Earth and Environmental Sciences

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Name, Degree(s) and Graduation Year (s) from UNO:
Current Address: (Note we will not be publishing this but will use it for mailing information to you):
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Please provide 2-5 sentences about life, career, or whatever else you wish to share.

EMAIL TO: EESalum@uno.edu
http://www.uno.edu/cos/departments/ees

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 during periods when state support wavers. Permanent support to the Department has been established with the creation of endowed accounts from which the interest is used to support a specific purpose. These accounts are managed by the UNO Foundation and include:

- William W. Craig Memorial Award (No. 80696), an award for students who display excellence in teaching earth science.
- Jennifer R. Miller Memorial Award (No. 80711), an award for graduate students who display research excellence in environmental geology.
- Geology/Psychology Building 1065
- 200 Lakeshore Drive

The Department maintains the Earth & Environmental Sciences Fund (No. 90243) which is used to support special projects, such as the purchase of rare, departmental seminars, special events, and faculty and student travel. Contributions to any of these funds is greatly appreciated. The preferred form of donations is a check that is payable to the UNO Foundation and sent to the Department Office. If you want to target a specific fund, please indicate the name or number of the fund on the check. Thank you in advance for your donation.

SPECIAL THANK YOU FOR YOUR GIFTS (2016-2017)

Susan Bathke
Donald E. Burch Jr.
Chevron Matching Employee Gift Program
J. Sybil Callaway
J. David & Claudia Cope
W. James and Susan F. Deitzer Jr.
M. Judy V. Showalter
ExxonMobil Foundation
Mr. Harvey S. Edwards Jr.
Gem & Mineral Society of LA, Inc.
Glenn Hebert
Mr. Rodney A. Crother
Mr. Robert M. Burnett
New Orleans Geological Society Memorial Foundation, Inc. (NOSG)
James A Lloyd
Mr. Stacy A. Smith
Robert and Carol Rooney
Mr. Harvey S. Edwards Jr.
Society for Independent Professionals-Earth Sciences New Orleans Chapter (SPIEBS)
Stacy Smith
Dr. Ioannis Y. Georgiou

A message from the Department Chair

Hello Students, Alumni, and Friends of EES:

After 10 years in our department, this is my first time taking office. It is my pleasure to serve the department in this capacity.

I'll start with some good news. We have seen an increase in our undergraduate enrollment, along with other departments in the College of Sciences, and after multiple years of hiring freeze and loss of faculty, for the first time in years we are hiring new faculty. We are far from being near historic numbers, but we hope this is a step in the right direction.

It's been a year since Ms. Linda Miller retired, and despite a temporary replacement, Ms Cindy also retired. It took some time, but we are very close to hiring a new assistant to the Chair. It has been a challenging start for me without full time help in the front office, but our graduate students, faculty and researchers have all been helping as much as they can. Thank you - and if you called the office and didn't get a response please call us back. We would love to hear from you.

We have said farewell to Dr. Mostafa Sarwar from official department duties. Mostafa is the Associate Provost and director of the honors program, where he serves full time. I am sure incoming students will miss his humor in introductory classes. Mostafa however, remains connected.

We are very grateful for our volunteer faculty. First, I would like to thank Brad Robison, who is teaching courses in Petroleum Geology. Basin Geology and other much needed courses that directly serve our Geology majors and graduate students with interest in Petroleum. Brad, your presence in the department is welcomed by the faculty and students and we truly value what you do for us. I would also like to mention that Brad will be leading our 2018 IBA team to competition this year. He is one of our most talented hands. I would also like to say thank you to Toby Roesler for his previous service as an associate advisor to the IBA teams, where he played a significant role in the success of the IBA teams. We hope this relationship continues. We also hope to bring more experts into the Department in the future.

I would also like to say thank you to our student organizations. (SEES, SGE and AAPG) have done an extraordinary work with various events throughout the year. Their spirit in organizing and participating at events continue to bring the student community closer, and help provide unique experiences for our students.

In closing, I am pleased to announce that the students annual fundraising event, the Annual Mineral Auction will return to campus after an off-campus trial. The event will take place on November 17th at 7:00 pm at the Cove. Please come out to help support our student organizations. Thank you and All the Best,

Ioannis Y. Georgiou

Dr. Iris Moreno Totten (1968 - 2012)

We are proud to note that one of our alumni, the late Dr. Iris Totten '91, '94, '03 has been honored with the establishment of an award in her memory. The Geo-}

Dr. Iris Moreno Totten (1968 - 2012) has been honored with the establishment of an award in her memory. The Geo-
Dr. Martin O’Connell, Associate Professor, and Director of the Nekton Research Laboratory

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 Uzee O’Connell of the Pontchartrain Institute for Environmental Sciences (PIES) and I have just finished a large five-year research project funded by the Bureau of Ocean Energy Management. This project involved collecting fishery-independent data from estuaries across three states (Louisiana, Mississippi, and Alabama) and the results will reveal the current state of some important commercial species in the northern Gulf of Mexico. We are currently working on manuscripts associated with this research and other research projects.

