables and chairs, as well as storage cabinets, and display cases and boards. The preliminary estimate is \$10,000.

Room 213: Geology Teaching Laboratory

This laboratory is used for all of the laboratory sections of our course in teaching geology for students in the College of Education. The students are pre-service teachers at the elementary-school level, and we have an obligation to improve their ability to teach geology in the schools. We also use this laboratory for lecture sections of undergraduate courses and for graduate classes and seminars. Similar to the other laboratories, this new laboratory needs new lab tables and chairs, as well as storage cabinets, display cases and boards. The preliminary estimate is \$10,000.

The thorough renovation of these laboratories has provided the department with an opportunity to provide students with the best education our department can offer. New furnishings will give us a giant step forward in that objective. We hope the furnishing of these laboratories will be attractive as an opportunity for corporate sponsorship, and we ask our alumni to help us in seeking this vital support for laboratory furnishings. The laboratory will be identified with the sponsor.



Geology students studied sedimentary rocks in the department's new Optical Mineralogy and Petrology Lab.

Department News

New Faculty

John Huntley



I was recently hired as a lecturer and I am excited about the opportunity to teach in the Department of Earth and Environmental Sciences here at UK. The faculty, staff and students have proven to be most welcoming and helpful since my wife Laura and I arrived in mid-August. I will be teaching “Sustainable Planet: The Geology of Natural Resources,

Earthquakes and Volcanoes” and “Historical Geology” this year.

I am an invertebrate paleontologist with research interests in the fossil record of organismal interactions (predation, parasitism and competition) and their relationship to macroevolutionary patterns such as trends in biodiversity, complexity and body size. These broad research topics, coupled with a keen interest in establishing new collaborations (read: an inability to say no to a cool new project), have enabled me to study everything from the first eukaryotic fossils in the geologic record, to land snail fossils from the Canary Islands, to modern marine and freshwater clams and mussels. In the course of my research, I have integrated amino acid dating techniques, stable isotope and trace element proxies, and computer-intensive simulations and multivariate ordinations to address questions at the intersection of evolutionary ecology and deep time. I came here from Virginia Tech, where I earned my doctorate in 2007, followed by a one-year postdoctoral research position. My master's and bachelor's work were completed at the University of North Carolina in Wilmington (2003) and Appalachian State University (2000), respectively. It is a privilege to be a part of UK Earth and Environmental Sciences, and I hope to have the chance to chat with many of you in the future, both on campus and at GSA meetings.

Jerry R. Weidner



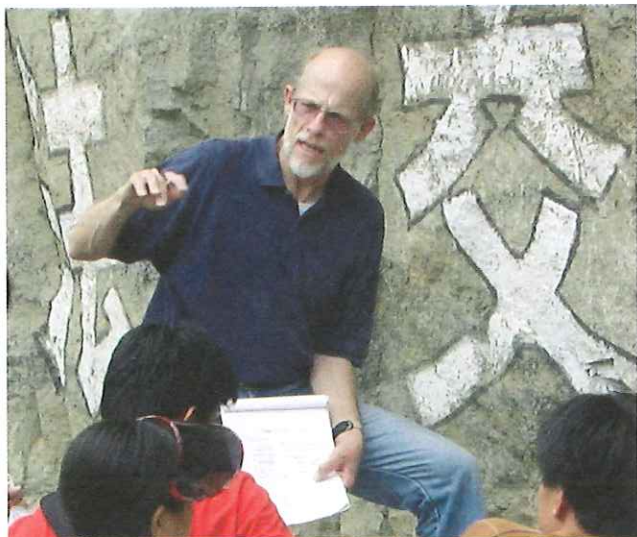
I am delighted to join the UK Department of Earth and Environmental Sciences as a lecturer this year. Not only is this a welcome return to academia after a long absence, but I also have close family members in Lexington and Ashland as well as the Dayton, Ohio area.

My academic background includes degrees from Miami University (BA, MS, Geology) and the Pennsylvania State University (PhD, Geochemistry) followed by a post-doctoral fellowship at NASA, Goddard Space Flight Center, Maryland. I spent many years as a faculty member in the Geology Department at the University of Maryland teaching and carrying out research in experimental petrology and lunar science. My work in experimental petrology led to a position at the Idaho National Laboratory (INL) working in the In Situ Vitrification Program, a possible method for treating buried waste materials by melting the surrounding soil and thus encapsulating hazardous waste within an impermeable, glassy material. I remained at the INL for several years doing research and development work on many different methods to contain or isolate hazardous materials from the environment. I then became an independent consultant in the same field.

