

# eGEOTIGER

January 2020

## New Faculty/Staff



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*Department of Geosciences*

# eGEOTIGER

## *Greetings from the Chair!*

It is my pleasure to share with you the 2019 issue of the eGeotigers. During the period since the last newsletter, our outstanding faculty, staff, and students have made extraordinary achievements in all aspects of our mission. All faculty members are integral and vital in their efforts to continue offering classes, mentoring students, and conducting research during this challenging time. We all come together from a distance to turn an anxiety-filled negative into positive resilience and creativity. The strength of Geosciences rests in the deep talent of its faculty, staff, and students to move the department forward.



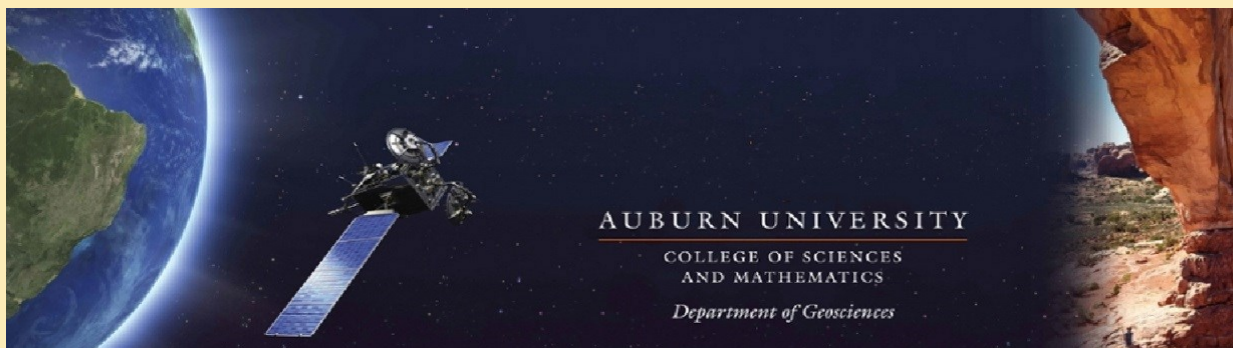
There is no campus-wide freeze on faculty hiring. We are continuing to recruit and hire faculty after the retirements of Chuck, Mark and Ron. In the 2019-2020 academic year we welcomed four new faculty members, including one tenure-track faculty in Organic Geochemistry (Dr. Ann Ojeda), two lecturers in Geochemistry (Dr. Brennan van Alderwerelt) and Human Geography (Dr. Jamie Worms), one instructor in GIS (Dr. Tyler Jones), and a post-doc in Geoscience Education Research (Lindsay Maudlin). In addition, we recruited 15 new outstanding graduate students. Two very talented staff members Amy Good (department accountant) and Kiley Coan (administration support associate) also joined the Geosciences family. All new faculty, graduate students, and staff have added impressive talent and diversity to the Geosciences family.

In this issue, you will see exciting news from faculty, students, and alumni. A number of our faculty have received highly competitive research awards from the National Science Foundation and other funding agencies, an especially impressive accomplishment given the challenging funding environment. Our Earth System Science PhD program continues to grow, currently with about 15 students enrolled in the department.

Most importantly, we are looking forward to more chances to reconnect with you at events this fall, including the GAB fall meeting and the retirement party for Chuck, Mark, and Ron. The retirement party has been postponed until the university returns to normal operation. Geosciences will host the 2021 GSA Southeast Section Meeting at Auburn on 1-2 April, 2021. The GSA meeting will include a reception at Auburn Hotel and Conference Center – an event I hope you can attend.

I look forward to the coming year with great enthusiasm and excitement about our future. I thank all of you for your continued support, and I will share more exciting news as the department continues to grow and evolve.

Ming-Kuo Lee  
Robert B. Cook Professor and Chair



## NRT Grant

This year Dr. McNeal (PI), Dr. Burton (Co-PI), and Dr. Mitra received the \$3M NSF Research Traineeship (NRT) award titled "Addressing Resiliency to Climate Related Hazards and Disasters through Data Informed Decision Making". The project will prepare a future workforce that will build climate-related disaster resilience in the southeastern United States by training individuals at the MS and PhD levels. The students will conduct research within an integrated and multidisciplinary framework with the aim to better understand, predict, and communicate the resilience of natural, social and built environmental systems. The project anticipates training approximately eighty-five (85) MS and PhD students which will include eighteen (18) funded trainees across earth systems science, engineering, geosciences, forestry and wildlife sciences, climate science, data science, agriculture, and social science disciplines. Trainees will learn quantitative and qualitative, analytical, and collaborative skills needed to lead the next generation of scientists that are able to recognize the data driven decision-making needs of stakeholders, as well as effectively communicate scientific information to stakeholder and public audiences. The project will employ a transformative workshop-studio-internship training approach.

Two-way exchanges and direct interactions between stakeholders and trainees will occur, exposing trainees to real-world problems and possible career pathways. In addition to working on their directed research, Trainees will take five core courses: (1) a course on resilience and social vulnerability; (2) a course on science communication; (3) a studio course that brings trainees together with stakeholders to address real-world problems, (4) an internship working directly with stakeholders, and (5) a series of workshops focused on structured decision-making approaches. Faculty will work with trainees to incorporate cutting-edge research into their theses and will guide them in reflecting on their experiences through the use of modern teaching approaches.



## GeoClub by Stephanie Rogers

A group of nine students travelled to Iceland in May 2019 as part of their Volcanic Systems study abroad course. There were three graduate students (Steph Courtney, Elijah Johnson, and Nick Soltis), four geology undergrads (Raeghan Bulman, Wyatt Gray, Rebekah Rawlinson, and Mason Woodard), and two geography undergrads (Lauren Dickerson and Elliot Steele).

The trip was organized by Dr. Stephanie Rogers and assisted by Tony Hall. Among many exciting activities, the group visited Thingvellir National Park where they walked between the North American and Eurasian tectonic plates, learned about sustainable energy production and ate geothermal greenhouse-grown tomato soup, saw geysirs and countless waterfalls, explored the sights and culture of the city of Reykjavik, hiked up Mount Esja, took a boat trip through a glacial lagoon, walked on black sand beaches, saw “puffins”, bathed in geothermal hot springs, had a snow day, and explored volcano museums.

The eight-day trip was full of fun and adventures and we are hoping to offer the same opportunity to students in the future.



## GeoClub Iceland



**Pictured from left to right: Wyatt Gray, Rebekah Rawlinson, Elliot Steele, Lauren Dickerson, Raeghan Bulman, Elijah Johnson, Dr. Stephanie Rogers, Nick Soltis, Steph Courtney, Mason Woodard**



**Rocky Mountain National Park, CO Field Camp Students and instructors above the tree line. This was the first time many of the students had been at such a high altitude and enjoyed playing in the snow.**



**Field Camp students and instructors at the last class stop before heading back to Alabama: Capulin Volcano National Monument, NM.**

