

# eGEO TIGER

January 2015

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# eGEOTIGER

## Greetings from the Chair!

Last year was another exciting year for our department! We saw huge increases in enrollments in two of our core courses last fall: GEOL 1100 Physical Geology (now called Dynamic Earth) increased 27% (from 357 to 492) and GEOG 1010 Global Geography increased a phenomenal 39% (from 536 to 874)! Although AU had one of its largest freshman classes in recent history, coming off the “Gus Bus” #2 finish in 2013, that alone does not account for such a seismic shift in enrollments. Personally, I attribute the increases to our superb instructors, who last year caught our Dean’s attention by posting the highest overall teaching



scores in all of the College of Science and Mathematics (COSAM)! We are also leading COSAM in developing Distance Learning (DL) courses, an AU strategic goal. Like our increased core-course enrollments, the DL courses provide additional revenue streams for our department, and we are using these funds to support two additional GTA positions, one in Geography and one in Geology.

Last year we also witnessed such growth in our analytical instrumentation that it required several major renovation projects (see article in this newsletter). In order to house our new X-ray diffractometer (XRD) and X-ray fluorescence unit (XRF), we had to move our rock-preparation lab to Langdon Annex and renovate Petrie 108 to accept the new instruments. Two additional mass spectrometers were also added to Dr. Hames’ age-dating laboratory, and these should be operational within the next year. Finally, we hired Dr. Stephanie Shepherd, a fluvial geomorphologist, who brings with her additional state-of-the-art instrumentation, including a \$200K inductively coupled plasma mass spectrometer (ICP-MS). We are rapidly becoming the best equipped isotopic age-dating facility in the SEC!

Progress is also noticed as you walk in the front door to Petrie Hall. Members of our new GeoClub (see article) have spruced up our mineral and rock displays in the foyer with an eye toward making them more attractive and educational – it is the first thing you see! We received casts and original fossilized bones of the “Auburn dinosaur” a new genus and species -- *Appalachiosaurus montgomeriensis* -- which is the eastern-US’s cousin to *Tyrannosaurus rex*. Discovered by David King in 1982, it had been displayed at the McWane Center in Birmingham. Replicas of the restored hind limb and skull now are permanently housed in the Petrie foyer. Our hope is to one day purchase a cast of the entire dinosaur, which is far too large to fit in Petrie Hall but could be displayed in a prominent area on campus.

Much of our progress is due to generous donations by thoughtful alums like you! Gifts to the Department last year were up substantially and are being further invested toward improving our instructional, research, and outreach enterprises. Significantly, following the formation of our Department’s Advisory Board in 2013, we saw a full 22% increase in Board donations in 2014. The increased funding provided \$21 K toward improving our weekly seminars, supported student travel and student grants-in-aid for research, provided a \$1.5 K annual funding stream for the GeoClub, and much more. In addition, the Board is helping to educate our students on jobs, internships, CoOps, and careers, and it has improved communications with AU administrators, fostering a better understanding of the geosciences, which will help us progress toward our many goals, especially the development of a Ph.D. program in the within the next five years.

WDE!

*Mark G. Schatzell*



## Departmental of Geology and Geography Advisory Board

The Auburn University Department of Geology and Geography Advisory Board is an advocacy group that aims to further the goals of the Department by creating a close working relationship between professional and management leaders in government and business and the faculty and students of the Department. Their goal is to provide advice and financial assistance, aid in recruitment of exceptional students, grow and enhance the reputation of the Department, and maximize the employment opportunities for department graduates. Students and faculty of the Department are humbled by the generous gifts of their time and talents. In 2014, the following students received cash awards from the Advisory Board: *Kody Shellhouse (BS)*, Spencer Waters and Dan Folse Memorial Research Award (\$1,500); *Christopher Smith (MS)*, Advisory Board Grant-in-Aid (\$1,000); *Katherine Spyker (MS)*, Advisory Board recruitment fund (\$1,000); and *Ruh Keshvardoost (MS)* and *Mingjia Ma (MS)*, Advisory Board Student Travel Awards (\$200 each). Our students further benefitted from Advisory Board gifts of \$2,000 to enhance our weekly seminars and \$1,500 for the newly created GeoClub. This is a wonderful group of friends that is working hard to help us soar like War Eagle does just before the start of each football game. (WDE!)

To show our appreciation to the Advisory Board, we are highlighting a member in each new release of the eGeotiger. In this issue, we highlight Mr. Alex Wood.



Front row, left to right, Mark Steltenpohl, Wally McCord, Bob Cook, Mike Forster, Jill Johnson, Jochen Floesser, Benny Nolen, Jonathan Collier; Back row, Nathan Sills, Chuck Savrda, Herb Martin, Kevin Bogden, Bob Fousek, Jonathan Grimes, Joe Howle, Jeff Cowen, and Rick Esposito.

### Alex Wood

Though I was raised in Indiana, my father is from Alabama, and Auburn was well attended by my family: my aunt and at least a dozen of my cousins all have degrees from Auburn. It was during one cousin's Auburn wedding that I visited the Geology Department during my graduate school search. I had already applied to Auburn along with other schools, but after meeting with Auburn professors, I realized they had both the right program and the personal level of engagement I knew I needed to be successful.

After being accepted to Auburn and completing my undergraduate degree, I took off for a summer to work in Alaska. It was during that time Dr. David T. King, Jr. extended me a research assistantship opportunity, funded in part by the National Geographic Society. The focus was the Eutaw Aquifer in Montgomery, and this assistantship later shaped my Master's thesis. Everything was coming together nicely, and now I knew I had made the right decision in Auburn.

Beginning in Fall of 1996, my experience at Auburn was eclectic and varied: I taught a Paleontology camp for fifth graders, studied Shotokan Karate, was a DJ for WEGL,



re-connected with my Alabama family, and formed bonds with fellow students that endure today. The most important event, however, was meeting the girl who later became my bride, Jennifer Johnson (above). Oh, and I did earn a degree, too.

## Current Faculty

Currently, as owner and operator of Precision Geographic Inc., a firm I founded in 2009, I consult for a global hospitality client leading production of an enterprise, geospatial application supporting their franchise development, global sales, targeted digital marketing, and business intelligence. I have just completed a geospatial model and conservation map for the Desert Foothills Land Trust in support of their Strategic Conservation Plan. I oversee the Yavapai Indian Tribe of Arizona's GIS-based asset management solution, which I developed starting in 2009. Finally, I consult and provide expert testimony in geospatial technology for a law firm who represents a Dow Jones Industrial company.

My past work includes using predictive geospatial modeling to build the Florida Aquifer Vulnerability Assessment (FAVA) project, which the state of Florida uses to protect fresh-water resources. As co-founder and president of Advanced Geospatial Inc. (AGI), I led the effort to expand the success of the FAVA project to multiple organizations throughout Florida. Also at AGI, I consulted for numerous clients in the use of GIS in real estate, utilities, land development and site selection.

Jennifer and I have been married 13 years now and reside in Phoenix, Arizona with our two children, Charlie and Cameron, ages 9 and 7. Charlie loves animals and playing tennis and is having a great time as Bear Cub Scout this year. Cameron recently put her ballet career on hold to try her hand at softball. Both love the outdoors and picking up rocks along hiking trails and asking me what they are. We, as a family, enjoy exploring and hiking all over Arizona, hosting Auburn football parties, and traveling to new places.

I accepted my invitation to join the Department's Advisory Board at its founding in 2013. The Board has provided me an excellent opportunity to not only give back to the Department that helped me get where I am today, but also to take part in shaping the Board's mission and development. An added bonus has been reconnecting with professors and colleagues, and meeting new folks who share a connection to Auburn. Now as chair of the Board's membership committee, I am very excited to lead growth of the Board's membership and help the department achieve its goals and live by its mission.



Phil Chaney - *Natural Hazards*  
Bill Hames - *Geochronology and Petrology*  
David King - *Stratigraphy & Planetary Geology*  
Ming-kuo Lee - *Hydro- & Environmental Geology*  
Ron Lewis - *Paleontology*  
Yingru Li - *Economic Geography*  
Luke Marzen - *GIS & Remote Sensing*  
Chandana Mitra - *Climatology*  
Jim Saunders - *Economic Geology*  
Chuck Savrda - *Sedimentology & Ichnology*  
Mark Steltenpohl - *Structural Geology*  
Stephanie Shepherd - *Geomorphology*  
Ashraf Uddin - *Sedimentology & Tectonics*  
Lorraine Wolf - *Geophysics*  
Haibo Zou - *Igneous Petrology and Isotopes*

## Research Faculty

Li Dong - *Climate modeling*

## Lecturers

Dan McGowin - *Cultural Geography*  
John Hawkins - *Structural Geology & Tectonics*

## Instructors

Rich Greene - *Cultural Geography*  
Jim Norwood - *Geography*

## Faculty Emeriti

Jack Carrington - *Geology*  
Bob Cook - *Economic Geology*  
Sonny Dawsey - *Physical & Cultural Geography*  
Tom Martinson - *Geography*

## Departmental News: Renovations and Relocations by Tony Hall

Over the past year and a half, many changes have been made to Petrie Hall and Langdon Annex.



Basement of Langdon Annex

The basement of Langdon Annex received a major overhaul to accommodate the rock lab, which moved from Petrie 108. A down-draft table was set up to reduce the dust output from the rock crusher, and a new sink and cabinets were installed. Shelves were added to provide storage for samples. Additionally, a new HVAC system was added to keep the building climate controlled.



The new Petrie 108—Formerly the rock-saw room

With the rock lab moving to Langdon Annex, Petrie 108 was renovated and is now the new home for the XRD and XRF — new walls, drop ceiling, tile floor, cabinets, and a new door were added.

Other room renovations are underway or are planned for the near future. Suite 100 is being renovated to make additional office space. A new door and wall is being added. The paneling will be painted and new internet lines will be added. With this construction going on, Tony Hall has been moved to Room 211. Also a door will be added



In room 201 (Dr. Uddin's lab) to separate the fume hood area from the other half of the lab. In Haley 2130 and 2166, the nonfunctional fume hoods will be removed. A proposal has been submitted to the Provost's office to have the upper portion of Langdon Annex renovated to house two new labs for "Dynamic Earth"— the new name for Physical Geology. Currently our enrollment in this course is limited by the number of labs offered during prime class times.

The foyer in Petrie Hall has received changes as well. The friendly(?) face of Stan, the *Tyrannosaurus rex* skull, still greets visitors as they enter the building, but the displays to the left and right of Stan have been improved. The large and dingy Alabama Geological map and legend were removed to expose the former ticket windows beneath. These ticket windows were transformed into attractive and educational displays.



The window on the left (shown above) houses the "Paleo-clock" which was donated by Marynm and Herb Martin and Carol and Art Merkel. With 17 separate gears, this amazing clock keeps Timex-quality geologic time.

On the right, the window display is equipped with a UV light to show the fluorescent properties of various minerals.



In the front of the foyer, the large display cases were cleaned up and redesigned. To the left as you enter the building (below) is a new framed geologic map of the state, our earthquake kiosk, and the renovated mosasaur display.



To the right of the door, two display cases continue to house the spectacular mineral collection donated by Bob Fousek, Jim Saunders, and Richard Cates and on loan from Dr. Robert Cook, now with a special tribute to him as well.