This fall I am teaching Environmental Geology (Gly 110), Geology for Elementary Teachers (Gly 160), Field Methods (Gly 230) and a Graduate Seminar (Gly 570). It is very refreshing to rejoin the academic community here at the University of Kentucky after several years at the Idaho National Laboratory, and doing independent consulting work more recently.

News Briefs

For the second year in a row, **Frank Ettensohn** (faculty) was the recipient of the A.I. Levorsen Best Paper Award at the annual meeting of the Eastern Section of the American Association of Petroleum Geologists in Lexington for 2007. His paper, titled "Horses, Kentucky Bluegrass, and the Origin of Upper Ordovician, Trenton-age Carbonate Reservoirs and Source Rocks in East-Central United States," summarized his recent research on the structural and tectonic framework of the Trenton Group in the central United States and its economic implications. Ettensohn is also the recipient of the Eastern Section AAPG 2008 Outstanding Educator Award "in recognition of his dedication to teaching which emphasizes field instruction, educational leadership, and exemplary research on Ordovician, Devonian, and Mississippian strata in the Appalachian Basin." He will receive both awards at the 2008 Annual Eastern Section Meeting in Pittsburgh. The picture below will accompany the citation.



Dr. Frank Ettensohn teaching in the field with his Chinese sedimentary geology course in Ye San Po, China, 2005.

Dhananjay Ravat (faculty) co-convened special sessions on potential fields at the Joint Assembly of AGU and several other societies in Fort Lauderdale in May, and on the interpretation of the World Magnetic Anomaly Map at the International Geological Congress in Oslo, Norway, in August. In July, he participated in the Electrical Power Research Institute workshop on Seismic Source Characterization of Central and Eastern United States. Several scientists from the Nuclear Materials Authority in Egypt – Dr. Eslam Elawadi, Dr. Alaa Aref, Dr. Atef Elshayat, and Dr. Ali Abdelaziz – visited the geophysics laboratory for a few months in the course of the last year. In addition to the contribution of their individual projects, they compiled an improved magnetic anomaly map of the U.S.

Alan Fryar (faculty) hosted Prof. Nouredine Laftouhi (faculty of sciences at Semlalia, Gadi Ayyad University, Marrakech, Morocco) as a visiting Fulbright Scholar during the summer.

Carrie Kidd (M.S. student) participated in the AAPG Student Chapter Leadership Summit (SCLS) and AAPG Leadership Days in Tulsa, Okla., Aug. 21-24. At the SCLS summit, the focus was on making individual student chapters stronger, while recruiting new students, starting new chapters and addressing student concerns were the focus of the AAPG meeting.

Kent Ratajeski (faculty) is starting his second year as a lecturer in the department. His primary teaching responsibilities have included several large introductory lecture sections (GLY 110 and 220), a sophomore-level field geology course for geology majors and engineers (GLY 230) and a graduate seminar. Last summer, Kent taught a summer course and helped coordinate the move of the physical geology lab from the third floor of Funkhouser to its new home on the second floor of Slone. This project involved organizing the rock collection and teaching materials, and picking out some "bad geology" movie posters to decorate the new lab (e.g., Volcano, The Core, Journey to the Center of the Earth, and The Day After Tomorrow). In July, Kent and his wife Esther, a human geographer at Morehead State University, were married at Tates Creek Presbyterian Church in Lexington. Since meeting Kent, Esther has learned to identify the sedimentary rock formations

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Department News

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of the High Bridge Group and has taken geology field trips to the Red River Gorge, southwestern Montana, the Colorado Plateau and Aruba.

Alan Fryar (faculty) taught a new course in hydrology and water resources to majors in geology and majors in natural resources conservation and management during fall of 2007. The class included a canoe trip on the Kentucky and Dix rivers on a gorgeous Saturday in October.

