

## A Message from the Department Chair

Alumni, Students, and Friends of UNO Earth and Environmental Sciences:

Here we are in the middle of October finally enjoying the fall cool down after what seemed like a never-ending summer heat wave. The timing of this cold front is particularly welcome this week because we leave this Thursday for yet another weekend-long structural geology fieldtrip to Mt. Cheaha Alabama. This will be my 14<sup>th</sup> time leading this trip and fortunately, the weather forecast this year for the field trip is substantially better than the conditions last year when it was rainy, windy, and cold for three days and all the students slept in the vans. Not the best field trip experience I've had!



**Department Chair**  
**Dr. Mark A. Kulp**

If you have not heard yet, I have again taken over the role of Chair of the Department. Dr. Georgiou has taken a year of leave to pursue an opportunity with The Water Institute of the Gulf. This all happened very quickly right at the end of summer so for the last two months I've been shifting gears and readjusting to being at the helm. Thankfully Robin in the front office is doing a spectacular job and has really helped me a lot in making the readjustment. Dr. Georgiou did a great job leading the Department the past several years and we all wish him a lot of success with his new position....and we all hope he comes back in a year!

Despite the limited number of faculty that we are currently operating with (just 5!) EES continues to provide an outstanding education to our undergraduate and graduate students. Our enrollment is slightly up from last year and we continue to work hard to increase our number of majors even more. With the budget climate that higher education faces in Louisiana, making sure that we have a high number of majors is critically important as our Department budget is closely linked to Department enrollment. One new addition to our program this year is the addition of a non-thesis M.S. degree. We, like many other programs on campus, implemented this to provide graduate degree seeking students an option to earn a M.S. without having to commit to the many hours required of a full thesis. Students who enter the program will still complete a research project but at a much reduced scale.

Another notable addition to the Department this semester is the return of our weekly seminar series, spearheaded by Dr. Mahon. It had been quite a number of years since we had regular guest speakers and it is extremely nice to have this regular exposure to other research topics. If any of you are interested in contributing to the seminars by providing a talk be sure to let us know. Currently all of the talks are taking place Wednesday at noon in the EES conference room next to the main office and feel free to drop in and hear what some great researchers are investigating. In closing, I would like to once again extend a substantial thank you to our alumni from all of the people within EES. Your support of our students through mentoring, internships, and donations is significant. It is truly the community of past and present students and staff that ensures a bright future for EES. If you have not recently made a donation to the Department I encourage you to do so in the near future and help support our students and our efforts.

All the best and am looking forward to a great year,

Mark

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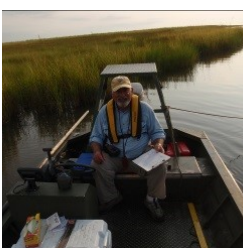
## Dr. Martin O'Connell, Associate Professor Director of the Nekton Research Laboratory



The scientists and graduate students who work in my lab, the Nekton Research Laboratory (NRL), have been pursuing various interesting research projects over the last year. Senior Biologist and Database Manager **Meg Zuzee O'Connell** of the Pontchartrain Institute for Environmental Sciences (PIES)



along with Dr. O'Connell and colleagues from Mississippi and Alabama have just published a scientific manuscript based on their five-year, multi-state research project that was funded by Bureau of Ocean Energy Management. This project involved collecting fishery-independent data from estuaries across three states (Louisiana, Mississippi, and Alabama). The title of the manuscript is, "Assessing Near-shore Nekton Abundance, Substrate, and Environmental Conditions in the Northern Gulf of Mexico: Are There Differences Among Three Adjacent Coastal Areas and Have There Been Changes over Three Decades (1986–2015)?" and it was published online in September in the journal *Estuaries and Coasts*. One of the results from this long-term research was that we detected a decline in blue crabs and some species of flatfishes over the last thirty years in the northern Gulf of Mexico. Meg continues to work with others on the 2023 Coastal Master Plan, serving as an expert on estuarine aquatic organisms for a section involving model updates and improvements with ICM and HSI models.



Assistant Professor -Research **Dr. William Stein** of PIES and I continue to work together on writing research grants and scientific manuscripts on various

topics. For example, Dr. Stein is working on a manuscript describing differences in how juvenile Tarpon (*Megalops atlanticus*) use coastal nursery habitats in different regions of the Gulf of Mexico.

In collaboration with **Dr. D. Ryan Gray** in the Department of Anthropology and Dr. Ryan Kennedy of Tulane University, Dr. O'Connell helped acquire an internal grant titled "Reconstructing fisheries use and the health of commercially important fish populations in historic New Orleans, ca. 1717-1860". For this research, the NRL collected local fishes and the chemical composition of their bones will be compared with fishes from 300 years ago to test for possible changes in these fishes and fisheries over this long time period. EES undergraduate researchers **Danielle Mangipano** and **Megan Burns** have assisted with this project, learning important laboratory skills involving bone preparation and stable isotope analyses. The preliminary results of this research will be the basis of an NSF proposal the team will be submitting in November.