*Please come visit us and see our collections!*

Also in this part of the foyer, the display of miscellaneous fossils (right) has been replaced by the newly acquired skull and limb bones of "Auburn's Dinosaur" (see article in this issue).



## Curriculum and Teaching Changes



Lecturer John Hawkins teaching “Dynamic Earth” in the remodeled Langdon Annex auditorium.

**Changes to core courses.** The names of our core Geology courses have been changed to be more descriptive and appealing to non majors: GEOL 1100 Physical Geology is now called “Dynamic Earth” and GEOL 1110 Historical Geology is now “Earth and Life Through Time.” As seen above, a large classroom format is now available.

**Honors** sections of both of the above courses will be taught starting in Fall 2015, providing more discussion and field trip opportunities to students in the Honors College and to Geology majors.

**Geomorphology** is now offered for the first time in our curriculum, thanks to the hiring of Dr. Stephanie Shepherd. The course can be taken by Geology and Geography undergrads and graduate students and by students in other departments.

Geology now has an **Internship course** as does Geography.

**Sports Geography**, to be offered next fall, is expected to be a popular course.

A new curriculum model, known as **Earth System Science**, has been developed to provide a Geology major for College of Education students who pursue a degree in General Science education. This will provide the opportunity to make sure the state’s youth are well informed on matters relating to the Earth and its natural resources.

A course in **Petroleum Geology** has been approved at the university level. For the last four years, Auburn geology graduate students have been taking part in the international

competition for the Imperial Barrel Award, organized by the American Association of Petroleum Geologists (AAPG) and the Gulf Coast Association of Geological Societies (GCAGS). The new course, to be taught by Dr. Ashraf Uddin, will directly help in preparation for this competition and will be greatly beneficial for students going into the oil and gas business.



The 2014 Imperial Barrel team with Dr. Uddin, Houston, TX. From left to right, Khaled Chowdhury, James Gunn, Peter Starnes, Morgan Shuman, Erik Heider, and Dr. Ashraf Uddin.

**Editor’s Note:** Erik Heider will join SandRidge Energy as an intern this summer, and Morgan Shuman received a job offer from the Schlumberger and will begin this summer.

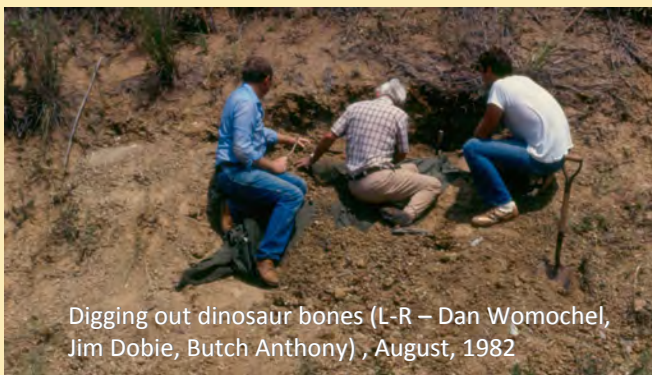
## "Auburn's Dinosaur"



On November 7<sup>th</sup>, David King gave a public presentation describing his 1982 discovery of a tyrannosaur in Montgomery County, Alabama, to a full house at the Hotel at Auburn University and Dixon Conference Center auditorium. The talk -- "Auburn's Dinosaur" -- was prompted by the Department's recent acquisition of the skull and a cast of one of the hind limbs for display in Petrie Hall. The long and involved story of the discovery, excavation, preparation, and significance will be familiar to some of you, so here is the latest.

During the summer of 1982, Dr. King was conducting field studies of the Mooreville Chalk in central Alabama with funding from an AU Faculty Grant in Aid. On July 2<sup>nd</sup>, 1982, at a road cut on a newly constructed county road in eastern Montgomery County, Alabama, King found a few bones of the dinosaur weathering out of the outcrop face. At a slightly later time, King and a group of researchers from Auburn University, including Dan Womochel and Jim Dobie (photo), recovered fragments of the skull, limbs, a hind foot, and pelvic elements. A second round of excavations (mainly in 1986), conducted by personnel from the Red Mountain Museum of Birmingham, now the McWane Center, uncovered additional bones. In all, the skeleton is approximately 40 percent complete, making it the most complete eastern North American tyrannosaur ever found.

In eastern North America, dinosaur remains are extremely rare and occur only in marine depositional settings, not where the dinosaurs actually lived. This specimen, a 2/3 grown juvenile, must have floated out to sea where it became entombed in the chalk deposited on the marine shelf. Subsequent stratigraphic analysis of the measured section showed that the bones occurred in the lower few meters of the Demopolis Chalk and that the age is about 79 million years.



Digging out dinosaur bones (L-R – Dan Womochel, Jim Dobie, Butch Anthony) , August, 1982



Hind limb and foot bones in excavation.  
August, 8/1982



The dinosaur is a small, more primitive cousin of the famous *Tyrannosaurus rex* and was once indigenous to Alabama and surrounding Southeastern states. During that time, the *Appalachiosaurus montgomeriensis* was the top predator in the tropical rainforests of the Appalachian foothills and surrounding low plains.



The skeleton is currently housed in the McWane Center where it is frequently on public display. The Mc Wane Center in Birmingham and the Tellus Museum in Cartersville, Georgia, have purchased fiberglass replicas of the complete skeleton of *Appalachiosaurus*, which is on display at both places. The type specimen remains the property of the Department of Geology and Geography in Auburn's College of Sciences and Mathematics. Casts are now available for public viewing in the renovated display cabinets in Petrie Hall.



The skull and right hind limb on display here in Petrie Hall were part of the original Red Mountain Museum replica of the complete specimen. The actual skull was crushed in the chalk, and remains in a plaster jacket today. The replica is a reconstruction of the skull at the correct size. The right hind limb was well preserved in the chalk and the plaster replica is a nearly exact copy of those bones (many of which were found at the outcrop on July 2, 1982).

## STUDENT CLUBS: SGE / AAPG by Justin Cox

Sigma Gamma Epsilon (SGE) is the honorary society for the geological sciences, and this organization was merged with our student chapter of the American Association of Petroleum Geologists (AAPG) in 2000. During the 2013-2014 calendar year, Auburn University's SGE/AAPG chapter helped fund student travel and accommodations for several academic and professional meetings, such as GSA in Denver, both fall and spring AAPG Career Expos, and the IBA short course attended by Auburn's IBA team. In addition to these meetings, the chapter used its funding to plan fun geology-related trips outside of Auburn. Our SGE/AAPG members went on an overnight canoe trip down the Tallapoosa river and a two-night camping trip on the beach of Destin, FL. The Auburn SGE/AAPG chapter helped put on several football tailgates throughout the season, hosting alumni during Homecoming Week. At the end of the academic year, the Auburn AAPG chapter was named Honorable Mention as the best AAPG student chapter in the world (photo)!



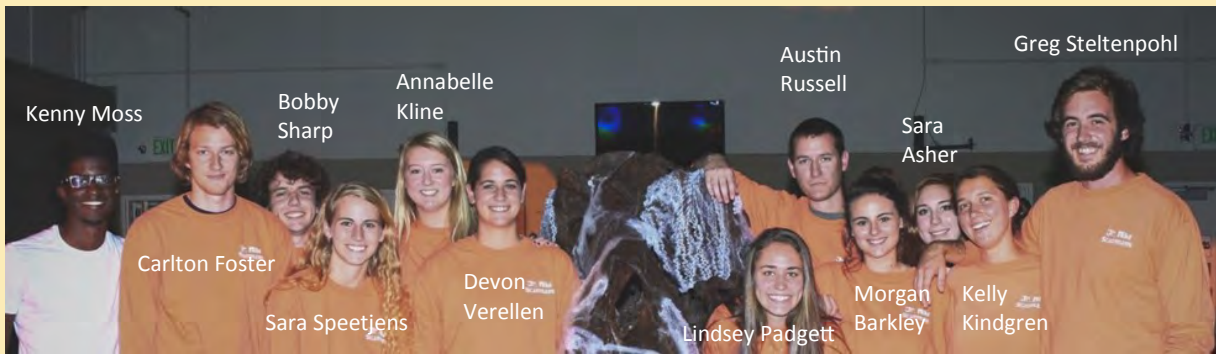
## GeoClub by John Hawkins

The club for undergraduate majors is back, and it is off to a successful start. In spring of 2014, the "Geoclub" was officially granted club status and was recognized by Auburn University. The main objective of Geoclub is to provide a place for our Geology and Geography undergraduate students to come together to have fun, participate in departmental and community service projects, and to become more integrated with the department and faculty. Members range from freshmen to senior grade levels, with several members in their first semester as Geology & Geography majors. Collaboration in a group with this diverse range of experience creates a very beneficial environment for all our members.

Recent group activities include departmental service projects, group bowling nights, a weekend backpacking trip to North Carolina, and a very successful community outreach event known as Junior Mad Scientist. The objective of Junior Mad Scientist was to present scientific activities to K4-5th grade students. The Geoclub hosted several stations that featured the rock cycle, an active volcano, and a realistic fossil dig complete with real shark teeth.



Group hiking trip to the Nantahala National Forest, N.C.. From left to right: John Hawkins, Austin Russell, Sally Sundbeck, Sarah Asher, Kelly Kindgren, Korey Gilley, Sara Speetjens, and Morgan Barkley.



The Geoclub owes its successful start to its current president, Sara Speetjens. She is very enthusiastic and is working

Currently the Geoclub is turning its focus to raising funds for the upcoming spring break trip to the Grand Canyon, planning a teaching service project at the Wehle Nature Center in Union Springs, AL, and designing club t-shirts.

hard to lead the Geoclub in the right direction. She has help from the other officers: Reed Stewart (VP), Sally Sundbeck (Treasurer), and Morgan Barkley (Historian).

## Student Research — Undergraduates do Research in Norway

Devon Verellen, Honors student in Geology and AU Undergraduate Research Fellow (URF), performed field studies in arctic Norway last summer. Devon's project aims to identify fragments of crust that were "lifted away from Greenland" ("Lette etter Grønland," right) and attached to Norway when these two protocontinents collided 400 million years ago to produce the Caledonian Mountains. Devon worked for two weeks in the U-Pb age-dating facility at the University of Oslo dating her samples. While in the field, Devon's research caught the attention of a local newspaper reporter who was curious to find Americans collecting rocks on their tiny island. Devon currently is writing her Honor's thesis, and she will present her results at the annual conference of the European Geosciences Union in Vienna, Austria in April.

Devon is seated on the far right, with Professor Arild Andresen (University of Oslo), field assistant Greg Steltenpohl (AU Geology Undergrad), Mark Steltenpohl (Devon's supervisor), and Helge Løseth (StatOil Petroleum).

72 Fredag 1. august 2014

**Lette etter Grønland**

**To geologiprofessorer fra Norge og USA var denne uka i Steigen på leting etter rester av Grønland på Engeløy. Skillet i den kaledonske fjellkjeden kan nemlig være synlig der.**

**GUNNAR GRØYTOYR**

Den kaledonske fjellkjeden, som oppsto for over 400 millioner år siden da landplaten med Grønland og USA kolliderer med den skandinaviske platen, går nemlig på langs gjennom Norge, og det kan derfor være rester av

Grønlandsplassen blant annet i Steigen.