## ***GeoClub by Laura Bilenker***

Field Work in SW, Idaho

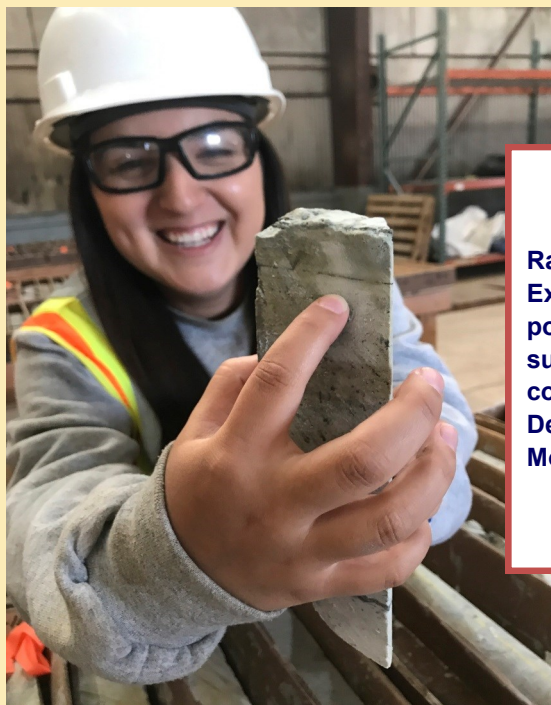
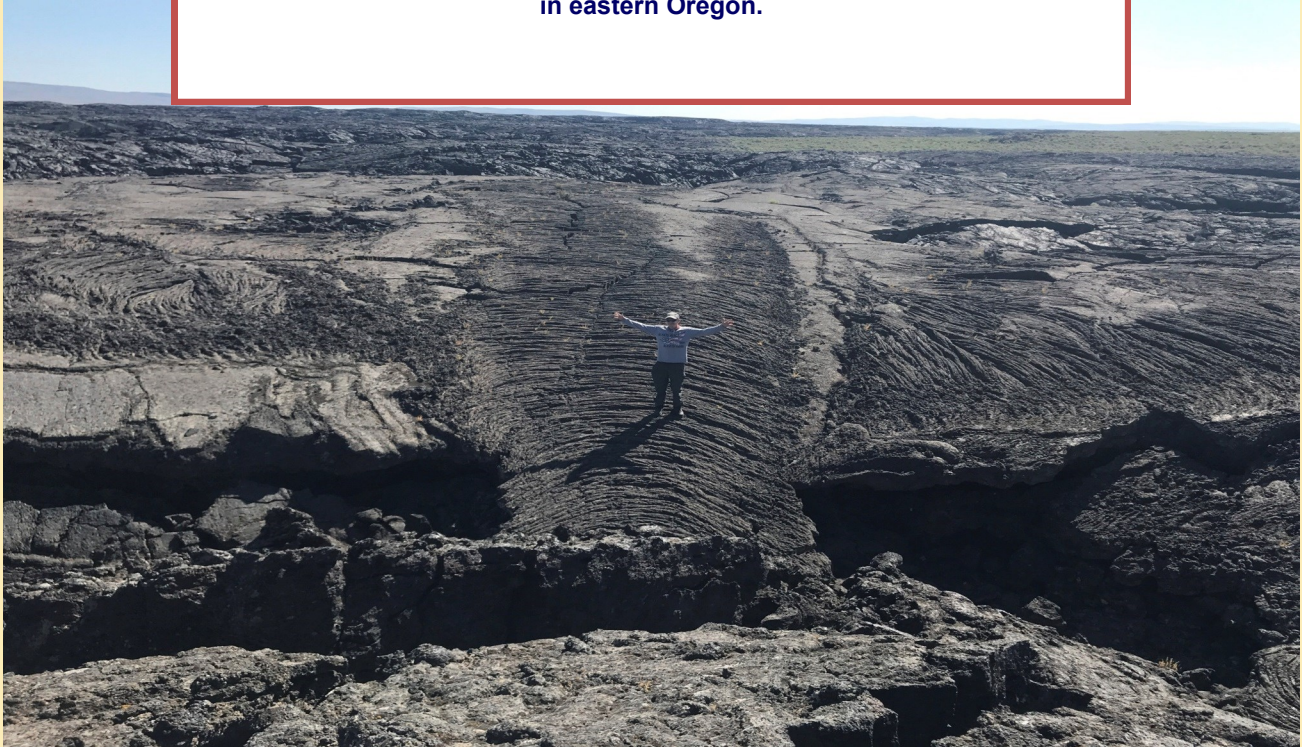


**Dr. Bilenker (center) with MS students Lucas Monroe and Raeann Garcia examining drill core at their thesis research site in Idaho.**



**Raeann Garcia explaining the geology of the Silver City District, ID to Dr. Hames and undergraduate assistant Kyle Parsons.**

**Undergraduate field assistant, Kyle Parsons shows off a pahoehoe flow in eastern Oregon.**



**Raeann Garcia  
Excitedly  
pointing out a  
sulfide vein in  
core form  
DeLamar  
Mountain, ID.**





Field Camp instructors and assistants during a snow break in Rocky Mountain National Park, CO: Dr. Van Alderwerelt, Dr. Bilenker, Nick Soltis, and Anabelle Kline.

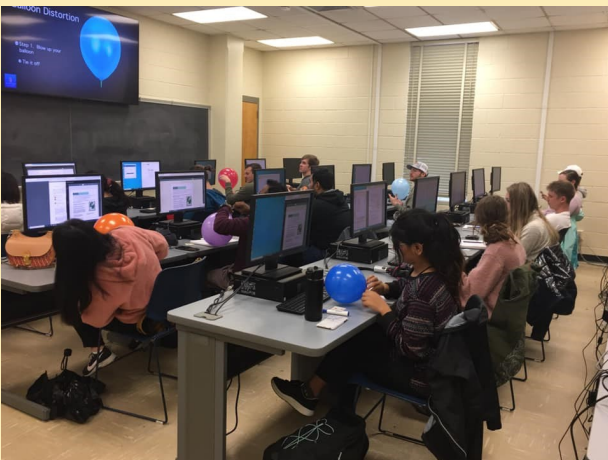


The Bilenker lab group (MS students Lucas Monroe, Raeann Garcia, Marisa Barefoot and Lab Manager Dr. DeCesare) after a successful booth at COSAM's Destination STEM Event.

## Geography Graduate Students



Top left to right, Alamin Molla, Jane Mader, Zachary Reichle, Lauren Dickerson, Haven Cashwell, Summer Cliff, SM Shihab Nur  
Haven Cashwell, Summer Cliff, and Shihab Nur



Students working in the GIS Lab



## New Faculty Members

### Jamie Worms



Originally from New York, Jamie L. Worms (PhD, Louisiana State University, USA) is a lecturer of Human Geography in the Department of Geosciences at Auburn University. Before coming to Alabama, Jamie worked as a faculty lecturer of Cultural Geography of Latin America at Smith College and as a lecturer in

Human Geography at Georgia State University.

As a trained human and physical geographer with a strong background in development and Latin American Studies, she values the opportunity to inspire students and to advance the understanding of geography including how it impacts the daily lives and destinies of people and nations. Her research interests include favelas, Latin America, the production of social spaces, imagined geographies, and geographical representations on social media.

### Ann Ojeda



I am a new Assistant Professor in the Department and moved to Auburn from the University of Toronto, where I worked as a Post-doctoral Fellow in the Earth Science Department. My research focuses on developing and applying analytical techniques to study a wide variety of molecules through both groundwater and surface water systems. This year, I've been busy setting up the Auburn Contaminants Lab, which will be home to few new pieces of equipment including a GC/MS instrument and sample-

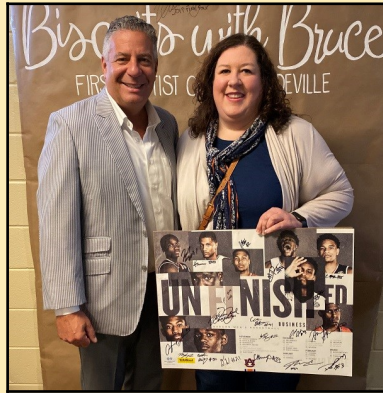
treatment system capable of detecting priority pollutants like hydrocarbons and pharmaceuticals at low levels (ppb) in water and sediment. The Geoscience family has warmly welcomed me into the Department, and I look forward to the exciting times ahead. War Eagle!



## New Staff Members

### Amy Goode

I joined Geosciences as the department's accountant in April 2019. I am originally from Roanoke, AL. I finished my undergraduate accounting degree at Auburn in 2004 and earned a Master of Accountancy degree in 2005. I worked for over 13 years as a certified public accountant and primarily did tax consulting and preparation prior to moving to Auburn. I am so excited to be at AU and I've thoroughly enjoyed the challenge of learning a new job that is so different from my previous career.



When I'm not working, I enjoy attending Auburn athletic events, particularly men's basketball. I haven't missed a home game in over three years! I also enjoy going to concerts, learning random trivia (I never miss an episode of *Jeopardy!*), reading, and spending time with friends and family. I am an animal lover and currently have three cats.

I am so thankful to be in the Department of Geosciences. Our faculty, staff, and students have all been so welcoming and have made my first (almost) year so wonderful. I am excited to see what this next year will bring for our department.

### Kiley Coan

I joined the Department of Geosciences in March 2019. I have been employed with COSAM since 2007. I grew up in Fort Payne, Alabama formerly known as the sock capital of the world. Fort Payne is also known for its beautiful parks and the famous Little River Canyon. I had the pleasure of working at DeSoto State Park while going to a small community college there. I moved to Auburn in the 1999 to pursue my degree in Health Promotion.



