

# EARTH & ENVIRONMENTAL SCIENCES



2015 DEPARTMENT NEWSLETTER

**UK**  
UNIVERSITY OF  
KENTUCKY<sup>®</sup>  
College of Arts & Sciences  
Department of Earth &  
Environmental Sciences

# GREETINGS FROM THE DEPARTMENT CHAIR

Dear UK Geology alumni and friends,

Many of you already heard the great news from our summer online EES Newsletter [All of our recent Newsletters are available to read or download and print at the EES homepage: <http://ees.as.uky.edu/>]

We completed FIVE new faculty hires during the Spring 2015 term! This is a remarkable accomplishment for any department at a public research university, let alone a modest-sized geoscience department. This fortunate development is largely a result of the strong support of Dr. Mark Kornbluh, the Dean of the UK College of Arts and Sciences, who saw the value of helping EES rebuild its faculty size to a level not seen since the 1980s. Much of the reason for Dr. Kornbluh's support of EES is the remarkable level of support we receive from our alumni – YOU! Our Alumni Board and the generosity of our alumni are the model for establishing alumni boards in other departments in the College of Arts and Sciences.

Two of these five new faculty started this past Fall 2015 term. Prof. Rebecca Freeman was an outstanding Lecturer in EES who the College felt was worth promoting to a tenure track faculty position. You can read a brief biographical sketch about Rebecca on page 7. Prof. Ryan Thigpen was hired from BP to strengthen our program in petroleum geosystems and tectonics. Ryan's brief bio can also be found on page 7. Three more new faculty will start in 2016 and we'll introduce you to them as they arrive: Dr. Keely O'Farrell, Dr. Andrea Erhardt, and Dr. Sora Kim. In case you weren't counting...four of the five hires were women geoscientists! Half of our graduate students, and a growing number of undergraduates are women, so it is important to have female professional role models in our discipline. There have been only TWO tenured female faculty members in the nearly 125 year history of the Department (Dr. Lois Campbell, Dr. Sue Rimmer).

**Speaking of the future, 2017 will be the 125th anniversary of the Department (originally the Department of Geology, then Geological Sciences, then Earth and Environmental Sciences).** We've begun planning an alumni celebration in Lexington for fall 2017 – more on that in the coming year. And the Eastern Section Meeting of the AAPG is in September in Lexington, so we hope to see alumni there.

Fundraising successes in the past year included the completion of the campaign to endow the Wendell Overcash Earth and Environmental Sciences Student Travel Fund, which will support special field experiences for highly qualified students. Here again, the funding goal was met in part by support committed by the College of Arts and Sciences. Mr. Jay Henthorne created the Jay G. Henthorne, Jr. Endowed Scholarship in Geology, which will be awarded to highly deserving graduate and undergraduate students. Numerous other alumni made very generous donations to EES, including an anonymous \$100,000 bequest to the Pirtle Endowment. The complete list of 2015 donors can be found on p. 11. We greatly appreciate that support!

Finally, we ask you to **consider supporting one of our endowments that support undergraduate and graduate students.** For the foreseeable future, our highest priority financial needs are the following:

**The Pirtle Endowment**, originally endowed by UK Geology alumnus George Pirtle\* in the 1960s, supports our efforts to recruit the most highly qualified graduate students. We have been so successful in recruiting strong students that we need to increase the Pirtle endowment to cover our anticipated fellowships.

**The Glenn Rice Memorial Scholarship** fund provides tuition scholarships for qualified undergraduates. Tuition continues to increase in order to cover shortfalls from state appropriations for higher education.

**The Geology Development Fund** provides support for the receptions we hold at national meetings of the GSA and AAPG, for our annual fall picnic, for dinners with guest speakers, and for our annual spring student awards luncheon.

All of our funds are listed on the back cover. Feel free to contact us if you have any questions about these funds. You can make a gift online by visiting [www.uky.edu/GiveNow/](http://www.uky.edu/GiveNow/)

**With sincere thanks for your continued support and enthusiasm for geoscience at UK-**

*Dave Moecher*  
Geology Alumni Professor and Chair



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## STAY CONNECTED...