Under kollisjonen gikk Skandinavia ned under Grønland, og på Vestlandet gikk den ned til 100 kilometer. Det vet vi fordi kullstoff er blitt endammet til mikrodiamanter. Vi finner også rester av den kaledonske fjellkjeden i

Nord-Afrika, i England, på østkysten av USA, på Ost-Grønland, i Norge og på Svalbard. For cirka 50 millioner år siden fikk vi Atlanterhavet, og nå skler avstanden mellom Norge og Grønland med vel to centimeter i året. Det interessante her er at det er de dypere delene av fjellkjeden som er kommet opp i dagen etter hvert som landskapet over eroderer, forteller en engasjert professor Andresen.

**Opp fra dypet**  
... Check her i Steigen, kan vi se

## Students do Research on Cat Island, Bahamas, with funding from Advisory Board

Two students received funding in 2014 to carry out field work on attached benthic foraminifera in the Bahamas. Graduate student **Chris Smith** received a GGAB Student Grant-in-Aid Research Award (\$1,000), and undergraduate major **Kody Shellhouse** was awarded the GGAB Spencer Waters – Dan Folsie Memorial Award (\$1500). These funds allowed the students to travel with Ron Lewis to the Bahamian island known as Cat Island, which is one island west of San Salvador, where Lewis and previous students have been studying the distribution of modern-day benthic foraminifera to aid in the interpretation of ancient shallow-water carbonates.

They spent a week on Cat Island over Spring Break and returned with enough material for Chris' M.S. thesis. Kody benefited by seeing field relationships and did an undergraduate research project on a related study of growth rates of the same species, co-authoring a poster at the national meeting of GSA. Chris' work demonstrates that species assemblages vary from nearshore to offshore following the same pattern as they do on San Salvador, suggesting a general model for small carbonate platforms. His detailed data-base also shows that foram size and density are determined by water depth and distance from shore. His work, also presented at the national GSA meeting, will be submitted as two manuscripts to professional journals. Kody is currently a Masters candidate at the University of Louisiana at Lafayette, LA.



At this point, Kody claimed to be The tallest man in the Bahamas!

Kody and Chris at Como Hill, the highest elevation in the Bahamas (206 ft).

## Student Research on the Ingersoll Shale



Drew Daymond, senior in Geology, worked under the supervision of Dr. Chuck Savrda on an undergraduate research project designed to characterize and interpret enigmatic sedimentary structures observed in the Ingersoll shale, a Cretaceous estuarine fossil-lagerstätte. Deciphering these structures will help improve our understanding of the paleoenvironmental conditions that contributed to the extraordinary preservation of fossil plants, feathers, and amber in this unique deposit. Using a combination of macroscopic observations, thin-section petrography and scanning electron microscopy (SEM), Drew (shown here—with AU cap--at the SEM with Dr. Mike Miller, Director, Auburn University Instrumentation Facility) is testing the hypothesis that these structures are biogenic in origin; more specifically, that they represent pyritized fecal or slime trails produced by mud-swimming vermiform organisms.

## Faculty and Staff News: New Faculty Members

### INTRODUCING Stephanie Shepherd

As the newest faculty member in Geology and Geography, I am in the midst of setting up my sediment analysis lab, recruiting students, and developing my research program in stream morphology. I bring expertise in geomorphic surveying techniques, sediment grain-size analysis, and geomorphic applications of GIS. Through my collaboration with colleagues at the Luminescence Lab at the Desert Research Institute, Reno, Nevada, I also have access to techniques for determining the age of land surface features as well as sediment fingerprinting.

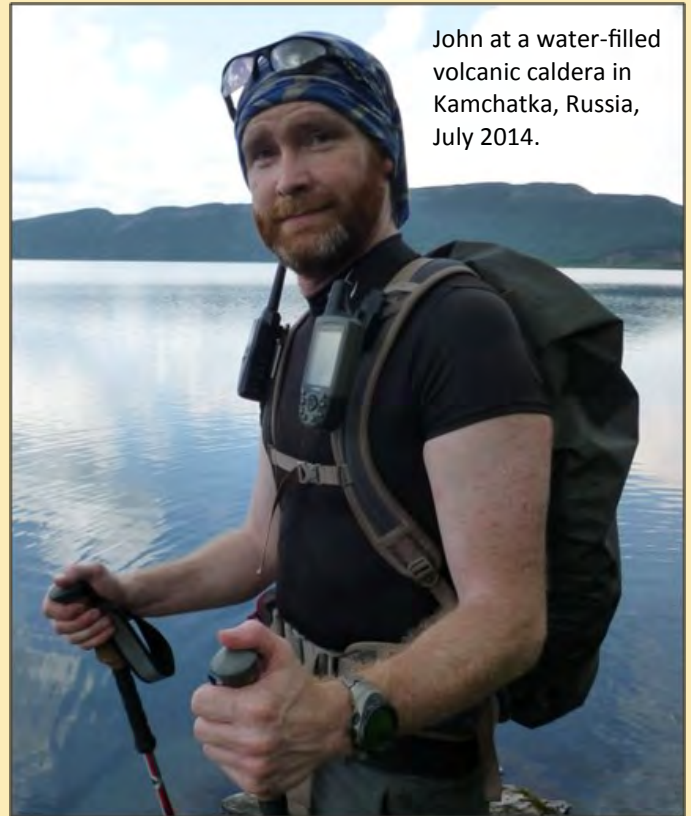


During Fall semester, 2014, my first semester at AU, I taught Geomorphology to a mix of Geography and Geology students plus a few undergraduates from Forestry. In addition to this course, I will also teach Geographic Thought and Geographic Field Methods in the future.

In August 2013, I was awarded a National Science Foundation Geomorphology and Land Use award in the amount of \$70,190, which I was able to bring with me to Auburn. The grant, titled "Defining the role of heterogeneous lithology in bedrock incision and terrace formation in the Buffalo National River, Arkansas" is a collaborative project with colleagues at the Desert Research Institute, the U.S. Geological Survey, and the National Park Service. The primary objectives of this research are to create a quantitative reconstruction of the history of valley formation, define how different rock types affect valley formation, and determine how river processes have changed during the Quaternary Period. Reconstructing the evolution of the Earth's surface in the Buffalo River watershed will help researchers and land managers distinguish between human impacts to watersheds and natural variations in the Earth surface processes, ultimately guiding restoration and management of river systems. With the grant, I will be able to fund two undergraduate research projects. The College of Science and Mathematics has generously agreed to provide summer salary for a graduate student to work with the undergraduates.

I am also pleased to share that the Geology and Geography Department is in the process of purchasing an ICP-MS instrument with a portion of my startup funds. This instrument will be housed in the new CASIC Building's Water Quality Laboratory on the south side of campus and will be utilized by myself, Dr. Ming-kuo Lee, Dr. Haibo Zou, as well as professors in other departments.

### INTRODUCING John Hawkins



John at a water-filled volcanic caldera in Kamchatka, Russia, July 2014.

In January, I joined the faculty as a full time lecturer teaching Dynamic Earth (Physical Geology) and Earth and Life through Time (Historical Geology). Actually I have been involved with the Department since fall of 2008, when I enrolled seeking my second undergraduate degree. I decided to continue my geology education in 2010 by entering our graduate program and completed my MS degree in 2013, studying southeastern tectonics and kinematics. I enjoyed this type of geologic research and hope to continue it someday, but lately I have turned my focus to geoscience education and departmental outreach programs. This new focus is building on my earlier secondary science education degree and my years spent teaching high school, which provides helpful insight when teaching a large number of freshmen.

I am currently working on several different projects within the Department. I am working to increase the enrollment in our two introductory classes, I am trying to increase undergraduate departmental involvement through the Geoclub, and I am putting together a study-abroad opportunity for up to 12 students this summer in Scotland. I hope to be able to infuse my excitement for international travel into our student body. When I am not teaching class, I like to use my free time traveling to unique and interesting destinations. I find that my travels provide me a unique perspective that I enjoy sharing with my students each semester.

## INTRODUCING Richard Greene

This Fall marks the start of my first year as an instructor in the department. I am a cultural geographer with interests in the historical geography of the United States, the construction of cultural landscapes, and the geography of religion. My departmental duties are that of teaching both Global and Cultural Geography. Although this is my first year teaching geography in the department, I am not new to the department. I graduated from Auburn University in 2012 with a B.A. in Geography. Upon my graduation from Auburn, I attended the Geography Master's Program at Ohio University. I graduated with my M.A. in May of 2014. My thesis and current research center around mapping religious patterns of diversity that take into account and more clearly depict local and regional variability.

Auburn University is very important to me. My grandfather received his bachelors in textile engineering from the university when it was known as the Alabama Polytechnic Institute. Aside from my family ties to Auburn, the Department of Geology and Geography is near and dear to my heart. As an undergraduate here, I had the privilege to learn from some of the brightest minds in the fields of geology and geography. Words cannot express how great it feels to be colleagues with people who paved the way for my success.

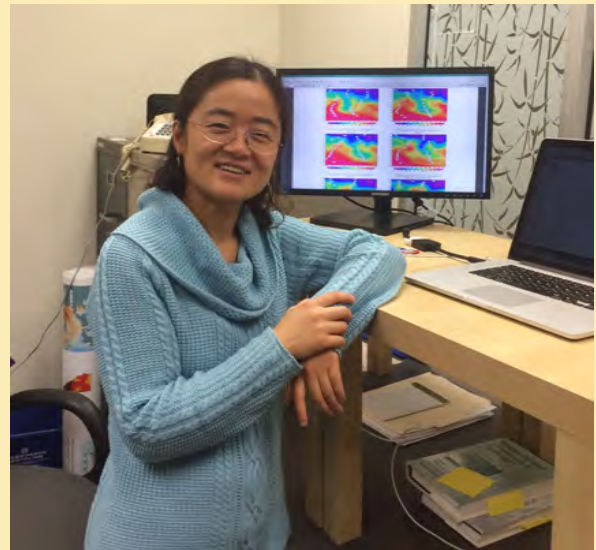
In regards to the department, we have a lot of positive things happening. This includes Talons Day, a day in which Auburn University invites top academic prospects and their parents to campus. This gives our faculty a chance to engage with bright young minds as well as an opportunity to market our department. I hope the eGeotiger finds you all doing well.



Rich Greene representing the Department on Talons Day.

## INTRODUCING Li Dong

I joined Auburn University in May 2014 as a Research Assistant Professor. I hold a joint appointment in the Department of Geology and Geography, and School of Forestry and Wildlife Sciences (at the International Center for Climate and Global Change Research). I obtained my Ph.D. from Cornell University in Atmospheric Sciences in 2006. After that, driven by my strong curiosity about the mysterious industry world, I adventured into working at a renewable wind energy consulting company for a couple of years by conducting wind/solar resource assessment related projects.