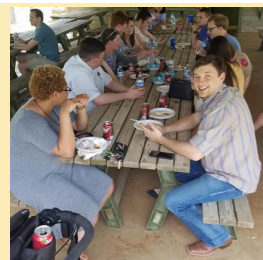
After completing my Bachelor's degree at Auburn University, I met my wonderful husband and decided that Auburn would be a great place to raise a family. While my husband completed his degree in Physical Therapy, I decided to go back to school to obtain my Master's in Higher Education. I love working with the students and being part of such a great University! We are blessed to have two beautiful daughters Kamryn and Kaylee. Outside of work, I enjoy spending time with my family, traveling, photography and spending time in nature.

I love the friendly and welcoming atmosphere of the Geoscience Department. I am very grateful to be in such a wonderful department. I am very excited to take on this new role and watch the department continue to grow.

## **Spring Picnic and Annual Awards Ceremony by Ron Lewis**

At our annual departmental picnic each spring we hold an awards ceremony to honor our outstanding students. Thanks to gifts from our alums and other friends of the department, donations are used to support our students and our programs in many different ways. One way of recognizing students who distinguish themselves through their academics, research, service, and/or leadership is with scholarships or other types of awards, including plaques and cash. At the picnic we recognize students who received awards in various award categories within our department.

Thanks to the hard work of our departmental Awards Committee (Co-Chairs Phil Chaney and David King, and committee members Chandana Mitra and Chuck Savrda), we have established very well organized nomination, application and voting mechanisms to assure that deserving students are appropriately rewarded for their efforts. We also want to thank the students, including those in the SGE and AAPG student chapters for their work in setting up the picnic and in presenting their own awards, which include the recognition of select faculty and staff via the "Superhero" awards. We invite our alums to attend each of the Spring picnic and awards ceremonies.



### **Department of Geosciences Awards**

The Endowed Dr. Charles E. "Chuck" Savrda Outstanding Graduate Student Award- **Nick Soltis**

Robert S. Fousek Award for Research in Economic Geology **Raeann Garcia**

Departmental Award for Excellence in Education (DAEE) Apprenticeship Awards-

<b>Samuel Warren</b>	Matthew Adams
<b>Tristan Orndorff</b>	Alicia Fischer
<b>Quinlan Swain</b>	Nick Soltis and Stephanie Courtney
<b>Sophie Milich</b>	Anabelle Kline

### **Geosciences Advisory Board Awards:**

GAB Outstanding student awardees  
Geology

Outstanding Graduate- **Caleb Eldridge, Anabelle Kline, and Jacob Thompson**

Geography

Outstanding Graduate- **Meredith Moore**

GAB Outstanding Leadership-

Geology

**Colin Sutton**

**Jacob Thompson**

Geography

**Meredith Moore**

GAB Research Awards-

**Raeann Garcia**

**Anabelle Kline**

**Md Sahrif Mustaque**

**Jasmin Naher**

**Md Mahfujur Rahman**

**Sandor Ricketts**

**Nick Soltis**

**Greg Steltenpohl**

GAB Travel Grants

**Collin Sutton**

**Nick Soltis**

**Rahul Bhattacharya**

**Md Mahfujur Rahman**

**Caleb Eldridge**

**SM Shihab Nur**

**Leticia De Marchi**

**AI Emran**

**Morgan Hill**

**Alamin Molla**

**Meredith Moore**

**Jarrett Roland**

**Shifat J Monami**

**Jacob Thompson**

**Benjamin R. Weinmann**

### ***Student Awards 2018-2019***

#### **Outside of the University**

*2019 Lunar and Planetary Institute (LPI) Career Development award for 2019 -*

**AI Emran**

*Barringer Award for Crater Research-*

**Neeraja Chinchalkar**

*IBA team for 2019-*

**Connor Cain, Alicia Fischer,  
Raeann Garcia, Sharif  
Mustaque and  
Ozan Turkes**

#### **University**

*International Student Association– Grad*

**Md. Sharif Mustaque**

*OVPR Research Symposium– Best Oral presentation of COSAM Students-*

**Leticia De Marchi and  
Anabelle Kline**

#### **COSAM Awards:**

*Dean's Medalist (Outstanding Senior) for Geosciences-*

**Tristan Orndorff**

*Outstanding Junior in Geosciences-*

**Mason Woodward**

*Graduate Research-  
Graduate Teaching-*

**Colin Sutton  
Annabelle Kline**

*Spring Picnic and Annual Awards Ceremony (cont.)*



## Faculty and Staff News

### Adam Payne



2109 was a good year overall for the Geography Student Organization. Last year the GSO, had the greatest celebration of Earth Day ever at Auburn. We brought together several departments and recognized the importance of conservation and protection of our Earth. During the fall semester, the GSO sponsored Geography Awareness Week (GAW). We

introduced the glorious Geography Trivia Wheel, where students could answer a trivia question to earn a prize. We also introduced that spectacular game called Geography Pictographs (see example below to see if you could earn a prize). Both of these events attracted around 150-200 students helping to raise awareness of our programs. GSO also held the Clean Up and Cook Out event at Chewacla State Park. We picked up trash and then had a small cook-out! It was a rewarding experience for all involved. I look forward to further promoting and organizing events with the members of GSO in 2020!



### Lorraine Wolf

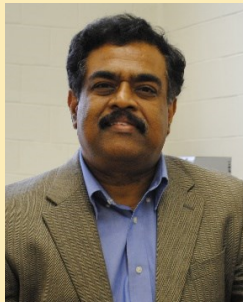


I continue to exist in a bicephalic state, serving as the department's geophysicist and the university's director of undergraduate research. Mythology holds much worse combinations, and thankfully, I have avoided these. Since our last issue of the GeoTiger, I have witnessed two of my graduate students finish their degrees—Caleb Eldridge and Rahul Bhattacharya. Caleb developed interesting

crustal models along two profiles in the New Madrid seismic zone using gravity and magnetic data that supported two phases of magmatic injection and provided a potential explanation for a linear trend of seismicity that runs up the backbone of the Reelfoot Rift. Rahul, in his modeling of crustal structure of the Bellingham basin in western Washington, improved upon characterizations of Holocene-active faults, one of which he believes is much longer than previously thought and therefore has the potential to produce larger magnitude earthquakes. Both students presented their results at the SAGEEP conference in Portland, OR, and published them in the conference proceedings. Their work was also presented at the annual AGU meeting in December. Caleb is now a practicing geologist out of the Fairhope/Mobile area and Rahul is off to a PhD program at the University of Iowa. New this past year to the group is Can Güven, a student from Turkey who has been supported by his government to study paleoseismology at Auburn. Can will be working with Martitia Tuttle (M. Tuttle and Associates), Stephanie Rogers, and myself on paleoliquefaction deposits in the New Madrid seismic zone. He will be using resistivity surveys, remote-sensing with UAS and trench excavations to investigate prehistoric earthquake deformation and soil liquefaction. One of my greatest joys is hearing from former students, so please keep in touch.

## Faculty and Staff News

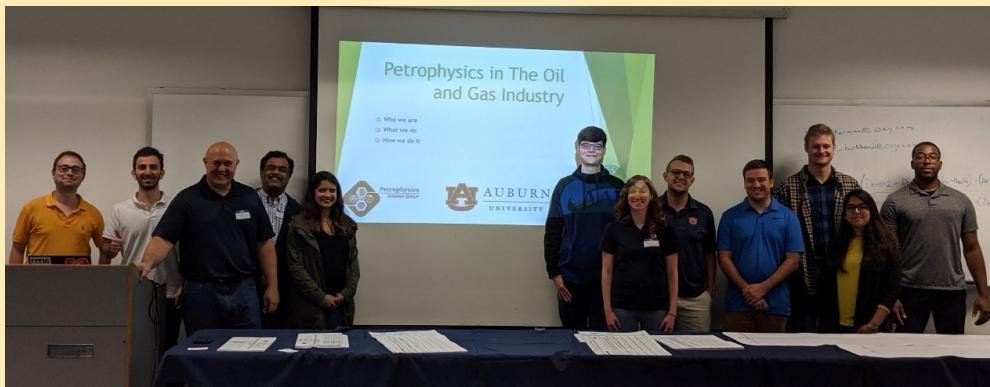
The Petroleum Geology course (GEOL 5500/6500) was taught for the fifth year in Fall 2019 with the help of industry expert, Joseph Beck from the Diamondback Energy.