You can keep track of department events, the Rast-Holbrook seminar schedule, our contact information, and alumni events via the department web page:

[ees.as.uky.edu](http://ees.as.uky.edu)

## AND KEEP IN TOUCH!

Please let us know if your address or contact information change. Send a note to, email, or call Adrienne Gilley, the Department Manager.



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Help celebrate the 125th Anniversary of Geology at UK!  
We are planning an alumni reception for Homecoming Weekend 2017  
*We will provide more specific details in the coming year.*

### **Regular Faculty**

Sean Bemis, Assistant Professor  
Frank Ettensohn, Professor  
Rebecca Freeman, Assistant Professor  
Alan Fryar, Associate Professor  
Michael McGlue, Assistant Professor  
David Moecher, Professor  
Dhananjay Ravat, Professor  
Ryan Thigpen, Assistant Professor  
Kevin Yeager, Associate Professor  
Ed Woolery, Professor

### **Staff**

Adrienne Gilley, Dept. Manager  
Pete Idstein, Academic Lab Coordinator  
Joseph Lucas, Lab Manager

### **Lecturers**

Dr. Kent Ratajeski

### **Emeritus Faculty**

William Blackburn  
Bruce Moore  
Kieran O'Hara  
Sue Rimmer  
Lyle Sendlein  
Ron Street  
William Thomas

### **Adjunct Faculty**

Jim Cobb, KGS  
John Hickman, KGS  
Jim Hower, CAER  
Cortland Eble, KGS  
Rick Bowersox, KGS  
Marty Parris, KGS  
Tom Robl, CAER  
Jerry Weisenfluh, KGS  
Steve Greb, KGS  
Zhenming Wang, KGS  
Junfeng Zhu, KGS  
Chris Groves, WKU

COVER PHOTO: UK Geology Field camp students taking a break while measuring the Mesozoic section at Almont - Paleoproterozoic basement complex is exposed in cliffs across the East River.

# DEGREES AND AWARDS

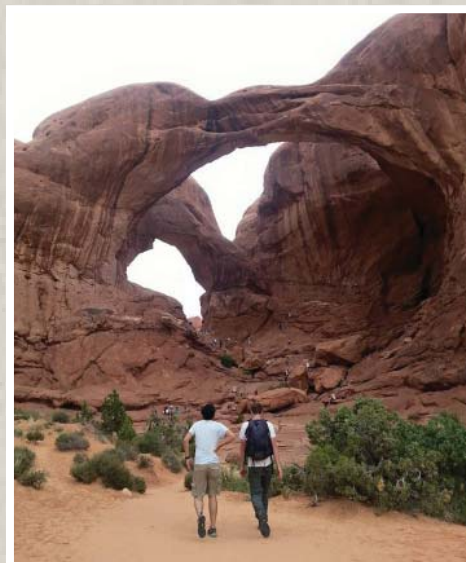
## UNDERGRADUATE DEGREES

### Bachelor of Arts

Clay Atcher  
Taylor Chapman  
Jarrad Grider  
Michael Jax  
Chase Lockhardt  
Victoria Oberc  
Grondall Potter III  
Michael Priddy  
Sean Rohrer  
Clay Seckinger  
Courtney Slone  
Dominic Sparkling

### Bachelor of Sciences

Edwin Cheong  
Jacob Lee  
Brian Slone



## GRADUATE DEGREES

(with thesis advisor and placement as of Jan. 2016)

### Spring 2015:

Zachary Moore, M.S.: “Assessing the relative mobility of submarine landslides from deposit morphology and physical properties : an example from Kumano Basin, Nankai Trough, offshore Japan” (D. Sawyer) (Geologist, Pioneer Natural Resources)

Cole Musial, M.S.: ““Dynamic surface water-groundwater exchange in tidal freshwater zones: Insights from the Christina River Basin (Delaware, USA)” (A. Sawyer) (Hydrogeologist, AECOM)