Later I realized that I missed doing fundamental research and decided to come back to academia. I started my first postdoctoral position in the Department of Earth and Planetary Sciences at the University of New Mexico, with my research mainly focused on paleoclimate simulations of the Last Glacial Maximum, especially the mid-latitude static stability and storm tracks. Before coming to Auburn, I worked at Los Alamos National Laboratory as a postdoctoral researcher, carrying out research on developing and evaluating a global variable-resolution atmosphere model, which targets solving the dilemma of regional climate simulations. My research expertise and interests lie in global/regional climate simulations for various climate states (past, present and future) and diagnosis of large-scale atmospheric dynamics, such as atmospheric blocking, which is closely associated with extreme weather events like heat waves and droughts. Since my current position is 100% research, I do not get a chance to teach any courses yet, but I would love to teach courses ranging from paleoclimatology, atmospheric dynamics to global climate simulation, if opportunities arise in the near future.

On the family front, my husband is an Assistant Professor of Department of Physics at Auburn University, and we have two young boys. In my spare time, I enjoy swimming and zumba, which seems to help with my troubled lower back.

## INTRODUCING Daniel McGowin

January 2015 marked one year since I joined the Department. Time flies when you are having fun and teaching 400-plus students each semester. So goes the life of a lecturer. So far, I taught our introductory geography course – Global Geography – in both the regular section as well as the honors section. In Spring 2014, I taught the Department’s cartography course. Since then, I have offered regional geography courses on North America, Asia, and, in Summer 2015, Europe. I also taught International Travel and Tourism in Fall 2014 and am proud to propose and receive approval for a course on Sports Geography; that course will be offered for the first time at Auburn beginning in Fall 2015.

In addition to my teaching responsibilities, I continue to remain busy working on research. I presented research at annual meetings for the Association of American Geographers in Tampa (2014) and Chicago (2015). I received an invitation to present at the 2014 Race, Ethnicity and Place Conference in Fort Worth, Texas. Furthermore, I published two entries in books released in the 2014-15 academic year. The first was an entry on Bible Belt voting patterns during the 2012 Presidential Elections, which appeared in the *Atlas of the 2012 Elections*. Along with my co-author Gerald Webster from the University of Wyoming, I also published a chapter on the Geography of Religious Freedom in *Changing World Region Map*. Finally, I worked on a project with Phil Chaney and former master’s student Orion Stand-Gravois that focused on the changing spatial identity of Auburn’s football team.

Prior to coming to Auburn, I lived in Taiwan with my wife and family. There, I worked at Chingshin Middle School in Taipei, where I taught English as a second language, as well as a special social studies/geography course for advanced English learners. I also previously worked as an Assistant Professor of geography at Alabama State University. Auburn has been good to me, and I am fortunate to be in a department where I can teach courses that coincide with my passions while also continuing my research agenda.



## Remember Bob Gastaldo?

*Has it really been 16 years since we partied like it was 1999?*

Mark Steltenpohl sent me an e-mail asking what-in-the-hell Elvira and I have been doing since we moved to Maine last century, and if I’d send along an update for this year’s departmental alumni letter. This took me by some surprise that, indeed, we had left the land of the “Auburn Tigers” for the “Colby bubble” not only sometime last century but, actually, it was near the end of the last millennium. Now, if that doesn’t make one feel older, nothing will! Although my hair is gray, which was a reality in the mid-90s while still in Petrie Hall, I’ve not gotten any older. Or, at least, I delude myself in this perception. So, what’s happened since the beginning of this new millennium? Bunches, but where to begin.

Maine. A beautiful, rugged, hard rock state with a few fossiliferous outcrops (to my chagrin) that are exposed for nearly six, entire months a year. Maine. Home to five seasons, in contrast to the two Alabama seasons: Summer, Autumn, Winter, Mud, and Spring. Repeat yearly. Maine. Home of the black bears, one of which occasionally frequents our back yard in March–April, and black flies, which can make undertaking field work in May a bear. Maine. Home to 47 microbreweries ranging from nationally distributed Shipyard, Geary’s, and SeaDog, to niche brewers such as Oak Pond Brewers on Oak Pond Road a short drive from Waterville. Maine. Home to Maple Syrup in the Spring (we had a sugar shack operating on our road when first we moved here) and crisp, Cortland apples (available in the orchard on the other end of our road) which make for wonderfully tart pies. Maine. Home to the original, East Coast Portland where cultural activities, art galleries, and excellent restaurants abound. Maine. Where large expanses of fir-covered landscapes that allow one to explore Balsam forests and the other, northern end of the Appalachian Trail. Maine. Where we’ve called home since leaving the Deep South. But, Maine hasn’t been our only residence or “home” over the past 16 years.



Elvira and I have had the opportunity to live and work in South Africa, beginning with NSF-funded projects in the Permian–Triassic rocks exposed in the Karoo Basin early in the millennium, to our last sojourn as a Fulbright Scholar, teaching and undertaking research at Rhodes University in Grahamstown, Eastern Cape Province. This six-month residence in 2013 followed a previous six-month residence in Cape Town in 2005 where I taught field-and-lecture classes for Colby students during their study abroad program. Cape Town vs. Grahamstown? There’s a clear winner here, and here are a few reasons why. Cape Town has relatively reliable electrical service; Grahamstown’s electrical supply could be categorized as hit or miss. Cape Town has potable drinking water; in Grahamstown, we used the local spring, debouching along a hillside out of town, for our drinking and cooking needs. Cape Town’s security is not much different from the remainder of the country, but we were never imprisoned during our time there. Grahamstown. Well, we felt imprisoned in our “upscale” flat, surrounded by a 3-meter tall concrete wall, topped with three strands of electrical fencing and razor wire over the gated doors, with a 24-hour security guard who opened and closed the metal gate, allowing you out of and into the apartment complex. Cape Town is an international city and, in our opinion, a city in which there is a, *je ne sais quoi*, pleasant lifestyle, compared to a small, college town in the Makana District, where the term dysfunction applies. Can you imagine Auburn University in session and the city-water supply is shut off for nearly two weeks? I can’t imagine this in Alabama; I can, and did, at Rhodes University. We, as Americans, might complain about what seem to be significant issues in our country. But, we don’t know how good we have it compared to the rest of the world.

Speaking of the rest of the world, we as a country certainly don’t have it as good as Germans. Elvira and I spent six months in Bonn, Germany, in 2012, returning as a von Humboldt prize winner. Life on the Rhine can be idyllic; riding one’s bicycles south a few kilometers, stopping for lunch at one of many Biergarten, paying a few Euro to take the ferry across the river, and then riding back to the flat on the other side. The one advantage to living abroad is that there are no weekend-yard work or household chores, but time to enjoy another culture. Bonn is the home to Ludwig von Beethoven, and the city hosts the Beethovenfest each September–October. There are nightly performances in one or more venues across the city where the composer’s works are played. We’ve been fortunate also to spend time abroad in Brazil, Sweden, Italy, Greece, France, Francophile Canada (yes, Quebec, which is more French than France, itself, and only two hours away), and Anglophile Canada (the rest of the country). We soon will be spending more time in Great Britain, as our second son, Michael, and his wife, Kristen, have just begun to work for a firm in London. Which brings us to those small, toe-headed children many of you may remember during your days at Auburn.

Joseph, our first born, is now in his mid-30s and has just completed his Masters degree in English at the College of Charleston. He’s looking towards a doctoral program, somewhere, so that he can continue a Bohemian, college lifestyle for as long as he can before facing real employment. His interests are in James Joyce, Kierkegaard, and other philosophers. Michael, numero duo, and his wife both work for Blackbaud, a software company based in Charleston whose products are designed to help non-profit organizations raise funds and track their donors. Who knows, correspondence you receive from Auburn’s Alumni Association could be generated from Blackbaud’s product. Their move to the London office opens international opportunities for their careers with un-imagined future prospects. But, Elvira’s a bit bummed because her first grandchild will be born abroad, requiring a six-hour flight with a time change versus what was a six-hour flight without a time change. And, last but not least, our third son, Marc, continued as a Division 1 athlete, diving for Penn State and making NCAA Championships. He then undertook a position with law enforcement, which he continues to this day. He and his long-time girlfriend, Becca, live in Virginia outside of Washington, DC.

I know that this short communique now has become a professorial tome, and I suspect that it’s time to end this short summary of the new millennium. But, I can attest to the fact that we continue to be Dye-hard Auburn fans each weekend when games are televised, rooting for the university where we started our academic career. Because, in reality, we all know that “it’s great to be an Auburn Tiger.” This is especially true when “we” are winning. Both Elvira and I hope that this update finds each of you well and prosperous, and look forward to the next opportunity when we can act as correspondents.

Best Regards

Bob & Elvira Gastaldo



Bob taking mosaic at Old Lootsberg, South Africa.

### Phil Chaney

I am proud to announce that **Alyson Cederholm** (Hurricane Risk Assessment for Savannah, GA) and **Kelly Ervin** (Spatial Analysis of Two Communities from the Hickory Ground Site in Wetumpka, AL) successfully defended their master's theses projects and graduated in 2014. Alyson is currently working as a GIS technician in Columbus, GA. While finishing her thesis, Kelly also worked for me on a National Park Service funded project to map Native American land loss and removal associated with the War of 1812. She is currently living in Corpus Christi, TX, working as a GIS/archeology technician for Coastal Environments, Inc.

In Spring 2014, I got to visit with AU Geography alum **Ryan Hile** at the AAG annual meeting in Tampa, FL. Ryan is almost finished with his master's research (social vulnerability to earthquake hazards) at the University of Utah in Salt Lake City and plans to stay on for the PhD program. I had a very busy fall 2014 semester in which I developed and taught a new course on Water Resources and an online version of the Global Geography course. Lastly, before closing down shop for the holiday break, I completed final edits on a manuscript with AU Geography alum **Orion Stand-Gravois** who did his master's research on the Geography of Auburn Football and its Fans. The paper expands on a section of Orion's thesis about the spatial evolution of AU football, as it played most games on the road until the 1980s when the team began to consistently play more games in Auburn than on the road due to stadium expansion and other factors.

### Bill Hames

It does not seem possible, but life continues to be more interesting and full with the developments of 2014. The year began with a talk at Texas A&M and purchase of a proper Texas cowboy hat. This year brought new collaboration with many colleagues, especially Dr. Uddin (on the detrital chronology of the Black Warrior Basin), Dr. Saunders (all things Miocene and gold-related in NV), and our students. I took a van-load of AU students to the 2014 SEGSA in Blacksburg (**Jake Gunn** gave a great talk). In the spring, I managed to get sections of a 130-year-old pine that was struck by lightning in the AU amphitheater, and had those sawn into 24" wide planks (to make... ah, well, it's all about the wood!). Spring also brought a special 'offer' for Auburn and the ANIMAL facility to purchase a very nice, late-model, low-mileage mass spectrometer (that's never been wrecked) from Oregon State University, and I moved that instrument to Auburn with the help of Dr. Zeki Billor in May. Thus, much of this year has been spent working to set up and use different mass spectrometers in different types of noble gas isotopic research with the ANIMAL facility.

On the home front, we gutted the bathroom of our 1960's home and are still in the midst of that major renovation. To keep sane, or to just give in, I installed 'Buck the

Singing Deer Head' in the lab: a motion-activated animatronic figure that knows many of our favorites, including "I've Got Friends in Low Places," "La Grange" and, of course our anthem "Sweet Home Alabama."