John Allen (Ph.D. student) and **Bill Thomas** (faculty) attended the meeting of the Geological Society of Canada in May at Quebec City, where John presented their co-authored paper on the Iapetan rifted margin in Newfoundland. Both participated in a field trip, led by research collaborator Dennis Lavoie of the Geological Survey of Canada, to see synrift and passive-margin strata.

Frank Ettensohn (faculty) was appointed on July 1, 2008 as the new director of the University of Kentucky Honors Program, but he will still retain some teaching and research responsibilities in the department. At any one time, the Honors Program serves about 1,200 students and admits nearly 400 of the brightest freshman each year from all UK's colleges. Ettensohn will oversee a staff of three and more than 30 full- and part-time faculty. One of his first responsibilities was to co-lead a group of 14 students on an two-week trip to Ecuador. Ettensohn teaches in the food and nutrition Honors track, and the purpose of the trip was to observe and understand economic and agricultural development in a third-world country. Along the way, however, Ettensohn was quick to point out various geologic features in the Andean arc, forearc and foreland basins.



Students at the edge of Laguna Cuicocha, an andesitic caldera, in central Ecuador, 2008.

Jim Hower (adjunct faculty; Center for Applied Energy Research) has been named the 2008 recipient of the John Castaño Honorary Member Award by The Society of Organic Petrology. Hower is in his 30th year as a Senior Scientist at the University of Kentucky's Center for Applied Energy Research and is completing his 10th and final year as editor of Elsevier's International Journal of Coal Geology. He had previously received the Reinhardt Thiessen Medal from the International Committee for Coal and Organic Petrology (2003) and the Gilbert Gady Award from the Coal Division of the Geological Society of America (2006).

Karen Exton Thompson (M.S., 2002) is a project manager with Smith Management Group, Inc. in Lexington and is chair of the Kentucky Geological Survey Advisory Board.

Abhijit Mukherjee (M.S., 2003; Ph.D., 2006) completed a post-doctorate at the Bureau of Economic Geology, University of Texas at Austin in August, and is now a hydrogeologist with the Alberta Geological Survey in Edmonton, Canada. He co-edited a special issue of Journal of Contaminant Hydrology based on a topical session he co-convened at the 2006 Geological Society of America Annual Meeting.

Danita LaSage (Ph.D., 2004) is now working with the Kentucky Division of Mine Permits. A pair of papers based on her research and that of **Josh Sexton** (M.S., 2006) and **Abhijit Mukherjee** (M.S., 2003; Ph.D., 2006) is being published in Journal of Hydrology.

James Ward (Ph.D., 2008) has set up an environmental consulting firm (WR HydroSolutions, LLC) based in Georgetown, Ky., and is working with UK to patent a technique for tracking fecal bacteria in water. An article in the fall 2008 issue of *Ampersand* (the College of Arts & Sciences magazine) highlighted his work.

Departmental Awards to Students

Pirtle Graduate Fellowships

Kathryn Adank
John Allen
Brian Cook
Kenneth Macpherson

Pirtle Graduate Scholarships

Matthew Massey
Devi Udgata
Lois Yoksoulian

Ferm Fund Awards

Research

John Allen
Suvankar Chakraborty
Brian Cook
Lois Yoksoulion

Travel

John Allen
Elizabeth Dodson
Ashley Gilbert
Matthew Massey
Tim O'Brien
Devi Udgata

Brown-McFarlan Fund Awards

Research

Ashley Gilbert
Bryan Loudon
Lehne Slater

Travel

Estifanos Haile
Carrie Kidd
Brian Scott
Lehne Slater
Lois Yoksoulion

Pirtle Undergraduate Scholarship

James D. Stucker

Glenn Rice Memorial Scholarship

Jordan Drew

Sigma Gamma Epsilon Tarr Award

Nathan Landrum

Awards to Students from Agencies Outside the Department

AAPG Grant-in-Aid for Research:

John Allen
Brian Cook

GSA Student Research Grant

Tim O'Brien

Sigma Xi Grant-in-Aid for Research:

John Allen

New England Intercollegiate Geological Conference, Billings Fund, research grant:

Tim O'Brien

Southeastern Section GSA, research grant:

Lois Yoksoulion

GSA Coal Division A.L. Medlin field scholarship:

Lois Yoksoulion

UK Graduate School Academic Fellowship:

Ken Macpherson

The Society for Organic Petrology, travel grant:

Lois Yoksoulion

Eastern Section Seismological Society of America, travel grant:

James Whitt

Kentucky Section AIPG Student Award:

Jordan Drew

AAPG Eastern Section

At the Student Expo AAPG Eastern Section meeting in Lexington in September, 2007, UK students swept the poster awards.