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.

Laboratory Manager Arnaud Kerisit (M.Sc. student) is working on two research projects: one in the NRL and one with Dr. Michael Poirrier in Biological Sciences. The NRL project is internally funded by UNO and is a collaboration with Dr. D. Ryan Gray in the Department of Anthropology. The title of the project is “Reconstructing fisheries use and the health of commercially important fish populations in historic New Orleans, ca. 1717-1860.” For this research, Arnaud will be collecting local fishes and their chemical composition will be compared with fishes from 300 years ago to test for possible changes in these fishes and fisheries over this long time period. Dr. Poirrier’s project is funded by the Lake Pontchartrain Basin Foundation and involved collecting and identifying invertebrate organisms from Breton Sound and adjacent marsh habitats.

Meghan Gahm (Ph.D. student) is half-way through her two year research project where she is measuring the effectiveness of various turtle excluder device (TEDs) designs in the field. She has been collecting the data from commercial fishermen and other scientists in various vessels in the Gulf of Mexico. Our hope is to continue similar research in the future when the current project ends and we have already submitted three proposals to do so.

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) continues conducting research on the invasive Island Apple Snail (Pomacea maculata) which has begun spreading through the water ways of Orleans Parish and plans to present some of his preliminary data at InnovateUNO in November.

Student Scholarships and Awards 2016-2017

New Orleans Geological Society Memorial Foundation Graduate Scholarship Award: Jarrett Levesh

New Orleans Geological Society Memorial Foundation Graduate Scholarship Award: Julie A. Torres

New Orleans Geological Society Memorial Foundation Senior Scholarship: Elizabeth M. Larroux

New Orleans Geological Society Memorial Foundation, Junior Scholarship Award: Brittany George

Olga Braunstein Scholarship for EES Undergraduates: Matthew Tiitt

Olga & Jules Braunstein Service Award Undergraduate: Morgan Crawford and Sara Robertson

Chevron Geology Graduate and Undergraduate Scholarship: Graduates: Joe Frank, Josh Flathers, Undergraduates: Jennifer Housey, Joseph Hankerson, Tandie Gauntreau

Shell Minority and Women in Science Award: Frances Crawford, Tara Yocum, Meghan Gahm

EES Research Scholarship: Timothy Nelson, Ryan Jones, Damon Morse, William Morrison

Jennifer R. Miller Memorial Scholarship:Brittany Kime, Celeste Woot

Glenn Hebert Petroleum & Geology Scholarship: Graduate-Ryan Jones and Undergraduate-Ernesto Hernandez

Glenn Hebert Coastal & Environmental Scholarship: Graduate-Ben Beasley and Undergraduate-Cary Darbonne

SGE W.A. Tarr Award: William Morrison

Dr. Kraig Derstler, Associate Professor

As my retirement approaches, I am looking forward to spending my final years at UNO helping to rebuild the EES program and the university. We finally have a solid governor and a new UNO president who are beginning to stabilize the university. We have lost much over the past 15 years, but this new administration is learning from its mistakes and actually taking baby steps toward rebuilding the university.

Along these lines, I have recently had a private donor purchase a new compressor. (The building compressor was destroyed during Katrina and was never replaced.) Once this is installed, I can begin to rebuild my vertebrate paleo prep lab. In the meantime, I have been working on vertebrate projects, revisiting various Early Paleozoic echinoderms.

For the past year, I have been focusing upon the difficult Early Cambrian Camplostroma. Colleagues from the Field Museum and Austin have joined me in an effort to unravel the mysteries of an animal that was originally described as a jellyfish, then redescribed as its own unique class of echinoderms. More recently, Camplostroma was reinterpreted as an especially fat cushion star. Studying through several thousand specimens from the Kinzers Formation of Pennsylvania, we have finally figured out almost 100% of the details of its anatomy and it appears to be the common ancestor of blastozoans (cystoids and blastoids), edrioasteroids (those pesky cushion stars), and crinoids. We are working on the photographic plates and description at the moment.

Back to UNO, the school is promising a token 0.5% raise for 2018. This will be our first cost-of-living adjustment since Katrina and only the second one in 15 years. Before I retire, I have this fantasy that my inflation-corrected salary will reach the same level that I had in 1982, when I was hired. I’m not sure if I will make it, but hey, a professor can always dream…

Kraig
The Society of Earth and Environmental Sciences at UNO is always looking for fun volunteer events and hosts gatherings to get department members and friends together for the goal of promoting our field and passions for the Earth. Open to all students, we have guest speakers to further our understanding of environmental processes and help us stay current with research trends and local goings-on.

Spring and fall 2017 has been busy for the Society for Earth and Environmental Sciences (SEES). We had a rochhounding trip to Mississippi to gather-goodies for grab bags for the mineral auction and volunteered at several events including the Gem show, hosted by the New Orleans Gem and Mineral Society, Energy Day and Super Saurus at the Children’s Museum, and joint with SGE had Holloween Pumpkin Painting and Petock, and Believe in Girl Scout Presentation on the University of New Orleans Campus. As the year moves on SEES has been prepping for our largest fundraiser.