**Meghan Gahm** (Ph.D. student) successfully defended her dissertation this summer. The title of her dissertation was, "The Development and Evaluation of Small Specialized Turtle Excluder Devices to reduce sea turtle bycatch in try nets with a headrope length < 12-ft (3.66-m), skimmer trawls on vessels <26-ft (7.92-m), and wing

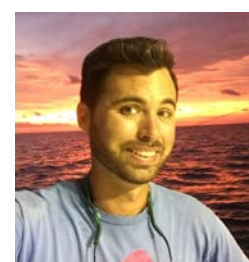
nets in the Miami-Dade pink shrimp fishery." Meghan measured the effectiveness of various turtle excluder device (TEDs) and this involved working on commercial fishing boats with fishermen in Louisiana, Mississippi, and Miami, Florida. Shane Abeare (Ph.D. student) is returning to the U.S. from Saipan where he is a Senior Fisheries Biologist in the Department of Lands & Natural Resources (CNMI). He will be defending his dissertation entitled, "The Vezo communities and fisheries of the coral reef ecosystem in the Bay of Ranobe, Madagascar" on October 21<sup>st</sup> at 2:00 p.m. Shane's research in Madagascar represents a rare insight into the artisanal fisheries of this island nation. **Jeff Gearhart** (Ph.D. student)

continues to lead our TED research efforts. Part of his efforts involves coordinating the testing of different TEDs and TED methods in cooperation with local Vietnamese-American and Cambodian-American fishermen. Graduate



student **Damon Morse** (M.Sc. student) plans on defending his thesis research on the invasive Island Apple Snail (*Pomacea maculata*) this spring 2020.

He is currently employed as a GIS Analyst for the Louisiana Department of Wildlife and Fisheries. **Daniel Burke**



(new M.Sc. student) began as a TA this semester and will be studying how Lake Pontchartrain fishes have responded to the longest Bonnet Carre Spillway opening in history, which happened earlier this year.

## Dr. Ioannis Y. Georgiou, Associate Professor



Greetings to all students, faculty, alumni and friends - I hope everyone reading this update is doing well. Our group and collaborators have had a fantastic year. First, we welcome our newest member since we last reported **Dr. Madeline Foster-Martinez (Maddie)**, who brings her expertise in **environmental hydrodynamics, wave dynamics, wave attenuation, along with experience in field deployments and theoretical background (see separate entry)**.

One exciting expedition was nearly 9 months ago now; with colleagues from Boston University (**Drs. Duncan FitzGerald and Zoe Hughes**), our group was involved in field studies to quantify the wave attenuation capacity of marshes in New England under various inundation conditions, different storms and sea level rise projections. We completed deployments, recovery, and data analysis, and pending validation of our computer models, we will begin final simulations shortly. Maddie brings her expertise from similar research she performed in San Francisco Bay during her doctoral work at UC Berkeley on this project, as well as experience she acquired during her post-doc at LSU. This past summer, I had a great opportunity to join my collaborator **Dr. Chris Hein** from the Virginia Institute of Marine Sciences (VIMS) in their field expedition in Assateague and Chincoteague Island on the eastern shore of Virginia, where they are trying to understand the geologic evolution of the barrier island system by reconstructing the barrier island stratigraphy. Working long hours for 7 days, we collected several cores with "Bruce", the Coastal Geology Geoprobe, some of which reached depths of 80ft. Other exciting ongoing research includes mapping and analysis of sediment trends in response to a large restoration effort along the Caminada headland near Port Fourchon. As well as performing sediment change analysis coast wide using older (2008) and more recent (2015/16) bottom sediment samples collected during the Barrier Island Comprehensive Monitoring Program (BICM) funded by the Coastal Protection and Restoration Authority (CPRA). Central to this analysis is **Tara Yocum** (Research Associate in PIES), **Myk Amos** (grad student working with Prof. Mahon), and **Leah Tevis**, our trusted and reliable undergraduate researcher, who quickly under the guidance of Tara became our go-to for sediment analysis. Leah, who is now a master with the mastersizer3000, is doing research in Dr. Mahon's lab as well.

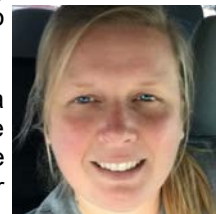


Mike Brown

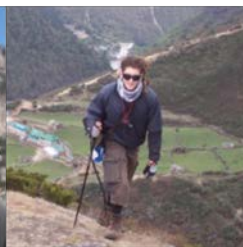
Our quarterly field expeditions at Mardi Gras Pass documenting water and sediment transport trends with help from **Mike Brown** and Tara Yocum (Research Associates in PIES), providing useful insights into sediment diversions. This will be the 8<sup>th</sup> (and perhaps final) year that Mike and Tara perform synoptic surveys together for this project. Graduate students are progressing nicely with their work. **Jessica Villers, Md Mohiuddin Sakib** and **Joshua Thomas** are defending their proposals with plenty of exciting research ahead of them, while **Joshua Hansen** is wrapping up his master's thesis. Doctoral candidates **Kevin Hanegan** and **Pricilla Souza** are in their final stages of their dissertation with both likely defending this semester, while **Sean Kenny** will soon be attempting candidacy.

I recently stepped down as chair of the department and director of PIES to pursue an opportunity at The Water Institute of Gulf, as Director of Coastal and Deltaic Systems. I will continue my affiliation with UNO, which has been a home for me since 2003, and look forward to many mineral auctions to come! The twins recently turned eight, and life with them is continuously amazing. Both are doing well – Avery in particular, cannot wait to crack another Geoid open next month!

Lastly, after 7 years - first as an undergraduate, then as a graduate student, and for the last two and a half years as researcher - Tara will depart our lab for a new position with the Navy at Stennis Space Center in MS. We will definitely miss her dedication, motivation, work ethic and perseverance. We wish Tara great and prosperous next steps. She now holds the record as the longest serving member in my group ~7 years I was told earlier today~~good luck Tara!!