In the fall, I was privileged to attend a field trip in the western Alps followed by an international meeting for geochronologists in Chamonix, France, and complete with a day-long hike along the side of Mt. Blanc (~16,000'). That meeting provided opportunity to collect a new suite of metamorphic rocks for teaching, have way too much fondue, and vet research for a NSF proposal to study cooling ages of micas with Dr. Dmitry Glotov (AU Math and Stat) that was submitted a few days ago (wish us luck!).



### David King

During this past year, we have continued working at Wetumpka impact crater thanks to funding from the city of Wetumpka and the Poarch Creek Endowment Committee. There is a new paper just accepted on Wetumpka's interior impact breccia that will be published during 2015 in a GSA Special Paper volume. We have a new AU Outreach Program grant to support work with Alabama teachers on the Earth-space science aspects of Wetumpka. Interesting to note that study of the Wetumpka impact is now in the state's 6<sup>th</sup> grade science curriculum.

I have new NASA funding for work on the Paleozoic Flynn Creek impact structure in Tennessee. There are





about 3.8 km of drill core from 18 bore holes to be studied for this project, and thus we will be traveling to the storage facility at USGS Flagstaff to work on this over the next three years. As in the past, I continue my stratigraphic work in Belize, and have published some new papers on several aspects of the northern (Corozal basin) stratigraphy. I have new corporate funding for this research work and thus will be returning to Belize more frequently in the coming year to work on several new projects, including work in the southern Belize basin. I am also planning a new research initiative on the KT boundary in Belize, which includes several meters of direct ejecta from Chicxulub.

Two of my MS students finished last year: **Stephen Rodesney** (who studied well #2009-04 at Wetumpka and has moved on to the Georgia DOT as a geologist) and **Cheryl Coker** (who studied the Siloe Patera region of Mars with me and co-supervisor **Shawn Wright** and who has moved on to work as a geologist at EOG Resources in Odessa, Texas). Presently, I have two graduate students: **Erik Heider** who is working on the interior slide unit at Wetumpka impact structure and **David Adrian** who is working on the new Flynn Creek impact project. Hope those reading this are keeping well. Best wishes.

### *Ming-Kuo Lee*

I currently hold the Robert B. Cook endowed Professorship in the Department. Along with James Saunders and Ashraf Uddin, I was recently funded by the National Science Foundation to investigate how bio-mineralization and geochemical sorption may work together to remove arsenic and other toxic metals from groundwater at the field scale. The NSF grant supported two graduate students, **Peter Starnes** and **Shahzad Saffari**, for their thesis research. This spring **Morgan Shuman** is expected to finish her thesis work on modeling the effects of sea-level rise on water resources and arsenic mobilization in Coastal Bangladesh. **Chris Marlow** (M.S., 2014) finished his outstanding thesis work on characterizing geochemical and hydrological properties of gas shales in the Black Warrior Basin in 2014.

With funding provided by the NASA Innovation in Climate Education (NICE) Program, Lee and Geography faculty member Chandana Mitra have developed and implemented new education modules that aim at improving K12 cation

education in climate-change science. New modules used for middle school will be published in the Springer's Handbook of Climate Change Mitigation and Adaptation. New research facilities, including a Bruker D2 Phaser X-Ray Diffractometer (XRD) for crystal identification and a portable Bruker X-Ray Fluorescence Tracer (XRF) for elemental analysis, are now fully operational for advancing research and teaching in areas such as mineralogy, petrology, economic geology, gas and oil shale geochemistry, environmental geochemistry, bioremediation, and nanotechnology.

I am also working with new faculty member Stephanie Shepherd and research associate Zeki Billor to establish a new Inductively Coupled Plasma Mass Spectrometer (ICP-MS) laboratory in the Center for Advanced Science, Innovation and Commerce (CASIC) on campus. The new ICP-MS geochemistry facility will significantly increase our analytical capacity to explore the elemental composition of water and geological samples.

### *Ron Lewis*

This past year has been a busy one, filled with teaching, departmental administration work, and some very satisfying research results. I am also continuing my involvement with the university's ePortfolio program, encouraging students to create their own career-based websites: students reflect on the learning experiences they have had while at AU and present their talents in a web-sited portfolio, which goes far beyond a traditional resume.

With new graduate student, **Chris Smith**, I have been able to begin work on encrusting foraminifera on Bahamian islands other than San Salvador. Over Spring Break, Chris and I, accompanied by undergraduate major **Kody Shellhouse**, did field work on Cat Island, the next island west of San Salvador. Both Chris and Kody received funding from the departmental Advisory Board (Chris received a GGAB Student Grants-in-Aid award, and Kody won the Spencer Waters and Dan Folse Memorial award) for which we are very grateful; without this support, we would not have been able to complete the research.

A manuscript based on **Ray Tichenor's** (BS 2010) and my work on encrusting foraminifera at San Salvador was submitted to the Journal of Foraminiferal Research.

At the Spring departmental picnic, I was surprised to win the Geology "Superhero" award from the SGE/AAPG Geology students (although I had to look up the *Silver Surfer* to see who he was!). The Geography students selected Yingru Li (see below).

In August, Robin and I drove to Washington, D.C., so that I could deliver to the Smithsonian the very delicate type material of the foram *Geracia bahamensis*, which I named after Don and Kathy Gerace as a tribute to their service to the research community on San Sal. AU alumna Loren Petruny





Dr. Lewis & Dr. Lewis  
at the Smithsonian's  
Air and Space Museum

facilitated our visit and showed us some fun behind-the-scenes aspects of the museum (see alumni news). We also had a nice visit with my daughter, Anne Marie, who now lives in D.C. where she is currently working with methane-leak detection for Booz Allen Hamilton Inc.

### *Yingru Li*

This is my third year as an Assistant Professor of Geography at Auburn University. My research interests mainly include economic/urban geography, health and environment, GIS, and spatial statistics. I teach Quantitative Methods and Spatial Analysis, GIS Applications, and Economic Geography.

I have been working on research projects supported by the National Natural Science Foundation of China and the AU Intramural Grants Program in the past year. I am continuing to investigate the socioeconomic disparities of childhood obesity in Alabama's Black Belt region. My students (**Mitch Carter**, **Ting Du**, and **Austin Bush**) and I conducted surveys at a few rural elementary schools and collected social and environmental data with geospatial techniques in the spring. Through these research and outreach activities, we informed children and their parents of their body mass indices, and let them know how daily behaviors and family-community environments influence their weight status and health.

Also, I am collaborating with scholars from both the U.S. and China on a project regarding China's socioeconomic transitions, environmental pollution (water and air), and public



health. With data collected/processed during my research trips to China in 2013 and 2014, my first Masters student, **Huixuan Li**, completed and defended her thesis in December. In addition, I have worked on spatial statistical modeling of water quality, air temperature, and retail location.

It was a great surprise and honor for me that I won the Geography "Superhero" award of 2014. I truly appreciate the support from colleagues and students of our department.



Wonder Woman

### *Luke Marzen*

The past year has been a productive one finishing up work on an EPA-funded project mapping isolated wetlands for the entire state of Alabama while starting new projects with the USDA Forest Service mapping urban forests. We are combining airborne and terrestrial LiDAR to approach the new project from a variety of scales. I also acquired a small Unmanned Aerial System (UAS) to incorporate into the remote sensing class and possibly into research in the future. **Tyler Jones** and **Erik Heider** are pictured taking a selfie with the drone out at the Wetumpka Impact Crater. I am excited about the UAS as I believe it will open up new research opportunities in remote sensing. Finally, I also am excited to report that we have now graduated 15 students in the new M.S. graduate program in Geography.



### *Chandana Mitra*

The year began with a lot of excitement. I was invited to be a keynote speaker at the Southeastern Coastal and Atmospheric Processes Symposium (SeCAPS) on 22<sup>nd</sup> January (2014) at Mobile Alabama. It was a fun meeting — exchanging ideas with students and colleagues from the University of South Alabama and elsewhere. This year, as in previous years, workshops and conferences were



spread all through the year, but the most productive one was the workshop at Dublin, Ireland. It brought together scientists from all over the world to create a 'World Urban Database Access Portal Tool' (WUDAPT) to develop a global database on cities suitable for climate and ancillary studies. It is an ongoing process, and I am continuing to work on the database. We will be presenting the results at a conference in France in the summer of 2015. The research was very rewarding too, with an interesting study on urban heat island magnitude of Birmingham and Auburn-Opelika. Other research focused on land-use change in Alabama cities and its environmental impacts. On the service side, I was selected as Chair of the Asian Geography Specialty Group of AAG and also as a member of the Bureau of Urban Environment (BUE), American Meteorological Society (AMS). To top all activities and achievements this year, my first two graduate students after coming to Auburn, **Mahjabin Rahman** and **Andy Hug**, received their M.S. degrees in 2014. I wish them luck in all future endeavors!

### Charles ("Chuck") Savrda



Greetings! Since my administrative leave ended in August 2014, I have been keeping pretty busy. It has been great to be back in the classroom, not only with my Sedimentary Petrology course but also with our second core course Historical Geology (now renamed *Earth and Life through Time*) and Summer Field Camp. This spring semester, I am also teaching a new course, an undergraduate and graduate directed study on "Black Shales," which reflects my renewed interest in carbonaceous mudrocks and their potential as hydrocarbon source rocks. The goal now is to attract research funding to support student work on the Chattanooga Shale and other "black shales" in the region, as well as for continued work on another front, the sedimentology and ichnology of Selma Group Chalks.

Perhaps the highlight for me this year, at least on the academic side, was the establishment of a new Outstanding Graduate Student Award in my name. I am humbled by this honor, and I deeply appreciate all those who contributed to this endowed award. I look forward to the selection of the inaugural recipient later this Spring.

On the family side, all is going well. But, I am starting to feel very old; I became a grandfather nearly a year ago—granddaughter Judith Marie is now walking but not quite talking (although she's got the Auburn growl down much better than Trey Johnston)—and our youngest daughter (Cassie) is now here at AU pursuing a degree in Elementary Education. Time is just flying by. I look forward to hearing some of your news. Until the next edition of the eGeotiger, best wishes!

### Mark Steltenpohl

My administrative position keeps me away from doing a whole lot of research or teaching (see Chair's Message), which is sad because those are the things we academicians most look forward to doing. My work with **Devon Verellen**, described elsewhere, remains a true blessing for me. Devon is one of the brightest students that I have ever worked with, and she is clearly the toughest, most persevering and resilient young woman that I have ever known. Our field and lab work in Norway was made a bit easier, as well as bit more unusual for me, because my son **Greg** came along to assist us. Greg joined our program last year, which didn't surprise me at all because he has always shown interest and curiosity in what I was doing with my Brunton compass and hand lens on campouts and family vacations.

Two really superb MS students graduated from my group in 2014: **Joel Abrahams** (Chesapeake Energy) and **Jonny Prouty** (Free Spirit, somewhere out on the Appalachian trail...). **Josh Poole** is wrapping up his thesis and hoping to defend this term, and **Dane VanDervoort**, my new grad student, is writing his proposal as I write this.

My family is doing well too! Laura still enjoys teaching science at Auburn High School, and Natalie and Greg now are 22 and 21, respectively. Yes, that is my granddaughter (Natalie's daughter) just skirting the right-side of "2014 Alumni Tailgaters..." on the tailgater collage! At the same ballgame someone snapped the below photo of War Eagle with Petrie Hall in the background; I appreciate my nephew Jason Steltenpohl for recognizing it and sending it to me!