The NSF-funded project with Drs. Ming-Kuo Lee and James Saunders ended with six MS thesis research and publications. Our PAIR project funded by Auburn University on carbon sequestration has been going well. Dr. King and I presented meeting abstracts and a graduate student is currently working on the project. **Shifat Monami (MS '19)** completed an MS thesis on detrital history of Carboniferous Pottsville sequences from Pennsylvania. **Mahfuj Rahman (MS' 19)**, co-supervised by me and Dr. Lee, also defended his thesis research on Macon County in Summer 2019. **Sharif Mustaque** made progress with his PhD project on eastern Gondwanan sedimentation and tectonics. Jasmin Naher also has been making progress on her research on sedimentation and tectonics of the northern Bengal basin and southern Shillong Plateau, India. **Marcus Schneider** joined us from Arkansas to work on the organic sequences of the Upper Cretaceous Tuscaloosa Formation to elucidate if these can serve as prospective petroleum source rocks. **Nora Lopez** also joined us from University of Puerto Rico to work on carbon sequestration in Upper Cretaceous Tuscaloosa Formation with me and Dr. King.

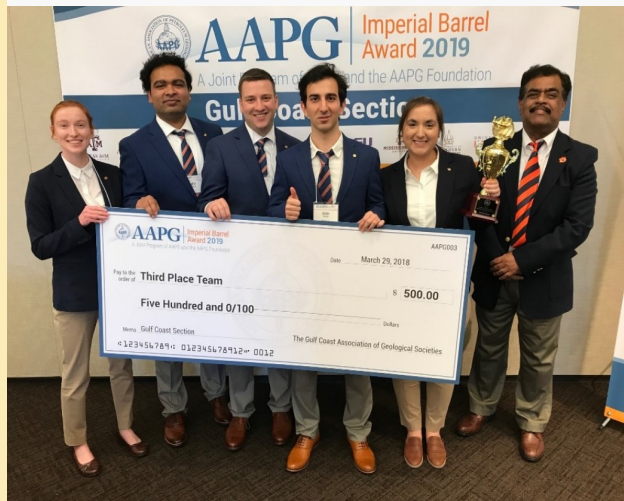
Our efforts with the Imperial Barrel Award competition continued very well with continued success in 2019. The team consisting of **Connor Cain, Alicia Fischer, Raeann Garcia, Sharif Mustaque and Ozan Turkes** was able to successfully win their group consisting of Texas A&M, University of Southern Mississippi, and University of Texas at San Antonio. We started taking part in IBA competition in 2011. This year the team was able to bring home an IBA trophy for the second time in a row. See below a group photo of the happy winning team:

Considering our recent success with IBA, representatives from petroleum industry have offered their time and attention to our students at Auburn for training and recruiting. Two petrophysics experts (Joseph Termina and Stanley Birkhead) from Occidental Petroleum who also represent the Petrophysics Interest Group (PIG) visited us to teach a workshop in petrophysics. The goal at PIG has been to bring more education in petrophysics at the collegiate level as part of their technical interest group under AAPG. After the workshop, both the instructors spoke very highly about the performance of our students of Auburn University. Here is a group photo taken during the workshop training:



## Auburn IBA winning team from 2019

From left to right, **Alicia Fischer, Sharif Mustaque, Connor Cain, Ozan Turkes, Raeann Garcia and Dr. Ashraf Uddin**



Occidental Lab

Additionally, a recruiting team from Chesapeake Energy consisting of two of our former graduate students James Markin and Rick Urash along with J.P. Dubey visited Auburn to showcase the Chesapeake to Auburn University. They also spent a 2<sup>nd</sup> day in recruiting interview of graduate students from Auburn and University of Alabama. Our students had a firsthand interview experience for internship/employment opportunity with the Chesapeake Energy. Here is a picture of Chesapeake interviewers with our students & faculty from Auburn and University of Alabama.



## Continuing Faculty Members

### Laura Bilenker

The Economic Geology/High-Temperature Geochemistry Lab has had a great second year so far. In student news, there are currently three MS and three undergraduate students in my research group. My most senior graduate student, **Raeann Garcia** (IBA 2019 Team Member, Dynamic Earth Head TA), is finishing her last dataset and preparing to defend her MS thesis on a silver/gold deposit in SW Idaho. She also presented her work at the GSA meeting in Phoenix and attended a SIMS workshop in January at Arizona State University. **Lucas Monroe** joined us this fall by way of Indiana State University and is working on a second silver/gold deposit in Idaho. Both students held three-week internships with the supporting exploration company, Integra Resources, before **Dr. Bill Hames**, undergraduate **Kyle Parsons**, and I met up with them for additional field work. **Marisa Barefoot** (BS 2019) joined the group in January 2020 to work on a new collaborative project with the University of Puerto Rico, Mayagüez. She will use field observations, petrography, and geochemistry to understand the formation of two iron deposits in Puerto Rico. We are also very lucky to have Geology undergraduates **Will Ebbert**, **Carly Glidewell**, and **Daniel Wilson** (Apprentice) assisting in these projects. And for those of you who know **Anabelle Kline** (BS 2017), she graduated last May after a successful thesis defense on the Hog Mountain, AL orogenic gold deposit. She is now happily employed by Geosyntec in Santa Barbara, CA. After her graduation, Anabelle served as an assisting instructor of **Field Camp** as **Dr. Chuck Savrda** helped me and **Dr. Brennan van Alderwerelt** transition into being the new leaders of this course. Chuck taught us (and the students) everything we always wanted to know about Alabama geology before Brennan and I took our 14 students out to Colorado, Utah, and New Mexico. It was an excellent first experience with Auburn's Field Camp.



In lab news, the new laser sampling system is now up and running, attached to the mass spectrometer over in the CASIC building. It's able to analyze the composition of minerals, rocks, and fluid inclusions at a very small spatial scale. I was also fortunate to fit in two visits to the University of British Columbia to get iron isotope data for three new studies examining the formation of the Hawaiian Islands, iron deposits in Puerto Rico, and biological signatures in rocks. I am excited to see where these new projects take me and my research group—2020 is going to be another busy year!

### STEM Event



The Bilenker lab group (MS students Lucas Monroe, Raeann Garcia, Marisa Barefoot and Lab Manager Dr. DeCesare) after a successful booth at COSAM's Destination STEM Event.



## Continuing Faculty Members

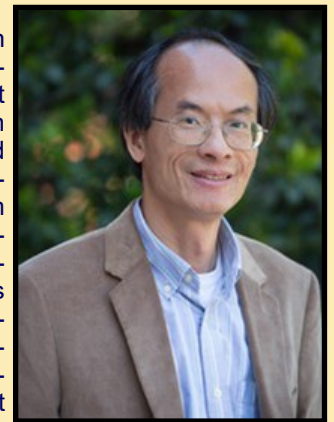
### Karen McNeal

I am in my fourth year here at Auburn University and Direct the Geoscience Education and Geocognition Research Lab which consists of one post-doctoral scholar, six graduate students (1 MS and 5 PhD) and one undergraduate student. My group had several peer-reviewed papers in 2019 – one of which was published in *Geosphere* which highlighted Nick Soltis's (current PhD student) work on understanding how geoscience instructors teach about Earth systems thinking in their classrooms (*Soltis et al., 2019*). As far as grants, the most notable accomplishment was the receipt of the \$3M NSF NRT award, which will train 85 graduate students at Auburn in the area of climate resilience. We are also continuing to work on funded research projects with the Southeast Climate Adaption Science Center (SECASC). This year we have been awarded two new grants (~\$170k): one to evaluate co-production within the center and one to use eye-tracking approaches to evaluate a decision support tool being developed for species managers as they plan for climate change impacts to their areas. All these grants will support current and new graduate student work in my lab. Other great news in my lab was that Akilah Alwan (current PhD student) received the SREB fellowship. The Fellowship will support her for the next three years at Auburn during her PhD studies as she researches African American students and professionals pathways and experiences in the geosciences. This makes three current students in my group that have received external fellowships! I also received the COSAM's Molette Endowed Professorship this year and I am very grateful for the honor. On a personal note, my youngest will be starting Kindergarten next year-oh how time flies! Looking forward to reporting out on more good stuff in 2020.