Tara Yocum



Jessica Villers, Md Mohiuddin Sakib , Kevin Hanegan, Joshua Hansen, Pricilla Souza. (not pictured Joshua Thomas, Sean Kenny)

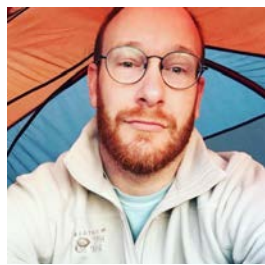


## Dr. Robert C. Mahon, Assistant Professor

### Dynamics of Sedimentation Laboratory

The UNO Dynamics of Sedimentation (UNO DoS) laboratory has been growing significantly over the past year. We have been busy constructing lab facilities to be able to build sediment transport and stratigraphic models experimentally using a number of flumes and delta basins equipped with state-of-the-art instrumentation. We have grown to include two graduate and 4 undergraduate student researchers on a range of sediment transport related problems, with another graduate researcher expected to arrive in January.

Graduate student **Micheal Amos** started in the Spring of 2019 and has been conducting fieldwork on the Wax Lake Delta in Atchafalaya bay investigating the dynamics of sediment transport over subaqueous channel levees. We had our first field campaign in September where we collected sediment samples, in-situ grain size and concentration measurements, flow velocity measurements, and sediment cores along the delta front. Myk will be presenting the preliminary results of this work at the AGU Fall Meeting this December in San Francisco.



Graduate student **Malcolm Cross** joined the group in August 2019 as part of a Naval Research Laboratory funded project. He will be working with colleagues at NRL in Stennis MS on the role of biological cohesion on wave-ripple dynamics. He'll be doing flume experiments there as well as at UNO hydraulics laboratory.

Undergraduate **Leah Tevis** has been working in UNO DoS for the past year as an Oscar J. Tolmas Scholar. She has been conducting lab experiments on the interactions between flow, sediment, and complex emergent vegetation. Leah will also be presenting her results at both InnovateUNO in November and the AGU Fall Meeting in December.

Three new undergraduates also recently joined the group this October: **Aries Bush**, **Madeline Cross**, and **Miles Beech**. Aries will be working on building a database of bathymetric and topographic data of unidirectional bedform fields in river, tidal, and wind-blown environments on Earth and Mars. Madeline and Miles will be building an experimental apparatus and running experiments on channel network development in groundwater-fed erosional landscapes (similar to the Apalachicola River basin).

I also spent some time in the field with the students on the Wax Lake Delta, as well as in Colorado looking at roll waves in sandy ephemeral rivers, and aeolian sediment transport this past year. I will be instrumenting lab facilities over the coming year to measure sediment transport and topographic evolution in the 72' hydraulics flume. I will also be bringing in a new graduate student in the spring on an American Chemical Society funded grant to work alongside Myk in the Wax Lake Delta.



Aries Bush

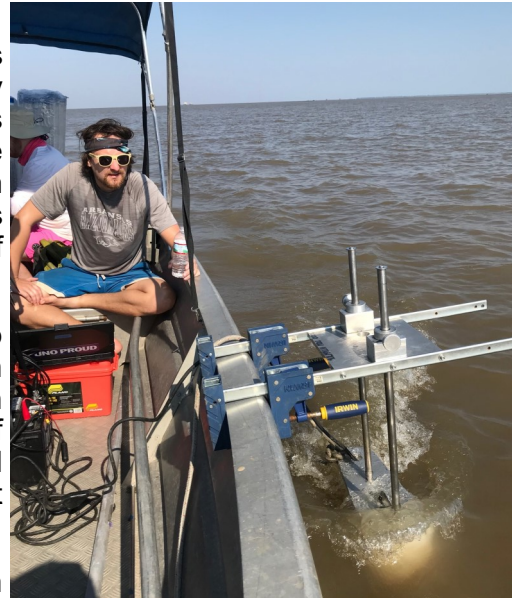


Madeline Cross



Miles Beech

I look forward to updating on everyone's progress in next year's newsletter!



## 2019 Student Scholarships and Awards

### Exxon Minority Geoscience Support:

Theresa Barret  
Joseph Hankerson

### Glenn Hebert Coastal and Environmental Sciences Scholarship Fund:

Bennett Price  
Mohiuddin Sakib  
Jessica Villers

### Glenn Hebert Petroleum and Geology Scholarship Fund:

Michael Amos  
Jared Bullock  
Jarrett Levesh  
Robert Mohollen  
Leah Tevis

### Jennifer R. Miller Memorial Environmental Geology Award:

Meghan Gahm  
Riana Grout

### Olga Braunstein Undergrad Scholarship:

Catherine Bregatner  
Megan Burns  
Donald Davidson  
Jocee Dixon  
Stacy Hunter  
Danielle Mangipano  
Catalina Rubiano

### Olga & Jules Braunstein Service Award:

Riana Grout  
Julie Torres  
Leah Tevis

### William Craig Memorial Scholarship Fund:

Jared Bullock  
Mariana Iraheta  
Joseph Micah Gisclair

#### EES Fall 2019 Tolmas Scholars



Danielle Man-



Leah B. Tevis,

## Spring 2019 FALSTERITE LIST Honorees



Wayne Alleyne  
Devon Flanagan  
Tanee Janusz  
Danielle Mangipano  
Bennet Price  
Catalino Rubiano  
Jason Schiaffino