### Summer 2015:

Stephen Prosser, M.S.: “Fluvial Response to Growth Faulting in the West Pearl River, Louisiana” (Kevin Yeager) (Geologist, Pioneer Natural Resources)

Melissa Ditty, M.S.: “Finding Mars Paleopoles from Magnetization Edge Effects to Determine the History of Mars Core Dynamo” (Dhananjay Ravat)

### Fall 2015:

Lucas Rohrer, M.S.: Bedrock geologic mapping with aeromagnetic constraints and structural analysis of the Petersham quadrangle, central Massachusetts: Further tests of the model for Middle-Late Paleozoic ductile transpression and extrusion in the Northern Appalachians (David Moecher) (Science Teacher, Caldwell County High School, KY)

Trent Garrison, PhD: “The Environmental Effects of Coal Fires” (James Hower) (Instructor, Eastern Kentucky University)

Julie Floyd, M.S.: “Subsurface Analyses of the Bedford-Berea Formations in Eastern Kentucky for Petroleum System Evaluation” (Steve Greb)

# DEGREES AND AWARDS

## UNDERGRADUATE AWARDS

### **PIRTLE OUTSTANDING SENIOR SCHOLARSHIP**

Alicia Solomon

### **GLENN RICE MEMORIAL TUITION SCHOLARSHIP**

Christopher Bond                      Erika Emerick  
Adam Nolte

### **SIGMA GAMMA EPSILON TARR AWARD**

Victoria Oberc

### **HUDNALL FIELD CAMP SCHOLARSHIP**

Hudnall Field Camp Scholarships are supported by the Hudnall Field Camp Endowment and are awarded to UK Geology majors attending UK's geology field camp. The award covers most of the student fees, and range in value from \$1000 to \$1500

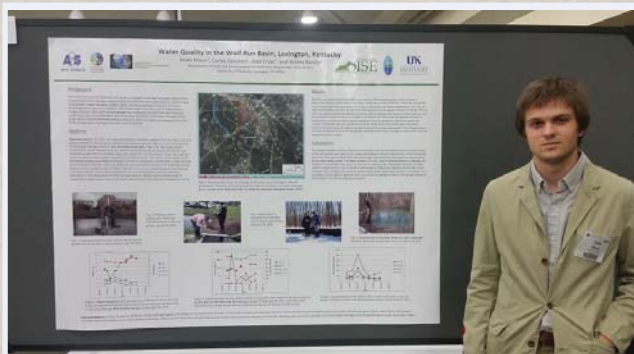
Edwin Cheong	Victoria Oberc
Ethan Davis	Jason Orr
Andrew Duffy	Grondall Potter, III
Blake Greeson	Sean Rohrer
Megan Hackett	Alicia Solomon
Sean Hampton	Jonathan Sparr
Garnie Haynes	

### **PIONEER SCHOLARS**

Meredith O'Dell

### **BROWN-MCFARLAN FUND TRAVEL AWARD**

Victoria Oberc	Sean Rohrer
Taylor Chapman	Noah Dixon



Undergraduate EES major Noah Dixon presenting his poster at the 2015 Annual GSA meeting in Baltimore.

## GRADUATE AWARDS

### **PIRTLE SUMMER GRADUATE FELLOWSHIPS**

Ben Currens	Jason Merrick
Jeremy Eddy	Cara Peterman
Anne Fendick	William Pierskalla
Ann Hislop	Clara Rucker
Wei Ji	Sean Swick
Edward Lo	Michael Vadman

### **BOONE SUMMER FELLOWSHIP**

Emma Larkin  
Leah Newman

### **FERM GRADUATE RESERACH AWARD**

Seth Carpenter	Emma Larkin
Marie Cooper	Cara Peterman
Andrew Holcomb	Paul Rodriguez
Ann Hislop	Patrick Whalen
Dibya Koirala	

### **BROWN-MCFARLAN FUND TRAVEL AWARD**

Patrick Baldwin	Joseph Lucas
Kade Carlson	James McCulla
Seth Carpenter	Jason Merrick
Marie Cooper	Leah Newman
Ben Currens	Zac Perlman
Brett Howell	Cara Peterman
Dibya Koirala	Patrick Ryan
Emma Larkin	

### **OUTSTANDING TA AWARD**

Cara Peterman



PhD candidate Cara Peterman accepting the 2015 Outstanding TA Award from EES Chair Dave Moecher.