### Dr. Ming-Kuo Lee

Dr. Ming-Kuo Lee has been deeply committed to his Department Chair duties since August 2018. Much of what he does in balancing administration and research tasks would be impossible without the supports from faculty, staff, and talented graduate students. Dr. Lee and geology faculty Ashraf Uddin has completed their field groundwater arsenic bioremediation project funded by NSF. Our industrial partner for this NSF project provides a "Phase-II" grant for Master student Alicia Fischer to complete her thesis work on investigating the long-term stability of biogenic pyrite for arsenic sequestration. With a grant from the USGS (through Alabama Water Resources Research Center), graduate student Connor Cain also completed his Master thesis on assessing the connection between groundwater contamination to children leukemia and cancer cluster in the Cleburne County, Alabama. Connor received the Outstanding Student Presentation Award in 2019 GSA Annual Meeting in Phoenix, AZ. Connor also served as the captain the successful 2019 department IBA team which was awarded 3rd place in the regional competition. Mahfujur Rahman finished his Master thesis on groundwater geochemistry and distribution of arsenic in the Holocene fluvial aquifers in Macon County, Alabama. PhD student Ozan Turkes began his research on carbon sequestration in deep saline aquifers. Ozan has participated in the Auburn Presidential Awards for Interdisciplinary Research (PAIR) project for carbon dioxide utilization and storage. With the efforts by Dr. Zeki Billor, the department continues to support research activities in ICP-MS and XRD-XRF laboratories. New instruments including a laser ablation unit, a high-performance liquid chromatography (HPLC), and a microwave digestion system have been added in the ICP-MS Laboratory to enable elemental analysis performed on solid samples.



## Continuing Faculty Members

### Chandana Mitra

The year 2019 has been very exciting, especially the six months in fall when I was in India for my sabbatical. It was a perfect blend of field research, teaching and enjoying the street food of India.

Since the time I left Kolkata fifteen years back, I always wanted to go back and teach undergraduates and graduates in India to see how things have changed from when I was a master's student in India and also share with them how geography as a discipline is perceived globally.



The research side of my sabbatical was also enriching. I got my hands dirty by going places interviewing people on how they felt during summer days, which season they liked the most, did summer heat cause them thermal discomfort etc. I was assigned three students from two universities in Kolkata (Presidency University and Jadavpur University) who were interested in urban sustainability and we romped around the city finding suitable locations to deploy the temperature sensors (the pictures give a sample of our field work).

During my sabbatical I also went to Vietnam to present research and meet colleagues at the Asian Urbanization conference. Being a geographer discovering new cultures and getting a taste of various cuisines is the top on my list, both of which I experienced in Vietnam.

The cherry on my 2019 cake was getting funded by the NSF NRT (National Research and Training) program to progress climate change communication in the south east US. I am very excited to work with my other colleagues on this funded project. Brandon Ryan is my first NRT trainee who will join me as a MS. Graduate student in fall 2020.



I was super excited when I was asked to teach sections of undergraduate and graduate courses in climatology and remote sensing. It was a phenomenal experience. My teaching philosophy is based on mutual learning, so it was fun to learn from the students the present state of art of Indian education system and that of geosciences. The students were equally excited to discuss and debate climate change, data sharing policies in India and USA, political and health geography among other topics. I thoroughly enjoyed the interactions with students at Jadavpur University, teaching the students for 3 months.



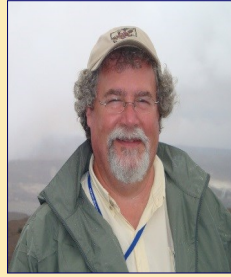
Looking forward to working with him and other existing graduate students.

Looking forward to a fruitful and exciting 2020.

## Continuing Faculty Members

### David King

During the past year, I continued research with funding from the following sources: Southern Company for stratigraphic research in Alabama, ACS-PRF funding for a project with Haibo Zou on detrital zircons in Cretaceous strata of Arkansas, and internal funding from the Vice President's office for a joint project with Vinamra Agrawal on iSALE modeling of impact craters. New funding arrived from NASA EPSCoR that involves me in a project that has Toshi Hirabayashi as the lead PI, and the Electric Power Research Institute.



My present graduate students are: Leticia de Marchi and Pedro Montalvo (Ph.D. candidates working on impact craters, both of whom are co-supervised by me), and Sandor Ricketts (who is working on Belize stratigraphy). This year, Ms. De Marchi is a recipient of a Career Development Award from the Lunar and Planetary Institute, which is a prestigious honor for her.

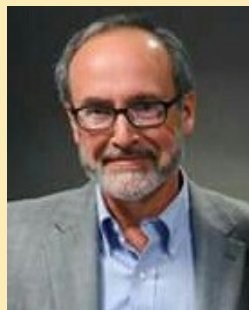
My present collaborators include two Aerospace Engineering professors, Vinamra Agrawal and Toshi Hirabayashi, and my Geoscience colleague Ashraf Uddin. Dr. Agrawal and I are working on digital modeling and field studies of two marine target impact craters on Earth (Wetumpka and Flynn Creek) and two on Mars. Dr. Hirabayashi and I are working on lunar craters (age and interior crater densities). Dr. Uddin and I are working on a collaborative project regarding Gulf Coast carbon sequestration in the deep subsurface.

By my estimation I have taught over 8,000 undergraduate students, and have been an undergraduate advisor to about 250 geology majors. I have supervised over 40 Masters students and two Ph.D. candidates (in progress). During 2020, I hope to hear from *at least one or two* of the students noted above at some point. My email is the same as always ... kingdat@auburn.edu. Also, I look forward to many more years of working with students at Auburn.

Best wishes...

### Ron Lewis

In 2019 I continued teaching the undergraduate paleontology course, the online historical geology course, Professional Development at the sophomore level, Senior Seminar for Geography as well as Geology students, the upper-level/graduate course in micropaleontology, and the shallow-water carbonate portion of the graduate-level Facies Analysis and Sequence Stratigraphy. I also continued in my role as Associate Chair for Geology and Chair of the Curriculum and Teaching Committee. It is with a certain amount of sadness and nostalgia that I taught some of these for the last time as academic year 2019-2020 is my final year before my retirement in June 2020.



Research on modern-day encrusting foraminifera continued with an emphasis on what they eat. Undergraduate Geology major **Sky Walker** was a great help to me in gathering additional data on modern-day meiofauna from San Salvador and Mayaguana in the Bahamas. In this lab work, she identified and counted small crustaceans and worms of various kinds under the microscope – a far cry from her interest in dinosaurs! I presented a summation of my team's research on encrusting foraminifera at the national GSA meeting in the fall. I also presented a poster with my former Ph.D. advisor, James Sprinkle, on our work on Ordovician echinoderms from southern Oklahoma. Undergraduate Geology major **Daniel Leaphart** is helping with this research.

On the home front, it has been a very eventful year. In February of 2019 we moved out of our house and to a small rental place where we stayed, along with our four cats, for a full nine months before we could move back to our home just before Thanksgiving. It turns out that the time delay and the inevitable cost overruns were worth it. We raised the

roof and added some 14 feet to the back of the house allowing for an enlarged kitchen and two screened-in back porches as well as a deck. I am moving some of my research materials to a basement storage area and a home office; I look forward to finishing up some articles as well as completing my book on "actualistic paleontology" in my retirement years.



### Mark Steltenpohl

Greetings everyone! It's now official – I formally retired on January 1, 2020! Laura also retired after 25 years of teaching physics and chemistry to high school and college students. We will stay in Auburn in order to enjoy family and friends accumulated over the past 31 years. I am very thankful to Dr. Lee, departmental faculty, and the AU administration for supporting my request for Emeritus status. This allows me to have an office, a desk, and a PC in the department so that I can interact with colleagues and wrap up drawers full of unpublished research.

Last year (2019), I completed my sabbatical, emptied my lab, and condensed my office so that it will fit into my emeritus office, which will within the year be shared with Drs. Savrda and Lewis – what fun and mischief we'll have! With the help of MS candidate **Stefan Perritano**, I also wrapped up my final USGS-funded research project on the geology of parts of the 1:24K Roanoke West and Daviston, AL quadrangles. My final MS student advisee, **Ben Weinmann**, successfully defended last spring, and I enjoyed providing assistance to a host of other MS students on fascinating thesis projects, including those of **Anabelle Kline**, **Rahul Bhattacharya**, **Jacob Thompson**, and **Kayla Griffin**. I will miss working with such wonderful young men & women.