### APPLY TO THE FALSTERITE LIST

Applications in GP1065  
Email: [moconnel@uno.edu](mailto:moconnel@uno.edu)

## Dr. Mark Kulp, Associate Professor



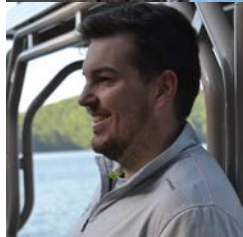
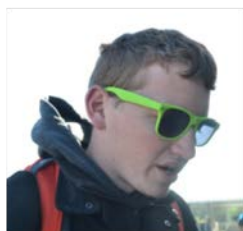
Hi everyone! It has been another year full of fun, steady work, great travels and all is well.

On the academic side of things my focus has been on two primary projects: 1) a citizen scientist project with community members of **Dauphin Island, Alabama** and 2) a project focused on documenting whether Cenozoic faults are affecting the **Holocene Mississippi River delta plain**.

The citizen scientist effort was a two-year National Academies of Science project teaching Dauphin Island inhabitants how to collect beach profile and tar ball distribution data and learn about oil spill response efforts. The program has been an overwhelming success and the citizen scientists collected very high quality data from which we were able to document volumetric changes to the beach through time at select locations. Through the tireless efforts of **Dinah Maygarden** and undergraduate **Carrie Miller** we were even able to expand the program into western Florida. Although funding for the project has ended the program continues to collect data and we are actively seeking new areas of funding to continue the efforts. By the way Carrie Miller recently started graduate school at USM and I am sure that she will excel there.

The second primary effort this past year was to examine whether faults imaged in deep, hydrocarbon industry seismic extend up into Holocene strata and determine whether they have recently affected the surface of the delta plain. **Bobby Mohollen** and **Joe Hankerson** are both working on this project and Bobby will be defending his work on Lake Pontchartrain in the coming months.

Although not specifically tied to this project **Jarrett Levesh** successfully defended his MS work on the Delacroix fault this year and was just recently hired as a full time geologist with



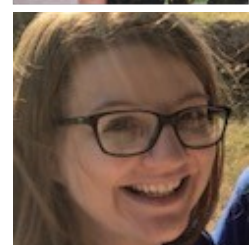
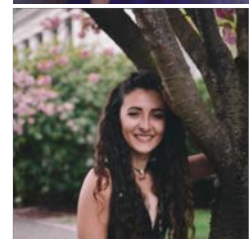
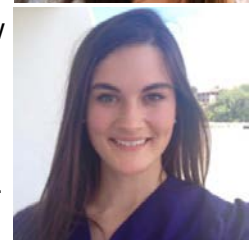
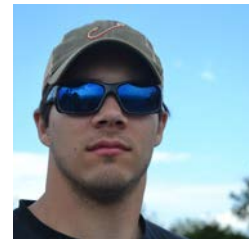
Fieldwood Energy in Houston.

**Jared Bullock** is also working on a fault related project around Lake Hermitage Louisiana and will be defending his work in the coming months as well and taking on an internship with BP next summer.

In the spring 2019 semester **Julie Torres** finished up her work on the beach ridge systems of Grand Isle and is on the cusp of submitting her results to Marine Geology for publication. **Frances Crawford** also finished her thesis and is currently working for the Army Corp of Engineers in New Orleans. This past summer **Riana Grout** had a fabulous opportunity to work for the National Park Service at Indiana Dunes National Park. Although the internship took away summer research time she continues to make progress on understanding the impact of shell berms in the Biloxi Marsh, following up on some of the work by Frances Crawford. **Meagan Russell** from Florida joined the group this semester and will be working on a Ph.D.. We have not yet finalized the focus of her research but will in the coming months and I look forward to working with her.

So you can see that we have been quite busy around here and I am extremely proud of the work by all of the students.

On a personal note this past year was filled with several notable trips related to conferences and for sheer fun, including Texas, Lloydminster Saskatchewan, Halifax Nova Scotia, and several trips back to Pennsylvania with Jonah. By the way there has been a slight shift in Jonah's career aspirations. It seems that the possibility of becoming a volcanologist has taken a back seat to owning a book store and just the other day he told me he was working on a business model. He never ceases to amaze me. Be sure to stop in if you get the chance and all the best in the coming year.



~Mark



## Sigma Gamma Epsilon Honors Society (SGE)

The Society of Sigma Gamma Epsilon (SGE) was established to recognize scholarship and professionalism in the Earth Sciences. Its objectives are the scholastic, scientific, and professional advancement of its members and the extension of relations of friendship and assistance among colleges and universities which are devoted to the advancement of the Earth Sciences.

Here at UNO, our group represents the **Gamma Omicron Chapter of SGE**. We are a very active and close-knit group within the department. Each year our members take part in multiple volunteer events and offer weekly volunteer hours. In August, our chapter was awarded the **Chapter Service Award** for the 2018-2019 school year. We intend to maintain that award status this year. We would also like to congratulate **Carrie Miller** on receiving the **W.A. Tarr Award** for the 2018-2019 school year. Carrie embodied all aspects of SGE's mission. Besides the role that she played as President, Carrie also went above and beyond for others in the department, as well as, her research and academic work. We are proud to carry on the legacy she left behind.