# FIELD CAMP PICTURES



## REBECCA FREEMAN

Dr. Rebecca Freeman became a Special Title Series Assistant Professor in July, a promotion after four years as a lecturer, a position she took after earning her Ph.D. at Tulane University in 2011. The new position focuses on undergraduate education. Rebecca currently serves as Director of Undergraduate Studies in the department and is the main academic advisor to the Geological Sciences majors. She teaches a variety of courses, both large lecture UK Core courses for non-majors (Sustainable Planet, Oceanography, and Earthquakes and Volcanoes), and smaller classes for majors (Regional Historical Geology). Along with departmental colleagues Mike McGlue and Alan Fryar and College of Education Assistant Professor Justin Bathon, she is leading the department's efforts to build a career pathway in geosciences between the department and a local STEM-focused high school. She organizes the department's Open House held for non-majors every semester, as well as the monthly "Women in Geology" bagel breakfasts. In her research, Rebecca integrates paleontology, chemo-, bio-, and lithostratigraphy, and carbonate petrology in her work on the Early Paleozoic sedimentary rock record. She is especially interested in phosphatic microfossils. Current work focuses on the Cambrian-Ordovician transition in the Midwest and Great Basin,



a time when trilobite faunas were hit by a series of extinctions. These extinctions occur during the lull in overall global diversity that separates the Cambrian Explosion from the Great Ordovician Biodiversity Event (GOBE), and thoroughly understanding the potential role that these extinctions had in the cessation of the Cambrian Explosion, requires focusing on other, non-trilobite fauna, particularly linguliform brachiopods. Similarly, the GOBE begins as the extinctions end, and understanding the potential linkage requires an integrated approach to understanding the ecosystem. Another project examines the stratigraphic distribution of phosphate in the local Cincinnati Ordovician strata with the goal of deeper understanding of the linkage between changing paleoceanographic and climatic conditions during the Late Ordovician. Rebecca hopes to continue to integrate teaching, working with undergraduates, outreach, departmental administration and development with research.

## J. RYAN THIGPEN

Dr. Ryan Thigpen joined the faculty in August 2015. He was traditionally trained as a structural geologist/metamorphic petrologist working on the development of mountain belts with a specific emphasis on the Paleozoic Laurentian margin of northwest Scotland (Ph.D from Virginia Tech) and the southern Appalachians (M.S. from UT-Knoxville). Prior to his appointment at UK, Ryan spent the previous five years working in industry in the rapidly growing field of computational geomechanics. This experience has given him the opportunity to incorporate computational geomechanics and geodynamics into his work on orogenic systems and active tectonics. Although computational methods now represent a large part of his work, Ryan's substantial experience as a field geologist allows him to effectively bridge the gap between the field and the models. Current field areas include the Grand Teton National Park, northwest Scotland, the southern Appalachians, central Utah, and the Nepalese and Indian Himalaya. In addition to his work in classic tectonic problems,



Ryan's industry experience is allowing him to develop more industry-focused research projects, including investigations of salt tectonics, plastic reservoir damage, and basin modeling. Ryan is coupling his industry experience with that of Pioneer Professor Mike McGlue to enhance the EES Petroleum Geosystems initiative. Ryan teaches courses in Structural and Field Geology, Basin Analysis, Petroleum Geology, and is working to develop new courses in Active Tectonics and Thermochronology. He will also be an instructor and coach for the EES Imperial Barrel Award team each year.