Laura and I made great progress last year on our collaborative effort authoring the book *Roadside Geology of Alabama* (Mountain Press). We drove all of the interstates and main highways across the state taking photos and recording geological information along the way. We've now got most every outcrop documented and have seen and noted every mile marker to identify their locations. From our maps and observations we have written up around 30 of the 35 individual transects. Mountain Press' deadline for the first complete draft of the book is June 1, 2021. So while we feel that we're on a pretty good trajectory, there's still a lot of work ahead for us in 2020. We are really enjoying this project!

On the family front, our daughter Natalie (27) continues to coach and manage operations at Premier Spirit Academy here in Auburn. Granddaughter Adelynn (7) remains to be spoiled by Laura and me, exactly as we're supposed to do. Gregory (26) is in the final stages of writing his MS thesis on a project with Dr. Martin Medina to measure stable isotopes in a stalagmite sampled from a cave in Cuba. They are building a data set to further understand climate change in the Gulf region and how it affected the demise of the Mayan civilization. We were saddened last year to have lost our dog Buddy, but Laura & I still enjoy our several walks per day with our yellow lab Layla.

I am very thankful for the generous response from everyone who contributed to the **Nick Hood** Memorial Scholarship Endowment. As this was written, contributions totaled a little over half of the \$25K goal. Nick is sorely missed but thanks to such kind donations we will make sure that his memory is never forgotten. Classmate **Cole Burton** continues to make remarkable progress in his recovery from the accident. He's a fixture in the department, taking classes and working on undergraduate research problems - he's also back to driving! Read more about these remarkable young men elsewhere in this newsletter.

Best wishes to everyone for 2020! We hope we'll get to see many of you during the next year!



## Continuing Faculty Members

### Stephanie Rogers

2019 was a busy year! In the spring semester I taught Intro GIS, GIS Applications, along with Volcanic Systems (a preparation course for Iceland Study Abroad). In early May I was joined by **Anthony Hall**, three graduate students, and six undergraduate students on a study abroad trip to Iceland (see special section in this issue for more information and great pictures!). Then **Dr. Stephanie Shepherd** and I co-taught a Geographic Fields Methods class in the first summer minimester. This hands-on class gave students real-world field experience while tackling an interesting and pertinent research topic ([aub.ie/HUMC cosam news](http://aub.ie/HUMC_cosam_news) - this was also the same location where the Geoscience Advisory Board went for their fall field trip). In August 2019, I transitioned to a research position (Research Assistant Professor) and have been developing the **GeoIDEA** (**Geospatial Innovation, Development, and Environmental Applications**) lab since then.



Work has continued on an IGP grant in collaboration with **Dr. Lorraine Wolf** and MS Student **Can Guven** at the New Madrid Seismic zone where we are studying soil characteristics at liquefaction sites using an Unoccupied Aerial System (UAS) with a multispectral sensor attached. **Dr. Ann Ojeda**, **Dr. Matthew Waters**, and I have received another IGP grant to conduct research on contaminants in the Choccolocco Creek in AL. This work starts in summer 2020 and will continue over the next two years. In August 2020, I will again be transitioning to a new position – tenure track Assistant Professor. I am looking forward to taking on this new role in the department.



Note to All Alumni: Please let us hear from you so we can include you in the next eGeotiger!

# Geography Alumnus Has Best

By: [Melanie Vynalek](#)

Auburn College of Sciences and Mathematics (COSAM) alumnus Wardell Edwards ('06) switched his major a few times before landing in the Geography Department. He has the "best job in the world" now.

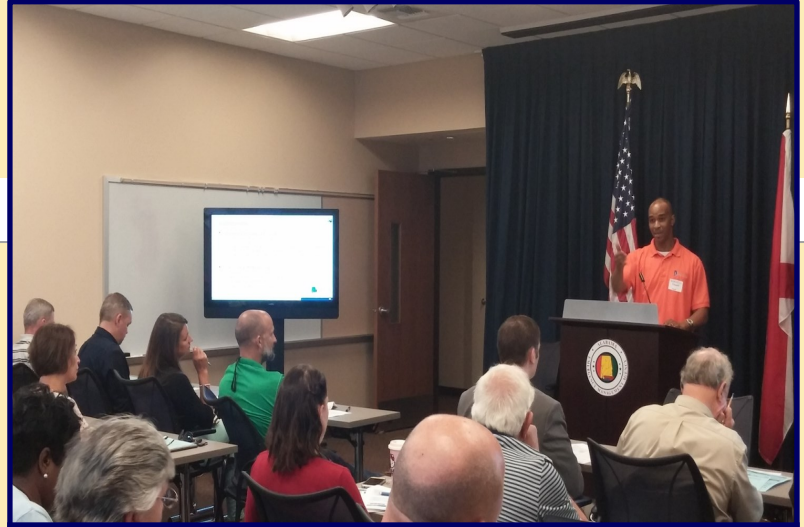
As a Senior Geographic Information Systems (GIS) Specialist for the Alabama Department of Economic and Community Affairs' (ADECA) Office of Water Resources (OWR) division, Edwards provides technical assistance and support for programs concerned with the FEMA Flood Risk Management program. Much of his work includes producing flood insurance rate maps, conducting outreach and training programs for flood insurance risk, developing digital GIS data, securing federal funds for citizens, and providing community assistance for municipalities, towns, and counties.

Looking back, Edwards' credits his COSAM education for equipping him with the proper skills and training to succeed in his career.

"My geography professors were forward thinking enough to train us on ESRI ArcGIS applications which have become the industry standard in GIS software. Their foresight gave me a leg up in the professional world," Edwards said.

Edwards' thanks Dr. Cyrus "Sonny" Dawsey for sparking his passion for geography. After completing Dr. Dawsey's Latin America Geography class, Edwards was hooked.

"Dr. Dawsey taught me many other classes and was always there for me throughout my administrative struggles. He probably doesn't even know the role he played in my life. He was an excellent geography professional and his passion for the discipline was easily transferred to me. The need for geography/GIS professionals exploded after I graduated, and I wouldn't be here if not for Dr. Dawsey," Edwards said.



Wardell Edwards, the Senior Geographic Information Systems (GIS) Specialist for the Alabama Department of Economic and Community Affairs' (ADECA) Office of Water Resources (OWR) division, presents to a group.

Now, Edwards has been with ADECA for more than a decade, working with others to build up and maintain Alabama communities and their residents. Some days are spent in the office and others are spent traveling across the state.

Edwards' office has been at the forefront of great endeavors for the state of Alabama, such as securing the first, complete, statewide Light Detection and Ranging (LiDAR) coverage of high-resolution topography data. Additionally, Edwards' work with the Office of Water Resources has helped in the creation of new flood risk tools for constituents that have never been seen or utilized before in the state.

Edwards thanks Auburn not only for providing the path for his career, but for leading him to numerous alumni in the field, and for introducing him to his wife. He jokes that without Auburn, he would not have his two beautiful daughters. His oldest has been accepted to attend Auburn University for Fall 2020.

Edwards reminds current Auburn students to just enjoy the ride – "Try not to sweat the day-to-day of course work, class materials, scheduling, etc. Make a bunch of friends in and out class. Have fun, but with measured fun results."

## Alumni Stories

### Amanda Savrda

In the Fall of 1986, Chuck and Diane Savrda left Los Angeles, California in a packed U-Haul truck with a baby seat carefully bungee-corded to the floorboards between the two bucket seats. The truck was bound for Auburn, Alabama, where Chuck was to begin his career as a professor in the Geology Department, and the bungee-corded baby-on-board was me. So began my adventure in the “Loveliest Village on the Plains.”

Growing up in Auburn and as the daughter of an educator and geologist, many of my fondest memories and most impactful childhood experiences involved geoscience and the Geology Department. As a child, I tagged along with dad “in the field,” fossil hunting for shark’s teeth in Alabama’s Coastal Plain. I recall sitting proudly in the front row of a classroom in Haley Center, my little legs swinging beneath the desk, too short to reach the floor, as I listened to my dad lecture students about geologic time. At the spring Geology Picnics, I watched students, professors, and their families play baseball using piles of cow dung as bases, and caught my first fish in the fisheries ponds by the pavilion. I even have some vague memory of watching students tie a rope around an occupied port-a-potty and play tug-o-war (I’ll leave it to your imaginations as to how that situation escalated)! I haunted Petrie’s halls, and loved going by the front office to say hi to the always friendly Mrs. Sheila Arington and Mrs. Eva Lilly. And those are just some of the fond childhood memories; there are countless more.