The Gamma Omicron Chapter has secured funding and intends to attend **SGE's 45<sup>th</sup> Biennial Convention**, which will be held **April 3-5 in Martin, TN**. *This is very exciting news for our chapter!* ~ Jessica



W.A. Tarr Award Recipient  
2018-2019  
Carrie Miller

### 2019-2020 Officers

Jessica Villers, *President*

Leah Tevis, *Vice-President*

Joseph Hankerson,  
*Secretary*

Riana Grout, *Treasurer*

2019 Fall



NOGS

Robert W. Mohollen Jr., Leah Tevis, Chris McLindon (NOGS), Jessica Villers and Wayne Alleyne

## 2019 –2020 EES GRADUATE ASSISTANTS

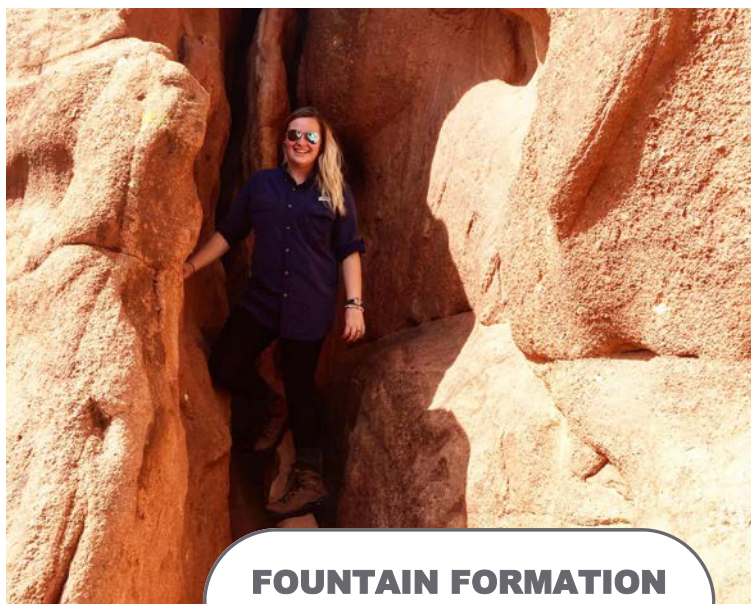


**Jared Bullock** is a M.S. candidate, advised by Dr. Mark Kulp, he is researching the correlation between deep-seated growth faults and subsidence in the Mississippi River Delta. He is focused on implementing oil and gas industry data with near-surface data to assess whether deep-seated growth faults have affected modern geomorphology.

After completing a B.S. in Geology from Millsaps College in Jackson, MS he enrolled at UNO to begin his graduate school journey. In the Spring 2018 semester, he was a

member of **UNO's Imperial Barrel Award** team that placed second at the Gulf Coast Regional competition. As an officer in the **AAPG** and **SGE** student organizations at UNO, Jared is actively involved in volunteering and coordinating future events for our department and elsewhere in the community. Jared was able to test and build on his geologic skills and knowledge as a Geology Intern at LLOG Exploration Company in Covington, LA during the 2019 summer.

Upon completing his M.S. degree in 2019, he plans on pursuing a career as a geoscientist in the oil and gas industry. Whenever Jared can find time between work and school, he typically spends it fishing or watching the **New Orleans Saints...Who Dat!**



**FOUNTAIN FORMATION  
"RED ROCKS"**

Jessica Villers on the Fountain Formation, a Pennsylvanian aged conglomerate formed by the erosion of the Ancestral Rocky Mountains and deposited as alluvial fans. Picture taken outside of Colorado Springs, Colorado.



### Jessica Villers

is a Master's candidate investigating sediment

transport trends along marsh-bay boundaries and its implication for marsh shoreline restoration. Jessica was born and raised in the city of New Orleans and grew up spending her weekends along the gulf coast where she was exposed to the effects of the coastal crisis, aiding to her interest in geology and coastal studies. Upon acceptance, Jessica was granted an assistantship by the **Louisiana Sea Grant that is funded by the Coastal Protection and Restoration Authority (CPRA)**, where she serves as an intern. She was also awarded the **Master's Excellence Award**. This past year, Jessica has received the *Glenn Herbert Coastal & Environmental Scholarship* and the *New Orleans Geological Society Graduate Scholarship*. This past summer, she was also awarded a *Geological Society of America Graduate Research Grant* to support her field studies. Jessica is serving as the 2019-2020 President of UNO's Sigma Gamma Epsilon chapter and the Secretary of UNO's AAPG chapter. This spring Jessica hopes to acquire her GIT license.

***Favorite Mineral: Tourmaline***

***Favorite National Park: Big Bend National Park***

***Favorite Geologist: James Hutton***



## 2019-2020 EES GRADUATE ASSISTANTS



**Robert (Bobby) Mohollen**, Geologist in Training (GIT), M.S. in EES, earned a B.S. in Geoscience from West Chester University (P.A.) in Fall 2016. I am currently working on my thesis: *Displacement Rates and Lateral Continuity of Baton Rouge Fault System Segments in the Vicinity of the East Orleans Land Bridge, Louisiana*, which includes studies of coastal land loss and local faulting in the region of the East Orleans Land Bridge in between Lake Pontchartrain and Lake Borgne. Previous studies, such as those by recent graduate Joseph Frank, have mapped surface traces of faults located in Lake Borgne. Our study will map the extent and attempt to quantify rates of faults located in Lake Pontchartrain. These

faults may be in lateral continuity with the faults studied in Lake Borgne as possible extensions of the Baton Rouge Fault System beneath the East Orleans Land Bridge. The data used in this study includes vibracores, biostratigraphic markers, Chirp seismic, vibracore radiocarbon dated samples, deep 2D and 3D industry seismic data, *BasinMod* software analysis of the Pontchartrain Basin, as well as deep well logs. I have received the **New Orleans Geological Society Scholarship** and the **Glen Hebert Petroleum and Geology Award for Fall 2019** to continue my research. I hope to use my knowledge and experience from the University of New Orleans to obtain a career in the petroleum industry.