# SEMINAR SPEAKERS

## RAST-HOLBROOK SEMINAR SPEAKERS

### SPRING 2015

Dr. Jeff Reid, North Carolina Geological Survey , “Triassic rift/lacustrine Continuous Gas Assessment Units (au): North Carolina and Virginia”

Prof. Adam Milewski, University of Georgia, “Future of Water Resources in the Middle East and North Africa Region”

Prof. Sean Bemis, University of Kentucky, “Earthquakes to Orogenesis: Deformational Processes within the Active Transpressional Alaska Range”

Dr. Clinton Scott, USGS, “The Mississippian Heath Formation: Addressing the Paradox of a Fossiliferous and Euxinic Black Shale”

Dr. Bill Thomas, University of Kentucky Hudnall Professor of Geology Emeritus, “Zircons across Mid-America”

Prof. Timothy Warner, West Virginia University, “Remote Sensing Methods for Mapping Land Cover Associated with Remediation of Surface Miners in West Virginia”

Dr. Vicki Langenheim, USGS, Menlo Park, “Geometry Matters: Insights into the Evolution of the San Andreas Fault System from Geophysical Imaging”

### FALL 2015

Prof. Julie Elliot, Purdue University “Using Geodesy to Observe Glacier Change in Alaska”

Prof. Randy Cox, University of Memphis, “Holocene Faulting and Earthquakes along the Alabama-Oklahoma Transform”

Prof. Lindsay Lowe Worthington, University of New Mexico, “Glaciers, tectonics and time: Evolution of the offshore St. Elias Mountains, Gulf of Alaska”

Prof. Alycia Stigall, Ohio University, “Invasive species, mass extinction, and speciation: How biogeography impacts the history of life”

Prof. Alan Shiller, University of Southern Mississippi, “Dissolved Trace Elements in Rivers: Problems and Perspectives”

Prof. Kevin Mahan, University of Colorado Boulder, “Deep crustal structure, processes, and properties from xenoliths and seismic observations in the Rocky Mountains”

Prof. Bridget Scanlon, University of Texas, Austin, “Value of GRACE Satellite Data for Assessing Changes in Water Resources”

Dr. Marty Parris, Kentucky Geological Society, “Fluid Evolution in Cambrian-Ordovician Knox Group Reservoirs”

Amanda Reynolds, Conoco, “An Example of Applied Science: A Comparison of Elemental and Mineralogical Data”

Prof. Nicole Gasparini, Tulane University, “Distinguishing between climatic and tectonic influences on topography: Best practices and application to the Northern Bolivian Andes”



# NEW ALUMNI BOARD MEMBERS

## MIKE CURRIE



Mike Currie received his B.S. in Environmental Geology from the University of Virginia in 1978 and his M.S. in Geology from the University of Kentucky in 1981, under the direction and guidance of Dr. William MacQuown. Mike retired from Newfield Exploration in 2013 to become a consultant specializing in AVO, inversion, and processing. In February 2014, he joined the staff of his major client, Deep Gulf Energy, as a specialist geophysicist and partner. Mike is a member of AAPG, SEG, Houston Geological Society, and is an AAPG Certified Petroleum Geophysicist. He has been married to his wife Lucy for 38 years. They have three sons, Matthew, Scott, and David. Mike and Lucy reside in

Fredericksburg, Texas, with Mike currently working both remotely and making frequent trips to Deep Gulf's Houston office.

## SUSAN ERIKSSON



Susan Eriksson grew up in Lincoln County, Kentucky and is a graduate of the University of Kentucky with a BSc in geology. She also holds an MSc from Stony Brook University and a PhD from the University of the Witwatersrand, South Africa. She currently is interim Associate Dean for Research in the College of Design, University of Kentucky. Before returning to UK, Susan was Associate Professor in the Department of Geosciences at Virginia Tech and Associate Dean in the College of Arts and Science. She was the first director of the Virginia Tech Museum of Natural History and founded the Education and Outreach program of UNAVCO, the geodesy research consortium and the NSF-funded facility (2004-2010).

Her international experience includes research in South Africa and Australia and directing the Education and Outreach at the Earth Observatory of Singapore (2011-2013). She has planned and implemented over \$5m in grant-funded programs and has served as reviewer and panelist for many NSF science, education and international programs. She recently consulted in planning and evaluating science programs and grass-roots, arts organizations with strategic planning, grant-writing and program evaluation.