First Place: Ashley Williams

Second Place: Lois Yoksoulion

Third Place (tie): Devi Udgata and Carrie Kidd

Rast-Holbrook Seminar Series

Fall 2007

Dr. Zhenming Wang, Kentucky Geological Survey:

"Geology and Public Policy: Seismology and Seismic Hazard Mitigation in Western Kentucky"

Dr. Kent Ratajeski, University of Kentucky, Department of Earth and Environmental Sciences:

"The Origin of Granites in Yosemite Valley, California: A Field, Geochemical, and Experimental Investigation"

Professor Stan Dunagan, University of Tennessee-Martin, Department of Geology, Geography, and Physics:

"Recognition of Late Jurassic Carbonate Wetlands and Lakes from the Morrison Formation (Colorado)"

Dr. Jackie Reed, Reed Geochemical Consulting:

"Oil and Gas Exploration Significance of the Geographic and Stratigraphic Distribution of *Gloecapsomorpha prisca*"

Professor Joseph Allen, Division of Natural Sciences, Concord College (W.Va.):

"Frictional-plastic deformation in two pseudotachylyte-bearing shear zones: Coupling of seismic and aseismic processes"

Professor Mark Steltenpohl, Auburn University, Department of Geology and Geography:

"Tectonic Evolution of the Caledonian Orogen along a Geotraverse from East Greenland through Arctic Norway and Sweden"

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Student News

Spring 2008 Field Trip to Ontario

The annual end-of-term spring field trip traversed from Toronto to Sudbury, Ontario to explore the geology of the southern Canadian Shield. Geologic highlights included Niagara Falls; gneisses, pegmatites and marbles of the Grenville province; the Sudbury structure, including features associated with the impact structure and ore deposits; the Huronian Supergroup, including tillites in the Gowanda and Serpent Formations; and the Niagara escarpment along the Bruce Peninsula, which required a ferry ride across northern Lake Huron. Other highlights included moose sightings, spicy Indian food, and really cold Canadian spring mornings. The cost of the trip was underwritten by student fees and generous donations from Liz Haynes, Jim Pear, Jay Henthorne, Steve Sullivan, Will Foley and Wendell Overcash. Our students greatly appreciated your support!



Students on a field trip in Ontario.

Undergraduate Program

2007 was a good year in terms of the number of baccalaureate degrees awarded in geology at UK. Fifteen students graduated, the highest number in the past 10 years. We never know the exact number of graduates until well after the end of the calendar year, as students may “officially” graduate (date the degree is posted on their transcript) in January, May or August. The number of majors has held steady at approximately 50 over the past five years. Unfortunately, we have yet to see a significant increase in majors in response to demand for geologists in the energy field. My colleagues at similar-sized institutions in the eastern U.S. also note the lack of an obvious jump in geology majors. Most UK geology majors still transfer into geology from another major. In spite of the need for geologists in petroleum and coal industries, many students continue to be attracted to geology for environmental applications.

Upon graduation, most students are often able to find employment with an engineering or environmental consulting firm or state agencies (e.g., Kentucky Environmental Protection Cabinet), or they go on to graduate school. Those lucky enough to have a connection in the oil and gas industry might find employment there with a bachelor’s degree.

We continue to provide students with career guidance. As director of undergraduate studies and an instructor in two required courses completed by all majors, I get to know students reasonably well. This allows me to tailor career advice to a student’s interests and aptitudes. I also coordinate GLY 295: Orientation to Geosciences, a one credit pass-fail course in which guest speakers (mostly UK geology alumni) discuss the spectrum of careers available in the geosciences. The speakers and topics for the Spring 2008 term were:

- Rusty Ashcraft* (Alliance Resources; careers in coal mining and mine waste remediation)
- Martha Brock* (U.S. EPA; careers in environmental law)
- Tommy Cate (Greensburg Oil and Gas; careers in oil and gas exploration, the independent operator’s perspective)