**Riana Grout** is a graduate assistant entering her second year of graduate school, advised by Dr. Mark Kulp. She is originally from a small town on the Puget Sound in Washington State. She grew up showing her horses, helping her parents with their shellfish company, and just enjoying the Puget Sound and all it has to offer. Now living in New Orleans she is studying coastal geomorphology focusing on total distribution and total length of shell berms found throughout Biloxi marsh. After she graduates she hopes to secure a job somewhere back on the west coast.... because for Riana ... *"west coast - best coast!"*



"Hello! People know me as **Joseph "Joe Cool" Hankerson** and I'm going into my second year of Graduate School under Dr. Mark Kulp. Secretary for UNO's SGE chapter as well as Co-Head TA for the department. I'm currently researching growth faults in the Terrebonne Basin to determine whether or not these faults are still active today and what that activity would mean for surface morphology and subsidence. I'm a real live wire, a hot ticket if you will. I really like tea so catch me brewin' up a cup in the front. I'm from North Carolina and am still looking for a quality barbecue joint; so if you know one, come find me.

Go Panthers .. KEEP POUNDING



**Meagan Russell**. Hi everyone. My name is Meagan and I am a current Ph.D. student working under Dr. Mark Kulp. I just moved here from Pensacola, Florida with my six-year old son, Radley. I earned my Masters of Science in Environmental Science from the University of West Florida. My thesis was titled *"Application of an Unmanned Aerial Vehicle (UAV) to Assess Dune Vulnerability"*. My research interests cover a broad spectrum of Environmental Science, but I really enjoy utilizing emerging technology to expand our abilities in data collection and geomorphology. In my spare time I like to hike, travel, be a tourist, and spend time with Radley.

New Haven Pizza is the best pizza.

## 2019-2020 EES GRADUATE ASSISTANTS



**Daniel Burke** hails from a far-off land known as the Westbank. Specifically, he is a native of Marrero, LA and attributes his academic interests to having grown up hunting and fishing on the Louisiana Coast. He moved to Baton Rouge 2 weeks before Hurricane Katrina to attend Louisiana State University and graduated in 2010 with a B.S. in Natural Resource Ecology and Management. He just concluded a 6-year stint

working as a fishery observer for the National Marine Fisheries Service. That's over 800 days spent at sea on commercial fishing boats collecting data on fishing effort, bycatch, and protected species interaction. Daniel joined UNO in August of 2019, pursuing his Master's under Dr. O'Connell. His thesis will focus on fish species assemblages in Lake Pontchartrain with emphasis on the effects of the 2019 Bonnet Carre Spillway openings.



**Malcolm Cross** is a first-year M.S. candidate and works within the department as a Graduate Research Assistant. He holds a B.S. in Geology with a minor in Physics from the University of Arkansas. While at Arkansas, Malcolm's undergraduate research involved analyzing the influence of washing procedure during mineral separation on detrital mineral studies. Currently, he works under the advise-

ment of Dr. Robert Mahon at UNO in collaboration with the U.S. Naval Research Laboratory at Stennis Space Center. The focus of his thesis is on sediment resuspension modelling and biology's role in the formation of ripples in oscillatory environments.



**Michael Amos**, I'm a new graduate assistant, working with Dr. Mahon, that rang in the new year by driving my cats and turtle in my little Prius to New Orleans. Here I'm looking at suspended sediment concentrations along underwater channel levees on Wax Lake Delta. Once, I grew up in Kansas, but left at 17 to get a BA in Classical Linguistics at Calvin College in Michigan. I then taught English in the Czech Republic, China, and South Korea over an eight year period. I moved back to the States in 2015 and started doing undergraduate work in geology as a new career. Now I find myself in the swamp swimming with sharks and gators for data in search of delta nirvana.



### Dr. Maddie Foster-Martinez

Hello everyone, I joined UNO in February as a Research Associate for Dr. Georgiou, and I couldn't be happier about it. My background is in environmental fluid mechanics, particularly within coastal marshes. I was a postdoc at LSU's Center for Coastal Resiliency, and I earned a PhD and MS in environmental engineering from UC Berkeley and a BE in civil engineering from Cooper Union. As a New Orleans native, I'm thrilled to be a part of the UNO community. These past few months have been filled with great new things – from learning new skills (hello Delft 3D) to conducting fieldwork in new places (Massachusetts!). My extracurricular interests include "greening" Mardi Gras, listening to NPR, and spending time with my eight nieces and nephews. I love meeting and talking to people, so feel free to come say hi. ~ Maddie

# Structural Geology Fieldtrip to Mt. Cheaha Alabama



# Pontchartrain Institute for Environmental Sciences (PIES)

## Activities at Shea Penland Coastal Education and Research Facility (CERF)

It's nearly ten years since **PIES** began our work at CERF so it's time to look back and reflect. **CERF** has been serving primarily as a center for field-based coastal education where people of all ages go to learn about the coastal system without leaving New Orleans. Each year our educational programs reach around 1,000 people each year. We also fulfill a research mission, providing a convenient boat dock and departure point for water-based research throughout the **Pontchartrain estuary**.