As a high schooler, I was involved in everything from band and choir to track and soccer, and when it came to academics and my decision to choose a major at Auburn University (AU), I was interested in everything from Science to Graphic Design. My senior year of high school, I was accepted into AU as an undeclared science major in the College of Sciences and Mathematics (COSAM). I loved physics, chemistry, and biology, and did not know how on Earth I was going to choose among them; “if only there was a way I could study all of these,” I thought. A trip to the stunning Rocky Mountains of Colorado as a member of Alabama’s Lion’s Club All-Star Marching Band was the “environmental switch” that flipped “on” my otherwise genetic predisposition to the geosciences. After finishing high school, inspired by those mountains, childhood experiences, and a curriculum that included all of my favorite subjects, I made the phone call to my dad from the dorms in the shadow of Haley Center during Camp War Eagle: “Dad, I think I’m going to major in Geology.”

My undergraduate years were a blur of busy excitement that afforded me the perspective of the department and University that almost everyone reading this issue of e-Geotiger is familiar with, the perspective of a student. The interactions with and mentorship of professors, the opportunities for undergraduate research, the sense of community among undergraduate and graduate students, were all memorable

I had the opportunity to work on several undergraduate research projects: as a lab tech in Himalayan Research Lab run by Dr. Uddin; on a laboratory experiment bioremediating acid-mine drainage with sulfate reducing bacteria, mentored by Drs. Lee and Wolf with the help of folks in Chemistry and Microbiology; and on a geophysical modelling project of the crustal rocks beneath Alabama’s Coastal Plain as a COSAM Undergraduate Research Fellow with Drs. Wolf and Steltenpohl. Opportunities such as these for learning beyond the microscope labs in Haley Center were made possible for me and many other students because of the generosity of departmental alumni, scholarship donors, and departmental advisory board members like Bob Fousek. (Thank you, Bob!)

As an undergraduate armed with so many wonderful experiences, I was keen to “give back” and “pay it forward,” by sharing my passion for science with the younger generations in my “Village,” my community. I served as a charter member and the second president of Auburn’s chapter of the Association for Women in Science, and spent my summers mentoring middle and high schoolers as part of COSAM Outreach programs and camps such as the Leadership Institute for Females Exceptional (L.I.F.E.) in Science. In those mentorship experiences and teaching Boy Scouts geology as part of their merit badges, I discovered my love of teaching, and decided that I wanted to go to graduate school to become a researcher and professor.

I was recruited by Dr. Dave Barbeau at the University of South Carolina (USC) and I left “the village” for the first time in the Fall of 2008, 22 years after I arrived via bungee-corded car seat, to start graduate school. Again, opportunities abounded. While at USC, I deepened my love for teaching while instructing sedimentology and stratigraphy and physical geology labs, and had the privilege to conduct a month of field work in the Antarctic. My graduate research focused on the thermotectonic history of a portion of the Antarctic Peninsula using low temperature thermochronometry, and afforded me the opportunity to work closely with the amazing folks at the British Antarctic Survey based out of Rothera on the Antarctic Peninsula.

As I wrapped up my final year at USC, I had a summer internship at ExxonMobil in Houston, Texas, and was awarded a USC Partners in Inquiry Teaching Fellowship as a guest scientist and teacher in an 8<sup>th</sup> grade physical science classroom for a Fall semester. At the time, I was discerning my next step, and was very torn between an academic career and a career in industry. In 2011, I was subsequently offered and accepted a full time job with ExxonMobil’s Exploration Company.

**Me in the Big Horn Basin during one of ExxonMobil’s Flagship Fieldschools.**





## Amanda Savrda

Along with exploring the geology of many basins around the globe, my ExxonMobil experience taught me invaluable lessons in the power of teamwork and afforded me many wonderful colleagues and close friends. Despite all of these wonderful things, I was not personally fulfilled in the corporate world, and was itching to be in the classroom again. After 5 years to the day, I handed in my resignation letter, and a week later was on the road, like my parents were so many years before me, bound again for “The Loveliest Village on the Plains.” In the Fall of 2016, I began my Masters in General Science Education in AU’s College of Education so I could become a teacher.

As an education graduate student, I found myself in Haley Center yet again, busier than I had ever been before in my life, but also happier. My graduate advisor, Dr. Christine Schnittka (a former IBM Engineer), was a wonderful advocate and inspiration, and I was able to participate in assistantships focused on STEM Education and teacher education. In the Fall of 2017, I interned as a Physical Science teacher at my alma mater, Auburn Highschool (AHS), and graduated from AU for the second time, with my MED, in December of 2017. While hoping for a job at AHS, I had the opportunity to serve the Department of Geosciences as an instructor for Dynamic Earth in the Spring of 2018. It was wonderful to have an office in the Coliseum down the hall from all of the professors, including my dad, who played such a big role in my own formation as a geoscientist, and exciting to be a part of getting the next generation of Auburn students “inspired” by the geosciences.

Since Fall of 2018, I am very proud to say that I am an AHS tiger yet again! I am currently in my third year of teaching both Earth Science and Environmental Science to 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> graders. It is the most challenging and most rewarding job I have ever had. The kids always think I’m crazy when I tell them about my path to being their teacher. “But, Ms. Savrda! How could you leave a job like that and a salary like that?!” I tell them it’s simple, “It’s because I loved you guys before I met you.” As cheesy as it sounds, the kids in my class know it’s true. I get the opportunity to teach them more than just climate change and Bowen’s Reaction Series; I get to teach them something far more powerful: that there is nothing more fulfilling in the world than placing (as Pope St. John Paul II once said) your intelligence, talents, enthusiasm, compassion, and fortitude, at the service of life. You can imagine the fortitude that education requires of students and teachers, now, more than ever, in light of the challenges that come along with a global pandemic. You know the saying, “It takes a Village”? Well, it’s true. Auburn has been in the truest sense “my village,” and I could not be more grateful.

This is why I believe in it, love it, and give back to it, whether it be as a teacher helping students make the world their classroom, as an active member of AU’s Geology Advisory Board, or just as a kid thanking her two wonderful parents for letting her pan for gold as a kid or making that trek across the USA all those years ago. I could not be prouder to serve the village that shaped me, or be more blessed to be Amanda Savrda, geologist and educator!

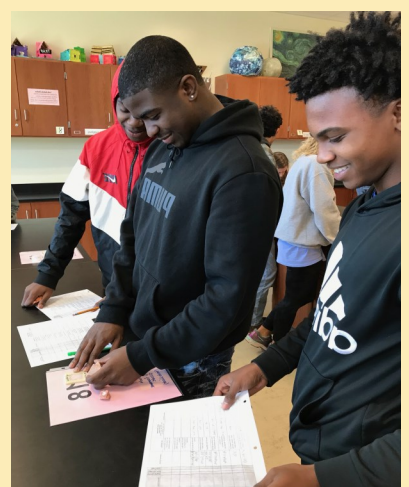
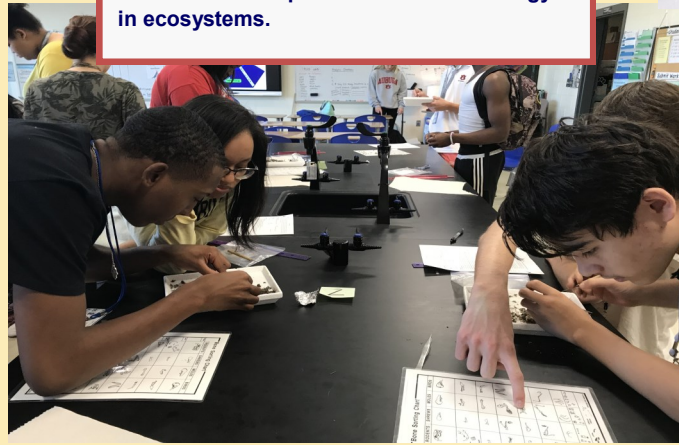


AU Geology Field Camp Summer “09” Mill Lake



Me keeping warm in my AU hat, chilly Antarctic Field Season at USC.

My Environmental Science class dissecting Owl Pellets to explore biomass and energy in ecosystems.