WDE!



## Ashraf Uddin

This past year has been a busy one, filled with teaching, fieldwork in Bangladesh, and receiving funding for a research project from NSF. One graduate student, **Khaled Chowdhury**, completed his thesis on Carboniferous Gondwana sequences in India and Bangladesh and moved to a Ph.D. program in Texas Tech. Three new graduate students joined in 2014: **Ziaul Haque** in January 2014, **Nur Ahmed** and **Shakura Jahan** in Fall 2014. Ziaul Haque has been working on petrofacies and detrital geochronology of the conglomerate magnafacies of the Pottsville Formation in the Cahaba Basin. Nur Ahmed actually came with a project to work on the coastal sediments and groundwater of Bangladesh. Shakura Jahan did fieldwork in Bangladesh in December 2014, collecting mudrocks from an upper Eocene unit for a petroleum source-rocks study.

Our (Jim Saunders, Ming-Kuo Lee and Ashraf Uddin) project on bioremediation of groundwater contaminants received funding for about \$340,000 from NSF. Khaled Chowdhury received the 1st prize for a presentation at the Alabama Academy of Science annual conference. Ziaul Haque received grants-in-aid support from GSA, AAPG, and Gulf Coast Association of Geological Societies. Four students from our IBA teams received employment/internship opportunities with petroleum industries in 2014.

I was invited to teach a field school in Bangladesh in March 2014, which was organized by Columbia University on a PIRE grant from NSF. About 40 students and scientists from the USA, India, France and Bangladesh took part. In October, I was invited to serve as a session chair at the annual meeting of GSA in Vancouver, BC, Canada.

At least two former graduate students from our team became first-time fathers in recent weeks. They are **Mohammad Shamsudduha** and **Subhadip Mandal**.

Congratulations, Shams and Subhadip!

## Lorraine Wolf

Greetings from the Geophysics corner (East Wing) of Petrie Hall! I am pleased to report that we are sustaining a continuous flow of students into and successfully out of the program. **Ruhollah Keshvardoost** completed his thesis on seismic site response in the Seattle and Tacoma basins and is currently enrolled in the PhD program at LSU (where former student **Suraj Bajgain** is finishing up his doctorate).

**Justin Cox** is progressing nicely with his gravity and magnetic models of the Muckleshoot basin, refining work done previously by James **Taylor** (now at Unit corporation). Joining the group this year is **Robert (Trey) Singleton**, who will be developing gravity and magnetic models for the Black Warrior basin. We also added an undergraduate Physics major this past semester, who did some gradiometry surveying on the Fort Tombecbe archeological site near Livingston, AL.

Lastly, I am pleased to announce that my work on the probabilistic seismic hazard analysis for the Hanford DOE site has concluded and our team received approval to release its report in November. I continue to divide my time between Geology and the AU Undergraduate Research Program, both of which offer their unique rewards. My family and I are looking forward to a New Year filled with great accomplishments!

## Haibo Zou

This past year has been the most productive year for my group and collaborators: Nine peer-reviewed articles are published in *Lithos* (6), *Precambrian Research* (1), *Journal of Volcanology and Geothermal Research* (1), and *Treatise on Geochemistry Second Edition* (1, invited). The topics of these papers range from petrogenesis of basalts, andesites and gabbros, the timescales and plumbing systems of large dangerous volcanoes, zircon geochronology, recycling of sediments, and regional tectonics to geochemical error propagations.

Dr. **Yongwei Zhao** worked in our group from December 2013 to December 2014 as a Visiting Scholar. He studied the petrogenesis of basalts from NE China and Inner Mongolia, and published one paper in *Lithos* and another one in the *Journal of Volcanology and Geothermal Research*. While working at Auburn University, Dr.



Zhao was promoted to Associate Research Professor in November 2014 by his home institution. Congratulations!

Ms. **Mingjia Ma** completed her thesis research on Nd-Hf isotopes in trachy-andesites from the Tengchong volcanic field of the Southeast Tibetan Plateau. She presented her work at the 2014 GSA Southeast Section Meeting and graduated with a Masters degree in Geology in summer 2014. She moved to Texas for her Ph.D. study.

Ms. **Katherine Spyker** graduated with a Bachelor of Science degree in Geology from Auburn University in December 2014. It's remarkable that she finished her undergraduate studies in 3.5 years! After working for a company for half a year, she joined our group in Fall 2014 for graduate study. Katherine is off to a quick start in her research in petrology and geochemistry!

### *Sheila Arington*



Being in the Department for over 39 years now, I really feel like a permanent fixture. I guess it is such a good job, I don't want to leave (even though I know I will have to one day but just don't know exactly when). My continued involvement working with all our students, faculty and staff on a daily basis is a blessing. My primary duties are still being a receptionist, registering students, and doing travel reimbursements and vouchers. I completed

several management courses and was involved with the newly established Geology & Geography Advisory Board, among many other duties. The last year has been challenging, as usual, with the never-ending policy changes in rules and regulations in a lot of these duties.

On the homefront, Stan and I managed a vacation in June to St. George Island, FL with Amy and family, which was the year's highlight. It is hard to believe my granddaughters are 4 and 9 now! The early part of the year was bittersweet, as my mom's alzheimers was worse, and we had to place her in our local nursing home, and my dad is leaving our homeplace to move to independent living to be close to her. It has been a very emotional time for our family. In November, my dearly beloved mother-in-law of almost 40 years passed away suddenly and really saddened our family.

To all you alumni out there....keep in touch with the department. We love hearing from you!

### *Anthony (Tony) Hall*

In the last eGeotiger, I was relatively new to the staff. I was getting to know everyone and everything. Now it has been a year, and it has been full of new and exciting ventures. Over the past year, I have mostly engaged in two focused endeavors. The first, renovations to the department to create more space for a growing program and to give the buildings Petrie and Langdon Annex a bit of a new look (see Renovations article). Second, I have focused some attention on the scheduling of some of the freshmen classes to help increase enrollment by capturing larger classrooms and/or assigning courses to a more appealing timeframe.

One of the big projects coming this next year combines the two ideas. We plan to renovate more of Langdon Annex to

make another room available for the Dynamic Earth lab, allowing us to offer 50% more labs during the prime times.

I continue to split my time after hours between Southern Union State Community College, where I am an Instructor in the Math department, and the AU Athletics department as a sports photographer. War Eagle!!

### *Audrey Hollis*

The Geography Office is a very busy environment. I was involved in the search for a Geomorphology professor, making arrangements for meals and lodging for the candidates. The faculty search for the Geomorphology position took place in the spring, and we welcomed Dr. Stephanie Shepherd to our department in August.

In June, Dr. Toni Alexander announced that she had accepted the Chair position at Southeast Missouri State University, and would start that position in August. Dr. Luke Marzen assumed Toni Alexander's responsibilities as Associate Chair for Geography, and the transition has gone well.

Throughout the year, with the day-to-day operations of the office, I assisted students with scheduling adjustments; prepared reimbursements for faculty, staff, and students; prepared voucher payments; and assisted with payroll issues. I assisted our seven geography faculty with copying of syllabi, tests and research documents. In the spring, there was an enrollment of 366 students in our two sections of Global Geography. In the fall, enrollment was stellar for the Global Geography courses with 822 students.

In July, I completed the last of eighteen courses for completion of the Administrative Support Office Management Courses. It continues to be a pleasure to work with Sheila and Delaine, as we strive for the success of the Geology and Geography Department.

As busy as 2014 was, I am looking forward to a busy and rewarding 2015 in the Geography Office. On the weekends, I continue to work on genealogy and spend time with family.

### *Delaine Tease*

The last e-Geotiger, I was new and just learning everyone. Now I am working, along with Tony Hall and with Drs. Steltenpohl, Marzen, and Lewis on increasing and expanding our enrollment of core curriculum classes.

Along with several budget changes, purchasing a vehicle trailer for field courses, and increasing our contracts and grants intake, Dr. Steltenpohl and I are working together with contracts and grants to make the grant submittals easier for all involved.

Since last year, Dakota has started first grade, which is a new adventure for all of us, and Bree is learning to "boss" everyone around and while running instead of walking.



## Tailgaters and Open Houses

Thanks to a #2 national showing throughout most of the first half of the 2014 football season, we had some great alumni turnouts for tailgate parties. As can be seen in the circa 1950 photo below, Petrie Hall used to be the old field house to Jordan-Hare stadium - Dr. Bill Hames' office used to belong to Shug Jordan. Players would run out of the north end zone right into showers on the ground floor of our building. Geology & Geography faculty and students are quite fond of our building and its historical significance, which makes it a perfect spot for tailgates. If you're ever in town for a home game, please note that we always reserve part of the front lawn of Petrie Hall for tailgates - you are always welcome to drop in and join us!

The collage of pictures highlights some of our alums who dropped by for several of the tailgates. You might recognize some of the folks from your graduating class. All are special, but James Clark (class of 1972) was a real surprise as he was one of the first graduates of our department after it was established in 1967! Others dropping by were Eric Reardon (BS '00), Jochen Floesser (MS '96), Alex (MS '99) & Jennifer (Johnson) Wood, Bob Fousek (MS '99), Kevin Mahan (BS '96), Daphne Williams (BS '96, MS '98), John Hawkins (BS '02, MS '13), Lauren Petruny (BS '03), Olivia Buchan (MS '06) & Jamey Turner (BS '03, MS '06), Art ('79) & Carol Merkle, Herb (BS '79) & Marynm Martin, and Don ('76)

& Nancy (BS '77) Watson, to name the folks I can recall in my aging brain; please forgive me if I left you out. Beyond our alums, we all enjoyed meeting your children, parents, and friends who were able to join us.

For the Texas A&M tailgater (back cover), we also held an open-house to show off our newly renovated collections and displays in the Petrie Hall foyer. We placed our "portable" T-rex skull (Stan) on the steps of Petrie Hall to grab folks' attention, which it certainly did! A banner hung above the front door proclaimed "AU Geology Rocks! Come in to see Dinosaurs and Rocks!" The open house was held in conjunction with a COSAM-wide event that welcomed back "Auburn's Dinosaur" to campus and featured a public reception and presentation by the discoverer, our very own Dr. David King. (See the article within this newsletter.)

Members of our GeoClub led tours of our displays, including the skull and hind limb of the dinosaur in the Petrie foyer, and we had tee-shirts made to help commemorate the event.

Jim and Paula Wilson, both geologists and recently re-tired to Auburn from Utah, helped out with a display of dinosaur fossils that they had accumulated over the years. We plan on holding more open houses in the future, but remember that you are all welcome at any time to visit us and get your own personal tour! We'd love to see you!



## Alumni News

**Germari de Villars** (MS 2007), now **Germari Bianchi**

A little bit of catching up: We are currently living in Italy near my husband's family after I finally completed my PhD degree in Planetary Geology from Utrecht University (in the Netherlands) in November 2013. Our son was born in March 2014, and I am currently a full-time mom but hopefully venturing back to planetary research sometime in future.



In response to the grand opening game this weekend, my husband (Filippo Bianchi) and our five month old son (Armand) proudly dressed in their favorite "all Auburn, all orange" gear on Sunday and this photo was taken at our home in Milan.