In Fiscal year 2018/19 CERF hosted about 600 K-12 students, 102 college students, 107 teachers completing professional development workshops, and 176 other adults, including Louisiana Master Naturalist Program trainees and other workshop participants.



Elementary students making fun discoveries

Several UNO students (EES and Biological Sciences) have been actively involved in the programs taking place at CERF in the past year. **Tanee Janusz** has helped facilitate numerous student and adult workshops; **Tanee, Danielle Mangipano** and **Bobby Mohollen** all helped facilitate a coastal restoration workshop in January and **Tanee, Tara Yocum** and **Jessica Villers** led a field trip for out of town college students in May. **Carrie Miller** and other SGE members also volunteered their time to help with maintenance last spring. I would love to see more EES students becoming involved in activities at CERF through research and program support.

CERF is an ideal place for many coastal activities because of its convenient location, just a 30-minute drive from UNO, on Chef Menteur Highway at Chef Menteur Pass, with easy boat access to all parts of the Pontchartrain estuary. So please plan to visit soon! To coordinate, contact **Dinah Maygarden** at [dmaygard@uno.edu](mailto:dmaygard@uno.edu).



High school students doing water measurements



UNO Science Education students in canoes with Dr. Ivan Gill



4th grade students working with a delta model



High school students doing water measurements

## Dr. Kraig Derstler, Associate Professor

I am gradually proceeding toward retirement; although I am not 100%, sure which semester will be my last. Meanwhile, I continue to enjoy teaching and serving on various university committees and the Senate.

I lost my beloved yellow lab **Benjamin Franklin Derstler** in March. He lived 14 and a half years, after declining for about a year. Ben's final day were unhappy, but otherwise he never stopped loving attention, snacks (including maple bacon donuts), trips to the lake, chewing on tennis balls, and destroying yoghurt cups. I adopted a new puppy about a month later, a 2lb, 5-week old yellow lab name **Jacob Bronowski Derstler**. My girlfriend promptly dubbed him "**Bosco**", so smart money says that we will always use the nickname. As I write this, Bosco is 6 months old, 65 lbs, and bad to the bone. Haha.



The Triceratops skull nicknamed "Puff". Mounted and restored by Kraig and Marcus Eriksen.



I had the great pleasure of locating an amazing collection of Lower Cambrian echinoderms from Morocco last summer. Many dozens of excellent specimens, all undescribed species from the very base of the echinoderm evolutionary tree... I've been preparing and studying them pretty much non-stop since early August. Great stuff that fits directly into the work on early chinoderm fossils that I started in the 1970's and then picked up again in the past few years, and talked about at GSA last November.

I am still doing vertebratepaleontology as well, mostly lab work for other organizations. In fact, as I write this, I am preparing to head out to Los Angeles to help a former student assemble and restore a *Triceratops* skull. I collected the skull years ago, donated it to his educational foundation a decade ago and now they want it mounted for display. It is good to know that all those dinosaur expeditions yielded useful fossils, even if UNO (or New Orleans) never decided to build its own museum.

I always enjoy hearing from former students, colleagues, and other friends. Try email, Facebook, or god forbid, stop by.

Best wishes to you all.



Undescribed edrioasteroid echinoderm, Lower Cambrian, Morocco (6mm)



Undescribed dibranchicystid echinoderm, Lower Cambrian, Morocco (14cm)





**The Society for Earth and Environmental Sciences (SEES)** is an active student organization within the Earth and Environmental Sciences Department. Its mission is promote all aspects of our department to the university and surrounding community. We strive to actively recruit new students, uphold academic integrity and act as stewards of the land. SEES members participate in many outreach and volunteer opportunities such as: *New Orleans Gem and Mineral Show, Beach Sweep, Super Science Saturday, Get to Know UNO*, and various other events.

This year SEES plans to provide multiple opportunities to department students with money raised through multiple fundraising activities, such as the **Annual Mineral Auction**. Some of our goals are to make improvements to the department’s KECK Lab (the student common area) by supplying academic resources such as required EES course text, as well as, providing students the opportunity to be exposed to various scientific, educational and/ or professional enrichment experiences, such as field trips, conferences or networking events. SEES closely partners with other organizations within the department (SGE and AAPG), PIES, the New Orleans Gem and Mineral Society, as well as, a few others.