- Jim Cobb (KGS; role of state geological surveys)
- Mike Currie* (Newcorp; careers in oil and gas exploration, the mid-major perspective)
- Peter Goodman* (KY Dept. Water Resources; careers in the public sector)
- Jamie Johnson (UK College of Arts & Sciences Career Counselor; career development services at UK)
- Sue Rimmer (UK; graduate school preparation)
- Steve Sullivan* (careers in environmental consulting, the business side)
- Bill Thomas* (UK; former president of GSA; professional geoscience organizations)
- Karen Thompson* (careers in environmental consulting, the technical side)
- Chuck Taylor* (USGS; careers in the public sector)

*UK alum

We greatly appreciate the willingness of our guest presenters to visit UK and talk to our undergraduate students.

~Dave Moecher, Director of Undergraduate Studies

UK Students and Industry

Prospects continue to improve for graduate students in geology who plan to pursue a career in the petroleum industry. Four graduate students in EES completed internships during the summer and fall of 2008, and in the past year three graduate students took permanent positions with oil and gas companies.

Brian Cook (M.S., 2001; Ph.D. in progress with Bill Thomas) is interning with Equitable Production Company in Pittsburgh, Pa. "I really love the work," Cook said. "I am applying what I have learned in structural geology and stratigraphy at UK in the real world environment. By the time I leave here, many of the wells for which I prepared reports will be drilled and close to completion."

Carrie Kidd (M.S. in progress with Bill Thomas) completed an internship with Chesapeake Energy in Charleston, W.Va. Kidd worked on several projects di-

rectly related to her thesis research on the evolution of the Black Warrior basin. "I've had a great experience with Chesapeake and would recommend this company to any student interested in an internship or job in the oil and gas industry," she said.

Lehne Slater (M.S. in progress with Sue Rimmer) interned with SandRidge Energy in Oklahoma City, Okla. Slater completed a senior thesis in environmental geology at Furman, but at UK she switched fields and is doing thesis research in organic petrology. "I experienced a completely different application of geology in a professional setting by working in the oil and gas industry," Slater said. "I would definitely recommend doing an internship to anyone who might be interested in a career in oil and gas."

Brian Scott (B.S., 2007; M.S. in progress with Harry Rowe and Sue Rimmer) completed an internship with Chesapeake in Oklahoma City, Okla. "I worked very closely with two mentors who guided me through a reservoir evaluation project that I worked on all summer," Scott said. "I was able to learn more than just what a petroleum geologist does: I got a brief introduction to what other people were doing and generally how the petroleum industry works."

Recent industry hires include Matt Surles, now at BP; Rachael Von Mann, now at ExxonMobil; and Brent Wilhelm, now at EOG Resources in Denver, Colo. We continue to benefit from geology alumni who are in positions to provide career support for our students. Tom Spalding (B.S., 1980; M.S., 1982), vice president of Pioneer Natural Resources, held interviews for internships and permanent positions in the fall of 2008, as he did two years ago. Sarah Hawkins (B.S., 2002; M.S., 2006), who was hired by Pioneer two years ago and currently works in their Denver office, helped out with the interviews. Other UK alumni have held informational sessions for EES students in the past two years, including Jill Gregory, currently with ExxonMobil; John Kaldy with BP; and Elizabeth Haynes with BHP Billiton. Many other alumni continue to offer advice and encouragement. We greatly appreciate that support, and we will continue to encourage our students to consider a career in the energy industry. (The EES department helps underwrite the travel expenses of students attending the annual AAPG Student Expos.)

Alumni News

Alumni Board

This year, the geology alumni advisory board organized several events and planned for two fundraisers for the department. Our April alumni reception at the annual meeting of the American Association of Petroleum Geologists (AAPG) was a festive time for all who attended in San Antonio. Special thanks to all alumni who were able to attend. Our annual reception at the Geological Society of America annual meeting will be held this year in Houston, Texas on Monday, Oct. 6th and, as always, should be well attended. The GSA and AAPG receptions are free to alumni of the UK Department of Earth & Environmental Sciences (DEES) and I encourage all of you to attend if you are able. Our fall alumni get-together was a bit smaller this year, with a seminar presentation by geophysicist and alumni Jon Konkler (BP) and two brown-bag seminars by alumni Tom Spalding (Pioneer Natural Resources) and Elizabeth Haynes (BHP Billiton Petroleum).