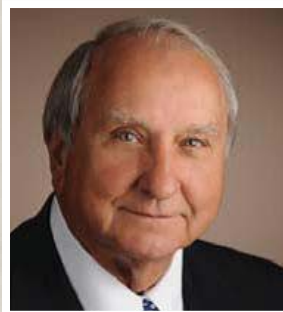
## ROBERT FLYNN



Robert Flynn graduated in 1975 from Lexington Catholic High School and from UK in 1983 with a BS in Geology. Rob has had a multifaceted career, starting in the oil and gas industry working in the Appalachian and Illinois Basins as an exploration geologist during the 1980's Oil Boom and shifting gears in the 1990's into environmental characterization and remediation. Rob is currently working as a senior geoscientist at the USDOE Paducah Gaseous Diffusion Plant in Paducah, Kentucky. Rob credits much of his success to his mentors in geology, Dr. Bill MacQuown, Frank Walker, and Garland Dever, who's early guidance inspired Rob to pursue a career in the geological sciences.

# DISTINGUISHED ALUMNI AWARDS

## LARRY R. RHODES



Larry Rhodes received a Bachelor of Science degree in Geology from the University of Kentucky in 1969. In 1971, after being certified by the American Institute of Professional Geologists (AIPG) as a Certified Professional Geologist, Larry's entrepreneurial spirit led

him to establish his first geotechnical engineering consulting firm "Geisler-Rhodes and Associates, Inc." based in Lexington (1971-1975). From this initial venture, Larry went on to establish "Rhodes and Associates, Inc." (1975-1995), "Rhodes Incorporated" (1995-2004) and after several management positions with area engineering firms (2004-2009), Larry established his current consulting firm "Rhodes Consulting Group, LLC". These companies provided geotechnical engineering, and rock core drilling services primarily to mining entities (coal mines and limestone quarries), foundation investigations for earthen dams, bridges, highways, and multi-story structures. Larry played a key/major role in the early 1990's promoting and finally establishing the Registration of Professional Geologists regulations in the Commonwealth of Kentucky.

## JAY G. HENTHORNE, JR.



Jay Henthorne grew up in Olive Hill, Kentucky and attended the University of Kentucky where he received the B.S. degree in Geology in 1964. Soon after graduation, Jay worked for Cardinal Oil in Ohio in the Morrow County Oil Play. Jay went to Ohio State part time and took a few graduate courses

in geology. He was a consulting geologist until the Morrow Boom was effectively over. He then accepted a position as a logging engineer with Birdwell Logging in Wooster, OH (Seismograph Service Corp.). After nine years with Birdwell, Jay decided to create his own company—Petro Evaluation Services—in 1975. Today, Petro continues its enduring success in eastern Ohio and western Pennsylvanian plays with seven new employees, five new vehicles and four new companies, including Petro Energy Services; Petro Evaluation LLC; and O&G Holdings LLC, the leasing arm of Petro Evaluation companies, among others. Jay will soon complete his chairmanship of the AAPG Foundation of Trustees Association. Jay is also a long standing member of the UK Geology Alumni Advisory Board. Jay recently created the Jay G. Henthorne, Jr. Scholarship Fund endowment to support a deserving student majoring in Geological Sciences at UK. Go Big Blue!

## Open letter from the Chair of the Geology Department Alumni Advisory Board

Our Board continues to serve as the example for other departments within the College of Arts and Sciences. As I have expressed previously, my chairmanship has allowed me to be part of something bigger; to both acknowledge the value of the education I received and to assist present and future students in their endeavors.

Being involved with this Board has provided new insight and experiences regarding the management of the department and to some extent, the college. That includes not only the support for tremendous growth of the department (that continues as of this writing) but also some of the frustrations and limitations faced by students, faculty and administrators.