A few of my Earth Science Students identifying minerals in their Earth Science Mineral Lab.

## Department of Geosciences Advisory Board Update



Fall 2019 GAB Field Trip

The Geosciences Advisory Board (GAB) voted in a new Executive Committee in October of this past year. We thank Tim Demko (Chair), Wesley Diehl (Vice Chair), Goodney Zapp (Treasurer), and Paige Walton (Secretary) for their commitment to the GAB and the Department for the next two years in their new roles. We welcome you to get to know our new Executive Committee along with all the GAB members on the Geosciences Webpage.

The GAB continues to play an important role in the growth of the Department. In October, the GAB held an open forum at the Department for geoscience students, graduate or undergraduate. This forum consisted of short informal presentations by various alumni employed in geoscience-related fields, to inform the audience as to what their jobs are, and how they found them. Mock interview sessions followed, to help students prepare for seeking employment in constructive setting. The GAB is already preparing for interviews and a forum for Fall 2020. In addition, the GAB is working to establish an on-line bulletin board for job postings and career assistance.

Board members continue their generous financial support of the Department. We fulfilled our goal of funding \$250,000 for the endowment Fund for Excellence! Our fundraising efforts are now focused on the Nicholas L. Hood Endowed Memorial Scholarship. This new fund is designed "to establish a minimum \$25,000 endowment to award a \$1,000 annual scholarship to a deserving Geosciences student to ensure that Nick's passion for field studies will extend to future students in perpetuity."

The GAB continues to pursue meaningful ways to support the students and faculty and are always looking for more Geoscience Alumni who have a passion to give back. We welcome all who wish to join us in helping support the Department.

## Faculty Staff Events



For Halloween, about 8 students and faculty chose Dr. Savrda as our costume.



Ashleigh suggested we all wear “ugly sweaters” to the Christmas party. Shown here are some of the contest finalists; right to left Ashleigh Rudd, Stephanie Shepherd, Carmen Brysch, Haven Cashwell, Tyler Smith, Lucas Monroe, Nick Soltis, Pedro Montalvo, Lauren Dickerson, Dr. Savrda, Will Ebbert and Nora Lopez.

### Anthony G. (Tony) Hall

(hallant@auburn.edu)  
Laboratory Teaching Manager



As I continue my work as the Lab Teaching Manager, more new projects for me are started up. We started the construction for Dr. Ann Ojeda lab which kept me busy during the planning and initial construction phases. I was able to purchase new \$26K microscope from my expense account for the students to use for their thesis work. I also was able to upgrade the existing microscope to better accommodate the students. The transition of personnel has made scheduling of courses and assigning instructors a new challenge but as a whole the courses have been running along fairly smoothly.

I continued to shoot photography in my spare time. Whether I am shooting with the Athletics department as a sports photographer or shooting for the Atlanta Motor Speedway or shooting a wedding as second shooter or flying the drone overhead, I have been keeping busy in my spare time.

I was giving the opportunity to travel to Iceland and return to Eswatini, Africa. I assisted Dr. Stephanie Rogers in taking a group of students to Iceland for summer excursion. While the trip to Africa was a personal trip.



For my next travel, I plan to go to Ukraine to explore another part of the earth that I haven't seen yet!

War Eagle!!

### Ashleigh Rudd Office Manager



Since I began working in the Geosciences Department, I've experienced a tremendous amount of growth, both personally and departmentally. I've developed such wonderful relationships with the faculty, staff, students and Advisory Board members. It's such a joy getting to know each student throughout their time in Geosciences, however, it's often hard "letting them go" after they graduate. In the spring of 2019, I had the privilege and honor of receiving the "Superhero Award". Each year, the faculty and students choose one individual to receive this award. It was such an honor to receive this award and to be recognized for all of my hard work and dedication to the department. I look forward to experiencing the continuous growth and expansion of this wonderful department. In my spare time I enjoy spending time with my husband and son, as well as doing graphic design projects, building and refinishing wood projects and watching Auburn Football. Some often refer to me as a "Jill-of-All-Trades" and "Master-of-Many".



## News from Staff, Research Fellows, and Post Docs

### Matthew DeCesare

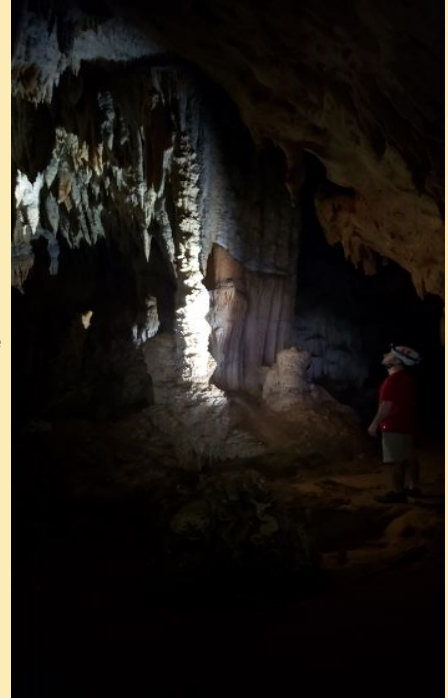
My second full year in the Geosciences Department was very fulfilling and exciting. I analyzed thousands of stalagmite samples that are being used for: two Master's students' theses (Stefan Perritano and Greg Steltenpohl), preliminary data for Martin Medina's PhD student (Leah Travis Taylor), and ongoing research in Mexico (Martin Medina and Fernanada Lases). In addition, I have also been working with AU faculty on several projects involving stable isotope analysis. Zeki Billor, Martin Medina, and I have been collaborating on a project to develop a paleoclimate record from the Çatalhöyük archaeological site in Turkey using ostracods and sedimentary carbonate from a sediment core obtained from the Konya basin. For another project I processed carbonate samples for oxygen and carbon isotopes from the Prairie Bluff and Mooreville chalk (upper Santonian-lower Campanian) for Chuck Savrda. I am also collaborating with the School of Fisheries, Aquaculture, and Aquatic Science analyzing the stable isotope ratios of otolith and river-water samples to help determine if the release cold-temperature tailrace from hydropower dams are affecting the local fish population.



In addition to lab duties I also led and participated in three cave expeditions in 2019. I assisted Stefan Perritano in accessing War Eagle Cave twice – in the spring we descended into the cave to collect and replace HOBO temperature and humidity sensors, collect cave-drip water, and stalagmites. We made our last trip to War Eagle cave in the autumn to remove all water collection apparatus and sensors, and collect an additional stalagmite. In April I visited Belize with Greg Steltenpohl to collect several stalagmites from the University of Belize and collect water samples from Actun Col (cave).



I am also co-managing the labs of Dr. Bilenker. Last year I began helping build out her high pressure-temperature lab and will be continuing to build and maintain this lab in the coming year in addition to begin working with the LA-ICP-MS. I enjoy starting new projects so it has been exciting to be involved in a new lab – from purchasing to building custom equipment, it has been an enjoyable learning experience that will continue to evolve. I'm excited about all the new projects I'm participating in and cannot wait to see what new adventures 2020 will bring!



## *Invest in the Geosciences at Auburn!*

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. The Department of Geosciences 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. With our new Ph.D. program in Earth System Science, private giving is now more critical than ever. Please make your gift today via our secure website:

<http://www.auburn.edu/cosam/departments/geosciences/Giving%20to%20the%20Department/index.htm>

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

**Geosciences 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.

**Geosciences 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. The Board helps in our recruiting and retaining the most talented, motivated, and competent students and faculty by providing scholarships, grants-in-aids for research, CO-OPs, and internships, as well as support for our departmental seminar series and the GeoClub. **Geology Alumni Endowed Scholarship:** Provides scholarships for deserving undergraduate students in geology.

**Nick Hood Memorial Scholarship:** The Nicholas L. Hood Endowed Memorial Scholarship was established by family, friends and classmates in memory of Nicholas L. Hood for the purpose of providing scholarships for students in the College of Sciences and Mathematics with a declared major in Geology.

For questions about creating scholarships and professorships, stock or estate gifts, specific programs, and suggestions on how you can support the Department of Geosciences, please contact COSAM development at the address below:

Associate II, Development  
College of Sciences and Mathematics  
Ashley Underwood  
[ahu0001@auburn.edu](mailto:ahu0001@auburn.edu)  
(334) 844-2931

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