We will tailgate with you from here in true Auburn spirit!



**Rue Anne Chitwood** (MS 2012) is Staff Geologist at Newmont Mining in Elko, Nevada. Recently she wrote, "I had to work an eight-day hitch through Christmas, but the power went out at the mine for three days, so I got to go home early. I couldn't complain. The weather was snowy around Christmas, but lately, it's been in the 40's and 50's. I flew my dad out to Reno at the beginning of the year for a four-day weekend so we could go see The Hobbit together at Reno's new IMAX theater as my Christmas gift to him. We also took him to Virginia City for the day. We really like exploring that little town.

Last Sunday, my boyfriend, Mike Beyer, and I went snowshoeing in Lamoille Canyon. It was a lot of fun and a lot harder than I expected, but I'm getting ready for my big Alaska trip in May. I'm going to be in Denali National Park from May 2-12 and hopefully I'll be able to get off the Kahiltina Glacier in time for the Geol. Soc. of Nevada meeting..

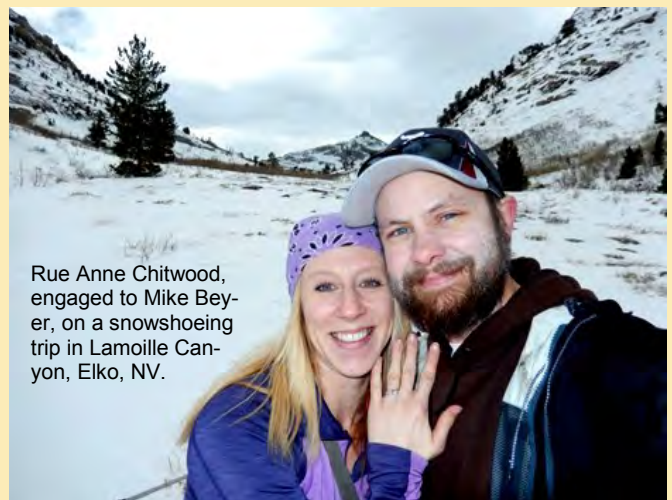
While Mike and I were in Lamoille last week, he proposed to me so we're now engaged. During the week, we decided on a date and booked our venue. It's going to be October 3<sup>rd</sup>, 2015, in Memphis, TN, at the Memphis Zoo's Teton Trek exhibit. I know it's the day of the Bama/UGA game, but it was the only weekend in October the zoo had the particular venue we wanted open. Overall, this year is shaping up to be quite busy.

## *It's great to be an Auburn eGeotiger!*

**Kathleen Clark and James Clark** (BS Geology 1972, Minors Chemistry and Civil Engineering) had a great visit this year at the Auburn Homecoming weekend while celebrating the alumni tailgate party in front of Petrie Hall on September 27, 2014. Dr. Mark Steltenpohl gave us a special tour of James' old "geology stomping ground" on the second floor of the Haley Center constructed in 1968. During my days at Auburn some of what were my geology classrooms and coffee room now belong to the geography department.

As a student, I remember complaining that each geology course that was presented was so time consuming that it seemed to be the only class that I was taking at Auburn. The problem was that we had other subjects and more than one geology class. To this day, the only time I have ever dreamed in color was when I was studying optical mineralogy after leaving the lab at midnight. Many tough days and nights at Auburn prepared me for the challenges and opportunities in my future career path. Being a part of the first geology class to graduate in 1972 provided us special family status since there were only a handful of students and four faculty members. I definitely remember being extremely poor at Auburn and certainly appreciated being hired by the department and paid for working as a research assistant and a geology lab instructor. Auburn has always meant family to me and I remember, particularly, one Thanksgiving when Dr. Ron Taylor and his wife invited me over for the Thursday meal where I was treated like a family member.

Dr. Jack Carrington (Geology Department Head) spent many Saturdays on long car trips and in the field of Shelby County teaching/sharing with me geology and mapping skills. The knowledge I gained turned into a senior research course which gave me the independent knowledge and skills that I would later apply to my first job with the Georgia Department of Transportation, where I would become Chief Geologist. This individual attention was also invaluable to me in the graduate school of Geophysical Sciences at Georgia Tech in 1977.



Rue Anne Chitwood, engaged to Mike Beyer, on a snowshoeing trip in Lamoille Canyon, Elko, NV.



Because of all the experience I received, I was automatically credited with the geology field camp requirements and had the ability to start my research project during the first year course work. After graduate school I went to work for Law Engineering in Atlanta as a geohydrologist working on MARTA and spent most of the four years with Law on high-level nuclear waste salt-dome storage feasibility in Texas, Louisiana and Mississippi. This included supervising the drilling/coring of deep wells thousands of feet deep. I left Law in 1981 after serving as Assistant Field Director for waste isolation.

I have worked for DuPont Engineering since 1981 and I am currently located in Beaumont, Texas as a Principal Consultant. My position includes working with deep well technology, including injection and groundwater wells, regulations, and litigation. I also maintain a working relationship with Washington and Regional US EPA and various state agencies as President of the Underground Injection Technology Council, advocacy through DuPont and research board member and active membership through the Groundwater Protection Council. At the request of Washington EPA, I served as one of the five US UIC experts to prepare an EPA 2001 risk report for Congress. The report addressed the 1996 Land Disposal Flexibility Act. After working on opposite sides of the world, Auburn is home and Kathy and I look forward to future alumni events!

**Ben Hicks** (BS 1981). I'm still in oil and gas exploration in Houston currently working for Fieldwood Energy concentrating on Gulf of Mexico shelf. Outside of work, Cathy and I are spending time chasing grandkids and planning how and when to spend more time at our house outside Pagosa Springs, CO.

**David Keefer** (MS 1992). I came to Auburn University from the University of South Alabama where I focused on remote sensing and petroleum geology. While at Auburn, I completed my thesis on the Geology of the Tallassee Synform Hinge Zone under the direction of Dr. Mark Steltenpohl, providing tectono-stratigraphic and structural mapping of the southernmost exposed Appalachian Piedmont rocks along the Alabama Fall Line.



While completing my thesis, I worked through Dr. Bob Cook as a consulting geologist on mineral exploration projects in the southeast. Then I worked in Oak Ridge, Tennessee, as a geologist, project manager and operations manager for federal facility cleanup projects through 2000. During this time, I became a Professional Geologist in the State of Tennessee and served as the President of the East Tennessee Geological Society. Relocating to Atlanta, I consulted for several years before joining the U.S. Environmental Protection Agency as a Remedial Project Manager (RPM) in the Superfund Program.

As an officer of the Atlanta Geological Society (AGS), I coordinated the first AGS Publication for the *GEOLOGIC MAP OF THE ATLANTA 1°DEGREE X 30°MINUTE QUADRANGLE, GEORGIA* (Higgins, M.W. and Crawford, R.F., 2006).

I have received regional and national recognition for my work at EPA, most notably RPM of the Year in 2007 and Environmental Justice Achievement Awards in 2009 and 2011. I currently serve as the Chief of the Superfund Resource and Scientific Integrity Branch with responsibility for managing scientific support (geology, hydrology, toxicology, and risk assessment) as well as grants and contracts administration for the regional Superfund Program.



**Joshua Kull**. After leaving Auburn, I worked for Schlumberger Well Services in Lafayette, Louisiana, for three years, earned my MS degree at the University of Louisiana at Lafayette, and then moved to Houston in 2005. While in Houston, I worked as a Petroleum Geologist for Citation Oil & Gas Corp. for 8 years overseeing oil and gas fields in 5 different states, got married, and had two children. In 2013 my family moved to Perth, Australia, on an expat assignment for my wife. While in Perth, I have been a consulting geologist for Linn Energy in Houston. The expat lifestyle and consulting have allowed us the freedom to travel more, and we have utilized this great opportunity to explore many great places in Asia-Pacific. War Eagle!

**Kevin Mahan**. I grew up in Alabama and graduated from Auburn in 1996 with a bachelor's degree in Geological Engineering. Even though my degree is from the engineering college, I've always felt like the Auburn Geology Department was my home. I received an MSc degree in Geology from the University of Utah in 2000 and a PhD in Geological Sciences from the University of Massachusetts-Amherst in 2005. After a 2-year post-doc at Caltech, I moved into a Research Associate position at the University of Colorado-Boulder (CU). I converted to a tenure-track position in 2010 and I am now an Assistant Professor at CU, with research interests in tectonics using structural geology, metamorphic petrology, and seismology (thank you, Mark, Bill, and Lorraine!). Not quite tenured yet, but hopefully next year!



Kevin Mahan

My wife is Becky Flowers, and we have two beautiful 4-year-old twins, Lynn and Alex. Life is good in Colorado, but I'll always be an Auburn Tiger. War Eagle! — Kevin

**Herb Martin** (BS 1979; MS LSU 1985). I am in my 32<sup>nd</sup> year of a career in oil & gas exploration and production, first with Pennzoil and since then (post-merger) with Devon. My first 24+ years were in Houston; the last 7 years I have been in Oklahoma City, where I am currently VP of Reservoir Technology and Optimization, Strategic Services Group at Devon Energy. Our team comprises much of the top technical talent at Devon, mostly in geoscience but also in reservoir analysis.

I once considered myself a prospector and technical guy..... But now, sadly, I am just a manager.

I have been married for 30+ years to Marynm Shaw Martin. We have a great family of three kids – Sallie (AU BS '09, MS' 11), Sam (AU BS '11), and Wade. They are 27, 25, and 21 respectively. Sam and Wade continue their education: Sam pursuing MS in geology and Wade a BS in geophysics, both at OU. War Eagle!



Loren with models of foraminifera

**Loren Petruny** (BS 2003). For the past four years, I have worked as a researcher in micropaleontology at the U.S. Natural History Museum (Smithsonian) in Washington, D.C. For the past two years, I have also been the Secretary/ Treasurer of the Cushman Foundation for Foraminiferal Research.

My research is focused on global climate change and investigates how the Earth is affected during periods of extreme warmth, such as the Late Cretaceous. Most recently, I traveled to Tanzania for field work and am working on the examination of three Tanzania Drilling Program (TDP) cores taken from the Cretaceous Kilwa Group. I am identifying specific foraminiferal species and extracting geochemical information from them in order to better understand water temperature change. I am also is working on a 3D foraminifera photogrammetry method, and I was able to present my research at the recent Geological Society of America Meeting in Vancouver, Canada. At the meeting, I showcased this method by 3D printing planktic foraminifera collected from sediment cores from Tanzania.



Herb Martin and Family. Left to right: Sam, Marynm, Sally, Herb, and Wade.

**Amanda Savrda**

**(BS 2008).** War Eagle from Houston, Texas! Having grown up in the “Loveliest Village on the Plains,” it’s even harder for me to believe that it’s been almost seven years since I left Auburn after graduating with my B.S. in Geology in 2008. Since then, life and geology have kept me pretty busy, and afforded me some wonderful opportunities and adventures. I attended the University of South Carolina for graduate school, where I completed my Masters in Geological Sciences in 2011. My thesis

work focused on the thermal-tectonic history of the southern Antarctic Peninsula by way of low temperature U-Th-He thermochronology.