I am proud to announce that in May the spring field trip to Canada was funded in large part by contributions from our alumni. This semi-annual field trip is very popular and a large amount of resources, including financial, are required to make it feasible. Normally, much of the cost would be born by the students with some relief from the department, but with the current budget cuts to higher education the department was in need of assistance. Thanks to our alumni, more than \$3,000.00 was raised in less than a week to fund the trip. For the next field trip, we would like to begin a fundraiser well in advance of the departure with the intention of visiting a world-class geologic site.

This year the alumni advisory board welcomes two new faces – Wendell Overcash and Curt Hull. Wendell is an attorney with the Commonwealth of Kentucky and Curt is a senior vice president at Stoller Environmental in Denver, Colo. We look forward to having their expertise and experience onboard. It is with some regret that I announce the resignation of our dean in the college of Arts and Sciences, Steven Hoch. Dean Hoch was a pivotal force in advising and developing the current geology alumni advisory board and in providing the expertise in personnel and funding for our departmen-

tal events and fundraising activities. The alumni board would like to congratulate Dean Hoch on his appointment as provost at the University of Washington and wish him the best of luck. Mimi Ward, the college's chief development officer, continues to be our guide and mentor in the alumni relations realm – her knowledge and experience are invaluable and much appreciated.

The goal of the alumni board this coming year is to continue to provide expertise and guidance to the department, and to organize and collaborate with the College of Arts and Sciences at UK on fundraising events specific to the department. With this in mind, our annual meeting will focus on growing and fostering our relationship with the dean's office and interim Dean Phil Harling. The board will continue to communicate with and engage our geology alumni. Look for a new department Web site with updates on departmental activities, alumni activities, and information on how to contribute to our alma mater. As chairman of the alumni board, I would like to personally thank all of you who have contributed this year to the department. Your generous donation of time, expertise and financial contribution goes a long way toward improving the quality education at UK.

Best wishes and GO CATS!

Elizabeth A. Haynes (2000), Chairman
Department of Earth & Environmental Sciences
Alumni Advisory Board

2007 Distinguished Alumni Award



This past year the Department of Earth & Environmental Sciences honored its third Distinguished Alumnae, Alma Hale Paty, at the fall alumni reception in Lexington, Ky. Paty graduated from the University of Kentucky in 1984 with a master's degree in geology.

Since then, she has been extensively involved in many projects that both engage and inform the general public about geology and, in particular, the mining industry. Paty is former president of the American Coal Foundation, a non-profit organization created to develop, produce and disseminate coal-related educational materials and programs for teachers and students. She was instrumental in acquiring more than 150 coal and solid bitumen samples for the University of Kentucky from the collection of Vanderbilt University. Paty is also co-author of "Minerals: Foundations of Society," a book designed to inform the general public about the importance of minerals in society. She has been director of public lands and mineral policy for the American Mining Association, a staff member of the Mining and Natural Resources Subcommittee of the House Interior Committee, and president of the Washington, D.C. chapter of the Society for Women in Mining. Alma is currently president and founder of A Capital Resource, a consulting firm specializing in mineral resource issues and education based in Washington, D.C.

Paty's many accomplishments are a testament to her skills as a geologist, her ability to communicate with her peers as well as the general public, and her strong desire to engage and inform our government in matters of geologic importance. Alma, the Department of Earth & Environmental Sciences and its alumni are proud to have you as a fellow alumni.

Fall 2007 Alumni Weekend at UK

The Department of Earth & Environmental Sciences welcomed alumni to Lexington for its annual Homecoming festivities which included a football game and dinner.



Alumni News

Opportunities for Giving

The Brown-McFarlan Fund and the Ferm Fund (below) are the only departmental funds available to directly support student research. As the cost of doing research rises, we are more and more dependent on these funds. The faculty are actively bringing in grant funds to support student participation in research; however, not all students have research projects that fit within the objectives of grant-supported research.