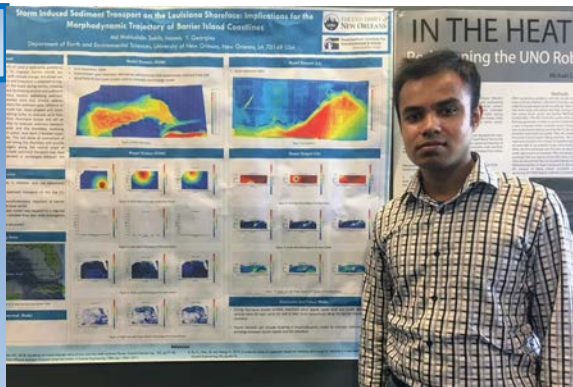
*“We are so happy and excited for you all to attend the **Annual Mineral Auction** taking place on **November 8<sup>th</sup>**! We look forward to showing donors and alumni what’s been going on in the department over the last year and what’s to come!”* – Bennett Price, Vice-President

<p><b>2019 Fall Officers:</b></p> <p><b>Danielle Mangipano— President</b>  <b>Bennett Price—Vice President</b>  <b>Madeline Cross—Secretary</b>  <b>Riana Grout—Treasurer</b></p>
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**Spring 2019 3MT Winner: Md Mohiuddin Sakib**

**Md Mohiuddin Sakib** 2019 winner of university wide 3MT competition. The 3MT competition was held last spring at UNO where Sakib presented his master’s research work to a non-specialist audience in under 3 minutes. This is a great opportunity for graduate student for additional funding. He was awarded Glen Herbert Coastal and Environmental Scholarship for the Fall 2019 semester. Sakib presented a poster at Innovate UNO last November. He is actively involved with several student organizations. Md Mohiuddin is serving as president of the Bangladesh Student Association (BSA) and Treasurer of Muslim Student Association (MSA) for 2019-20 session. Sakib is also active member of Sigma Gamma Epsilon (SGE) and American Association of Petroleum Geologists (AAPG).





## Association of Petroleum Geology

The American Association of Petroleum Geologists (AAPG) UNO Chapter is utilized to expose students to current events, topics, and opportunities in the oil and gas industry. Last academic year we hosted two professional geoscientists: former **AAPG Distinguished Lecturer Dr. Rusty Riese** and former **Exxon geoscientist Dr. Fred Schroeder**. We had the opportunity to learn about oil spills and its connection with society and ethics from Dr. Riese. Dr. Schroeder led an interactive short course at UNO that introduced students to hydrocarbon exploration as a geoscientist and seismic interpretation from both a stratigraphic and structural standpoint. Our AAPG Chapter is also hosting a **Petrophysics Seminar in November 2019**. The seminar will be led by **Joe Termina** and **Stanley Birkhead** from Occidental Petroleum (formerly Anadarko). The purpose of this interactive seminar is to provide an opportunity for students to be introduced to petrophysics through a combination of discussion, lectures, and hands-on exercises.

We recently represented the Earth & Environmental Sciences department and student organizations at our Privateer Plunge event where we engaged the local UNO student body in the Quad to inform them about activities within our club and department. The event provided the opportunity for new students to explore the disciplines of the EES department, including petroleum geology (Geosciences). Multiple students in our AAPG chapter will be presenting posters at upcoming conferences including the GSA annual meeting in Phoenix, AZ and AAPG Student Expositions in Houston, TX and Laramie, WY.

Our chapter is very grateful for the services and support provided by the **New Orleans Geological Society (NOGS)**. Their monthly luncheons and events provide our students with incredible learning experiences and networking opportunities. We would like to thank **Brad Robison** who has dedicated countless hours providing guidance to our students. Brad voluntarily teaches the Petroleum Geology course here at UNO and is currently serving on multiple graduate student committees. He has been a unique and vital asset to our department by continually engaging students' interests and willingness to learn about petroleum geology and seismic interpretation.

Finally, we would also like to thank the departments' generous alumni for their support and contributions at our annual Mineral Auction as this student chapter would not be possible without y'all!

~Jared Bullock – AAPG UNO Chapter President

### 2019 - 2020 Officers

**Jared Bullock, President**  
**Bobby Mohollen, Vice President**  
**Jessica Villers, Secretary**  
**Riana Grout, Treasurer**



In April, Katy and Brad celebrated their 30th anniversary in Italy.

## Brad A. Robison, Adjunct Professor

It has been my pleasure to have served as an adjunct faculty member at UNO for nearly 5 years. During that time, I have taught **Petroleum Geology**, held special topics classes focused on seismic interpretation, led the **2018 IBA (International Barrell Award) team**, and participated on the committees of several graduate students. Currently, I am working on a complete revamp of the required Geophysics course for EES majors with a geology focus. It will be offered for the first time in Spring 2020, and it should prove a valuable learning opportunity for all EES students. The class will be entirely workstation/lab based and involve interpretation of 2d and 3d seismic data sets from around the world.

I grew up in southern California, received a B.S and M.S. in geology from the University of Arizona, and worked for Shell Oil Company for 32 years, retiring as a Geological Advisor in Shell's Exploration Dept. My greatest expertise is in petroleum exploration and subsurface interpretation of structurally and stratigraphically complex regions, especially those involving salt tectonics. I love continuing to learn about Earth and Environmental Science while at UNO and receive great intrinsic reward from mentoring students.



# THE UNIVERSITY *of* NEW ORLEANS

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### DONATIONS AND GIFTS TO EES

The Department of Earth and Environmental Sciences has thrived in large part because of the support of our alumni and friends. Monetary contributions have allowed teaching, research, and scholarship programs within the Department to flourish.

The Earth & Environmental Sciences Fund (No. 90243) supports special projects, departmental seminars, student events and travel to out-of-state conferences.

The UNO Foundation manages the Department fund. The preferred form of donation is via check, payable to **The University of New Orleans Foundation** and mailed to the **EES Department Office**, with reference to the department or the fund.

**EES is greatly appreciative of contributions. Thank you in advance for your donation.**

**SPECIAL THANK YOU FOR YOUR GIFTS (2018-2019)**  
Contributors to the Department of Earth and Environmental Sciences

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