Currently, the state supports UK in an amount of approximately 8% of its overall budget; including the UK Hospital. This state support is critical and forms a stable foundation for other fundraising. The point here is that the state support is not sufficient to allow the institution to function at the level we have come to expect. Additional resources are necessary to provide continued academic excellence. The Board is strongly encouraging all alumni and friends to continue supporting the department. The department is asking all its alumni to consider establishing a periodic gifting plan. A periodic gifting plan allows the department to budget for continued and additional student course offerings and other related activities. No amount is too small.

Thank-you for your consideration,  
Wendall Overcash

# DONATIONS 2015

The following individuals are thanked for their generosity and willingness to support our student-centered teaching and research mission.

Ms. Patricia A. Anderson  
Dr. William M. Andrews, Jr.  
Drs. Natasha and Thomas Becker  
Mr. and Mrs. Kristopher Clemons  
Dr. Edward L. Crisp  
Mr. Michael T. Currie  
Mr. and Mrs. Thomas Deen  
Mr. Timothy D. Elam  
Ms. Julie Furr Floyd  
Mr. Robert W. Flynn  
Mr. and Mrs. Matthew A. Gregory  
Mr. David Harris  
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Dr. and Mrs. Gary W. Jacobs  
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Mr. Evan Allen Kelly  
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Mr. Donald Franklin Loughry, Jr.  
Mr. and Mrs. Phillip H. Manger  
Mr. David C. Metzner  
Dr. David P. Moecher  
Mr. Zachary T. Moore

Mrs. Jo Allan Napier  
Dr. Ken Neavel  
Dr. Hiram A. Norton, Jr.  
Mr. Wendell H. Overcash  
Mr. Kennon V. Pavona  
Mr. James L. Pear  
Mr. Richard Phillips  
Mr. Stephen Anthony Prosser  
Mr. James S. Rankin  
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Mr. Daniel F. Spaulding  
Mr. Thomas Spalding  
Mr. Stephen B. Sullivan  
Mr. James W. Thornton, Jr.  
Ms. Archana Kar and Dr. Devi  
Bhagabati Prasad Udgata  
Mr. and Mrs. David Vance  
Dr. Peter D. Warwick  
Mr. Clay Audry Wilcox  
Ms. Mary Witt Wilson  
Dr. David R. Wunsch

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Chevron Humankind  
Continental Resources  
ExxonMobil Foundation  
Nexen Petroleum USA  
Pioneer Natural Resources  
Shell Oil Company  
United Technologies Corp

## In Memorium

John Thrailkill  
Carl Petersen  
Alex Vukmer  
Harvey Young



Students looking for Pleistocene fossils in the Grotto Beach Formation, near Cockburn Town, San Salvador, Bahamas, during a Spring Break Trip, March, 2015.



Donny Loughry (UK Geology M.S. '10) presents a donation from several UK Geology alumni employed by Pioneer Natural Resources for \$16,600. Tom Spalding (UK Geology B.S. '80, M.S. '82) and Pioneer match each contribution which went to the Pirtle Fund in 2015. Accepting the donation is Dr. Mike McGlue, Pioneer Natural Resources Professor.

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## SUPPORT OPPORTUNITIES

Your support of the UK Department of Earth & Environmental Sciences helps provide opportunities for our outstanding undergraduate and graduate students. All contributions to the department are tax deductible.

### RAST-HOLBROOK FUND

Supports the department seminar program, an opportunity for students to interact with researchers outside the department

### GEOFUND

Supports general departmental needs including undergraduate and graduate scholarships

### WALLACE HAGAN SCHOLARSHIP FUND

Supports undergraduate scholarships

### GLENN RICE MEMORIAL FUND

Supports undergraduate tuition scholarships

### HAYNES FIELD-TRIP SCHOLARSHIP FUND

Supports student travel on field trips

### DEVELOPMENT FUND

Provides resources for graduate student recruitment and alumni development functions

### GEOLOGY SUPPORT FUND

Supports initiatives for long-term quality of the department

Donations can be made via the on-line donation process at:

<http://www.uky.edu/GiveNow/>

Or you may send donations directly to:

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