Brown-McFarlan Fund

Provides research grants for graduate students to support thesis and dissertation research, and for undergraduate students to support senior theses and independent research. The research grants directly cover the students' expenses for specific parts of their research. In addition, this fund supports students traveling to professional meetings to present the results of their research. The fund enables us to bring in speakers for the annual McFarlan lecture and the annual Brown lecture.

J. C. Ferm Graduate Research Fund

Provides research grants for graduate students who are conducting field-based research, and provides travel funds for those students to present the results of their research at professional meetings.

Rast-Holbrook Fund

Provides most of the support for the departmental seminar series, a weekly seminar that features visiting speakers from academia and industry, our own faculty, and graduate students.

Haynes Field-Trip Support Fund

Supports student travel on departmental field trips.

Glenn Rice Memorial Fund

Provides scholarships for undergraduate students.

Geology Support Fund

Broadly supports initiatives to ensure the long-term quality of the Department.

Geology Development Fund

Provides support for a variety of programs for our current students.

Earth and Environmental Sciences Alumni Endowed Professorship

An endowed fund to support a professorship when the fund reaches an appropriate level.

Wallace Hagan Scholarship Fund

An endowed fund that will provide an undergraduate scholarship when the fund reaches an appropriate level.

GEOFund

An endowed fund that will provide for long-range department goals when it reaches an appropriate level.

Recent Contributions

Brown-McFarlan Fund

Michael T. Currie (matched by Newfield Exploration Company)

Mr. & Mrs. James E. Fout (in honor of James S. Fout)

Robert Flege, Jr. (matched by B.F. Goodrich and ChevronTexaco)

Helen S. Fout

J. Monroe Hall

Jo C. Napier

Samuel H. Norris

Alma Paty (in memory of Dr. William H. Dennen)

J. Hunt Perkins

Thomas D. Spalding (matched by Pioneer Hi-Bred)

Bill and Ina Stoeckinger

Ferm Fund

Bruce C. Amig (matched by B. F. Goodrich)

John T. Johnson

Peter D. Warwick

Development Fund

Michael W. Bourque (matched by Shell Oil Company)
Lowell E. Brandenburg
Norman Kelly Breeding
Judith L. Cass
Anne S. Childress
Thereseann C. Dowdy
Kathleen Frankie
Wayne T. Frankie
George W. Fugate
Kerry L. Gavett
George Graham
Stephen F. Greb
Mr. and Mrs. Matthew A. Gregory
Deborah D. Griswold
Elizabeth A. Haynes
Michael W. Heitt
Adam Holt
Scott L. Huang
Curtis G. Hull
James H. Johnson
Joseph Johnson
Windsor J. Kaldy
Kevin M. Kohles, Jr.
Robert B. Lieber (matched by BP America)
Rodney V. Metcalf
P. Greg Mudd
James H. Murphy
Frank H. Nicholson
Wendell H. Overcash
Jack C. Pashin
James L. Pear
Carl Petersen
Jay Henthorne (Petro Evaluation Services, Inc.)
Gregory J. Preziosi
Richard E. Phillips (matched by ChevronTexaco)
David M. Richers
John Roulston
Nicholas S. Sirek
Lawrence E. Spangler
Christopher F. Steinemann
Stephen B. Sullivan
Karen E. Thompson
Mark F. Thompson
Page B. Vingralek
Thomas R. Webb
A.P. Whipple
Ralph O. Wilson II
Leonard E. Wood

Geology Support Fund

Daniel J. Acquaviva
Anne S. Childress
Ally N. Gaines
Thomas B. Griswold
Adam Holt
Scott L. Huang
Joseph Johnson
Harry L. Mathis
Brent Owens
Richard E. Phillips
William A. Spies
James W. Thorton, Jr.
Donald R. Townsend

Alumni Endowed Professorship

William C. Foley
Douglas R. Gouzie
Sarah M. Mardon
Alma Paty
James L. Pear (matched by ChevronTexaco)
Michael S. Reed (matched by Aspen Energy, Inc.)
Stephen B. Sullivan
William A. Thomas

Boone Graduate Fellowship

Jill C. Gregory (matched by Exxon Mobil Foundation)
Matthew A. Gregory (matched by Exxon Mobil Foundation)

Elizabeth Haynes Field Trip Fund

Patricia A. Anderson
Cal Butler
Elizabeth A. Haynes

Rast-Holbrook Fund

Timothy D. Elam (matched by ChevronTexaco)
Charles Holbrook (matched by ChevronTexaco)
Sue M. Rimmer

Glenn Rice Memorial/Undergraduate Scholarship Fund

Patricia A. Anderson
Michael T. Currie
Thomas Steven Deen (matched by EnCana Oil & Gas, Inc.)