Along with my advisor, Dr. Dave Barbeau (USC), I had the exciting privilege to spend a month of Austral Summer 2008-2009 doing fieldwork in Palmer Land and on Alexander Island with a team of wonderful folks from the British Antarctic Survey. My time in Antarctica was quite the quest, involving everything from self-arresting the fall of my outstanding field partner and mountaineer, Dan “Honky Cat” Fitzgerald, into a crevasse during our linked travel in the field—to singing “Sweet Home Alabama” as a nod to home, backed by several talented Rothera musicians (scientists, cooks, and mechanics by day), at the Research Station’s annual “Gould Night.” In addition to my research and TA duties at South Carolina, I also spent a semester teaching 7<sup>th</sup> graders as an in-classroom scientist Partners in Inquiry (Pi) fellow. I would be remiss if I failed to mention my 2010 summer internship at ExxonMobil, as it ultimately afforded me my most recent adventure, and a new home base in Houston, Texas. Currently, I’m enjoying my fourth year as a geoscientist in ExxonMobil’s Exploration Company. I’m having a blast working with some incredible folks (quite a few AU grads!) and studying petroleum basins around the world, and have also been fortunate enough to spend some time satisfying my wanderlust via my travel for work to the western US, Australia, and Brazil. No matter how far away I go, though, I do make it home to Auburn frequently to spend time with my family and poke around Petrie Hall. It is, as it always has been, great to be an Auburn [Geo] Tiger!



The photo was taken in the Big Horn Basin, Wyoming, where I was studying the hydrocarbon system there during an ExxonMobil field school.

**Jason Schein** (BS 2000, MS 2004) . In many ways, it seems like my time at Auburn ended just recently. As I write this, though, I realize how much has changed in my life since, and that so much change can only happen over many years.

I spent 8 wonderful years at Auburn and in the Department of Geology and Geography, which included meeting my wife Sarah, an “honorary” geology student at the time. Shortly after, we moved to Tupelo, MS, for a year and a half so that she could complete her graduate degree while I worked as an environmental geologist. Although the work was interesting, it was never more than a temporary situation for me: my goal had always been a career in paleontology. So, it wasn’t long before we made the move to Philadelphia, PA, where I became a Ph.D. student at Drexel University.

At Drexel I was part of the team that spent many months in southern Patagonian Argentina, excavating *Dreadnaughtus schrani*, a huge new sauropod dinosaur. I continued my studies after landing a job at the New Jersey State Museum as the Assistant Curator of Natural History, where I’ve been ever since. It is a wonderful job: I get to teach people about all aspects of nature through exhibits and programming. The best part, though, is the paleontological fieldwork and research. I inherited a small research project and have since expanded it into a multifaceted collaboration with colleagues from the Academy of Natural Science of Philadelphia. We recently named this project the “Bighorn Basin Dinosaur Project” (check us out on Facebook!), and I have found it to be one of the most

fulfilling experiences of my life. We lead all manner of people on these expeditions — anyone from inner-city high school-age girls, to college students for course credit (including three Auburn Geology students so far: **Sarah Sheffield, David Adrian, and Chris Smith**), to retirees — and we teach them everything we can about the natural history, both ancient and modern, of the northern Bighorn Basin.



Although we'll always miss Auburn, Sarah and I love our life in Philadelphia. We, along with our two children (Jackson, 6; Lilly, 5), are members of the Philly Auburn Club and have been very successful at converting everyone we meet into huge Auburn fans. Both kids can't wait until their first Auburn football game — the Iron Bowl, no less — this fall! No matter how much time goes by, or how much our lives have changed, we only become more appreciative of our experiences in Auburn, and especially my friends and professors in the Department of Geology and Geography.

**Rick Urash (MS 2005).** I received my Master's Degree in Geology from Auburn in 2005. Under the guidance of Dr. Savrda, I studied the sedimentology and ichnology of a glauconitic sandstone in south-central Alabama. After graduating, I went back to the University of Utah to pursue a Ph.D. by continuing my research on glauconitic sands. While at the University of Utah, I interned at TerraTek, a

Schlumberger Company. I worked as a petrologist, utilizing skills I learned while at Auburn.

In 2007, I decided to no longer pursue a Ph.D and took a job at Chesapeake Energy In Oklahoma City. Initially I was hired to work in Chesapeake's research lab as a petrologist performing many of the same duties I did at TerraTek. After a year and a half there, I moved to the Stratigraphy Group, where I described core and worked on regional sequence stratigraphic studies. Currently I am in the Rockies Exploration Group working on Cretaceous sandstones in the Powder River Basin and the Denver-Julesburg Basin.



I have been married to my wife Jade for nearly three years now. We met in the research lab at Chesapeake, but she quickly transferred to another department because I wouldn't leave her alone. We've been trying to get some traveling out of the way before settling down with a family, but kids may happen next year.....or we may go to Iceland.

**Don (BS 1976) and Nancy (BS 1977) Watson.** We still remain in LaGrange, Georgia running our small family water well business, Dixie Well Boring Company. We have weathered many challenges the past year, but are blessed to still be here and counted among the productive. Our grown children, Jim (2001) and Allison (2005) are married and off into the world. Allison and her husband Dave Moon (2004) have provided us with a set of twin grandsons who learned "War Eagle" very early in life. Jim and his wife Sheridan (UGA class of 2001) live and work in Washington, DC, where Jim is the past president of the Washington Auburn Club. We hope to see more of our Tigers at the annual Alabama Geological Society field trip in December. War Eagle!



We love seeing alumni at professional meetings, National GSA, Vancouver, 2014

James Thomka (MS 2010) is completing his PhD at the University of Cincinnati and is a Lecturer at the University of Akron, Akron, OH.

Sarah Sheffield (MS 2013) is currently a PhD candidate at the University of Tennessee studying early attached echinoderms.

**Daphne Williams** (BS 1996, MS 1998). I was Dr. Ming-Kuo Lee's first graduate student after his arrival at Auburn. My thesis was *A Quantitative Study of the Paleohydrology of the Delaware Base, Western Texas and Southeastern New Mexico: Implication for Hydrocarbon Migration, Ore Genesis, and Heat Transfer*. Together with Dr. Lee, we published the research in a Groundwater® article, *Analysis of Convective Heat Transfer in Deformed and Stratified Aquifers Associated with Frasch Thermal Mining* (1999), and in the AAPG Bulletin *Paleohydrology of the Delaware Basin, Western Texas: Overpressure Development, Hydrocarbon Migration, and Ore Genesis* (2000). With the support of the my professors, I was awarded the Outstanding Graduate Student award in Geology in 1997.

After leaving Auburn, I went to work in the environmental consulting field and now am part owner of NewFields Government Services, LLC (NGS), a consulting firm that provides environmental remediation and liability management services to government and private-sector clients. Because of the education I received at Auburn University and the experience I have gained over the years, I advocate the



coupling of geology with engineering, microbiology, and chemistry, along with a sound understanding of business, to provide efficient decisions while promoting sound science.

When I am not working, David (above left) and our three dogs split our time between Brevard, NC, hiking in the Pisgah National Forest, and Santa Rosa Beach, FL, paddle boarding the emerald waters of the Gulf Coast.

## *In Memoriam*



**Therese "Terri" Jean Shannon Clark** received her Bachelor of Science in Geology from Auburn University along with minors in German and Education in 1973. Upon graduation, Terri received her Teacher's Certification.

From 1973 to 2006, Terri taught a range of science classes, including Biology, Marine Science, Geology, Environmental Science, Chemistry and Physics. In 1973 Terri worked with university professors in Oklahoma on the nationwide program to implement plate tectonics in high schools.

She was an innovative, creative and nationally recognized science teacher who saw the world with new eyes and shared that vision with students in the adventure of learning geology, biology, physics, chemistry, and environmental sciences. Her passion for science could better be described as a passion for life, which she shared with everyone she met.

As an environmental science and marine biology teacher, Terri and her students pioneered a beach clean-up project that was instrumental in raising awareness about beach pollution. She and her students received the TAPESTRY Award (Toyota Appreciation Program for Excellence

To Science Teachers Reaching Youth) in 1992 which provided grant seed money for the environmental study of Sea Rim State Park in Texas, the Texas Governor's Award in 1993 for environmental excellence in education, the nationally televised Anheuser-Busch 1993 "A Pledge and A Promise" Environmental Award, and the President's Youth Award in 1994. Terri and her students even inspired Texas Senate Resolution No. 813 and City of Beaumont Proclamations to recognize their work in environmental education in 1992 and 1993. She was selected in 1996 as a Genentech Access Excellence Fellow by being one of America's 100 most creative high school biology teachers.

Terri's interest in biology research became personal in 2004, when she was diagnosed with a very rare form of cancer. During a six-year struggle with cancer, she endured all with incredible strength, bravery, and hope. She always strived to be an educated patient by researching scientific literature and novel treatments. Because of her courage, she was able to spend precious time with her family members. She passed away January 13, 2010 at M.D. Anderson Hospital in Houston, Texas.



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Thank you! The Department of Geology and Geography gratefully thanks our generous donors who have supported its students, faculty, research, and programs in fiscal year 2014.

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State funds and tuition pay only a small part of the costs to recruit and retain the best faculty and graduate students and support the undergraduate programs that are the hallmarks of the Auburn experience. Private funds sustain and enhance these extraordinary opportunities for students and faculty. Despite the economic downturn, the Department of Geology and Geography continues to provide the best possible education for our undergraduate and graduate students. Each year, private support provides the funding that helps support Auburn's margin of excellence. Private giving is now more critical than ever. Please make your gift today via our secure website: <http://www.auburn.edu/academic/cosam/departments/geology/Giving%20to%20the%20Department/>.

We continue to welcome your gifts to any fund in the Department of Geology and Geography, and we hope you will consider any of the following funding priorities:

**Geology and Geography Department:** This unrestricted account provides the Chair with the most flexibility to apply support to the Department's most immediate needs, such as student and faculty travel, research, and equipment.

**Geology and Geography Advisory Board:** Our Advisory Board includes alumni, corporate, governmental, and community members who help support students, faculty, and staff in our department. The Board serves as a liaison with the geoscience business community and government entities to promote the interests of our department within Auburn University, the state, and beyond. One goal of the Department is to develop a Ph.D. program in geosciences to further enhance educational, research, and business opportunities for students, faculty, and other stakeholders; and the Board helps in recruiting and retaining the most talented, motivated, and competent students and faculty by providing scholarships, CO-OPs, and internships for students, as well as supporting faculty teaching and research. In addition, the Board has set a goal to raise a \$25,000 "Fund for Excellence" endowment to allow for scholarships, field trips, faculty support, student recruiting, and seminar speakers, among other things that will help us to attain our goals.

**Geology Alumni Endowed Scholarship:** Provides scholarships for deserving undergraduate students in geology.

**Cook Professorship:** The Robert B. Cook Endowed Professorship recognizes excellent geology and geography faculty by providing competitive salaries and resources for research, travel, and professional development. Financial support from the Cook Professorship allows us to continue to attract and retain top-quality instructors and researchers. Recipients are exceptional individuals who have earned their recognition through continued outstanding leadership in research, instruction, and outreach.

For questions about creating scholarships and professorships, stock or estate gifts, specific programs, and suggestions on how you can support the Department of Geology and Geography, please contact:

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# AU GEOLOGY ROCKS!

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