Hagan Scholarship Fund

J. Hunt Perkins

Hudnall Scholarship Fund

Patricia A. Anderson

Rast-Holbrook Seminar Series

Fall 2007 cont'd

Professor Dave Fastovsky, University of Rhode Island,
Department of Geosciences:

"Catastrophic Extinction of the Dinosaurs at the
Cretaceous-Tertiary Boundary, 65 Ma"

Tim Elam, Chevron North America:

"The California Oil Industry: Past, Present, and Future"

Professor Ellen Martin, University of Florida, Department of
Geology and Joint Oceanographic Institution Distinguished
Lecturer:

"Tales of Deep Ocean Circulation from Tiny Fish Teeth"

Professor Ralph von Frese, Ohio State University, School of
Earth Sciences:

"Killer crater in Wilkes Land, Antarctica"

Professor Frank Ettensohn, University of Kentucky, Department
of Earth and Environmental Sciences:

"General Geology of the Himalayas in Nepal"

Dr. John Muntean, Nevada Bureau of Mines and University of
Nevada-Reno:

"Controversies Surrounding the Origin of a Quarter of the
World's Annual Gold Production: the Witwatersrand of South
Africa and the Carlin Trend of Nevada"

Katie Adank (M.S. student):

"Occurrence of Phytophthora at the Bent Mountain Surface
Mine Reforestation Site."

Devi Udgata (Ph.D. candidate):

"Glaucony and Sequence Stratigraphy"

Professor Christopher Romanek, Savannah River Ecology Labora-
tory, Department of Geology, University of Georgia:

"Carbonate mineral geochemistry as a potential biological
fingerprint and the search for life on Mars"

Professor Kieran O'Hara, Department of Earth and Environmental
Sciences, University of Kentucky:

"Glacial Cycles and Greenhouse Gases"

Professor Marshall Wilkinson, Department of Geography,
University of Kentucky:

"Soil Bioturbation: From Darwin's Profound Pedogenic
Observations to Global Carbon Cycling"

John Nelson, Illinois Geological Survey (Emeritus):

"Neotectonics of Southern Illinois"

Mike Zoccola, U.S. Army Corps of Engineers, Nashville District:

"Wolf Creek Dam (Lake Cumberland) Rehabilitation Project"

Professor Jer-Ming Chiu, University of Memphis, Center for
Earthquake Research and Information:

"A New Tectonic Model for the Orogenic Process along an
Active Young Plate Collision Boundary in the Taiwan Region"

Dr. Kelin Wang, Geological Survey of Canada, Pacific Division:

"The Most Acclaimed Successful Earthquake Prediction: The
1975 Haicheng Earthquake"

Professor Stephen Macko, Department of Environmental
Sciences, University of Virginia:

"From the Winds of Africa to the Origins and Maintenance
of Life: New Perspectives through Compound Specific Isotope
Analysis"

Professor Dhananjay Ravat, Department of Earth and
Environmental Sciences, University of Kentucky:

"Mars Magnetic Field"

Kathryn Adank (M.S. student):

"Bauxite Mining and Restoration in Western Australia"

Elizabeth Dodson (M.S. student):

"Structural Geology of the Transylvania Fault Zone in the
Appalachian Thrust Belt, Bedford County, Pennsylvania"

Dr. John R. Bowersox, Kentucky Geological Survey:

"Paleoceanographic Influence on Deposition of the Pliocene
Ecthegoin Group, San Joaquin Basin, California: Implications
for Shallow Gas Exploration"

Spring 2008

Brandon Nutall, Kentucky Geological Survey:

"Carbon Sequestration, House Bill 1, and Kentucky's Energy
Future"

Professor Paul Bertsch, Savannah River Ecology Laboratory,
Department of Geology, University of Georgia:

"Distribution and Chemical Speciation of Metals and Metal-
loids in Environmental Samples - Elucidating Mechanisms
Controlling Transport and Fate"

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