The 2017-17 officers are: Jennifer Housy — President Alyssen Daley — Vice President Korey Kanzig — Treasurer Kevin Pham — Secretary

The American Association of Petroleum Geologists is the world’s premier professional association for geologists in the oil and gas industry. The association boasts 40,000 members worldwide, including 8,000 student members. The goal has been prepping for our largest fundraiser.

The Society of Petroleum Geology-AAPG

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Dr. Ioannis Y. Georgiou, Associate Professor, and Director of the Pontchartrain Institute for Environmental Sciences (PIES)

Greetings to all students, faculty, alumni and friends - I hope everyone reading this update is doing well.

I've had an interesting and relatively busy year, with lots of field work, international travel and new and exciting research. Last year I was invited to give a talk at Delftse and Technical University Delff (TU Delft) in the Netherlands, presenting some of our research on coastal morphodynamic impacts due to sea level rise, and while there, met with existing and new collaborators to continue research on delta systems, sedimentology and stratigraphy. On my free day, my friend and colleague Dirkjan Walstra showed me the Dutch storm defenses, the polders, gates, and dunes and beaches of the north sea, ending the day strolling near the ‘sand engine’, a massive shoreline and beach nourishment project constructed several years ago, and having cappuccino and pie overlooking the stormy north sea; great memories. I hope to return soon.

Last spring, I visited south Brazil to continue research on basin infilling with Professors Fitzgerlad (Boston University) and Hein (VIMS). The coast of Brazil is an ideal area to study former shoreline processes because sea level has dropped 2.5 to 4 m during the past 6,000 years (far-field effects) and influenced many basin styles. Two successful field seasons were studying sedimentary processes leading to Cherrier (sand ridges within mud coast) development using instrument deployments at the mouth of the Tijucas River and by dating and determining the stratigraphy of the ancient offshore Chenier plain through coring, ground-penetrating radar, RTK, and LIDAR surveys. On this last visit, we drove south from Florianopolis to (almost) the Uruguay boarder and visited dune and beach systems along the way, collected sand samples and new GPR data for analysis, to determine the origin of the sand comprising this superb part of the Brazilian coast.

We entered our third and final year of our BOEM project with resource economists Rex Caffey (LSU) and Daniel Petrila (Mississippi State). The objective is to investigate the economic and geomorphologic response of the flood zone of a tidal embayment or other nearshore sand sources for coastal restoration projects in Louisana, to determine project initial cost and outcome as a function of both sand quality, strategic placement, and project performance (both in terms of physical response – morphodynamic evolution, and associated economics). We are presently finalizing simulations to feed the economic models.

Our BOEM Mississippi River Delta Front project with Profs. Sam J. Bentley and Kevin Xu from LSU and Dr. Mike Miner from BOEM where we are evaluating geophysical processes driving delta front instabilities is coming to an end, but not without a lifeline! We were lucky to have received extension funds, sufficient to support a seven day research cruise on the delta front aboard the RV Point Sur. This incredible expedition run 24/7 with two shifts yielding 36 piston cores, even more multicores and at least 40 free fall cone penetrometer drops. The team has 4 abstracts at the AGU Fall Meeting, which for the first time will be help in New Orleans next month. Other researchers in the lab and the Pontchartrain Institute (PIES) include Tara Yocum who joined the group this past summer and Mike Brown. Mike leads the field support group for PIES and is routinely in the field with graduate students helping us collect data. Tara and Mike play a significant role in many of the ongoing projects in the lab and PIES. Jack LeBlanc, returned to us last summer while completing the masters in applied physics, helping with various analysis on multiple projects within the lab. It’s great to have such resources around.

Graduate students are progressing nicely with their work. Our most recent graduates are Tara Yocum and Joshua Alancon. Tara studied growth laws for sub-delta crevasses in the modern delta and Joshua studied the role of shoreline slope on controlling overwash on Barrier island due to storms. Pricilla Souza (now in Brazil) and Kevin Hanegan (now part time) are doctoral candidates and working on their papers with expected graduation in the spring 2018. Kevin’s research involves testing the runaway transgression hypothesis in response to relative sea level rise, and Pricilla is comparing tidal and fluvial point bars using hydrodynamic observations, cores and seismic data. Tim Nelson and Joshua Flathers are writing their results and discussion, and not far behind is Ben Beaasley, Brittany kim and Sean Kenny who will be defending their prospects. I also want to welcome our newest graduate students Joshua Thomas and Joshua Hansen — yes, that makes four Joshua’s in the group.

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Other members and Julian discovered climbing. They are great. They turned 6 recently; Avery loves animals and Maja and the twins (pictured above) are doing well. Make sure you drop by if you are near for a longer visit. Cheers!

Brittany Kime, Tim Nelson, Ben Beaasley, Josh Flathers, Pricilla Souza, Kevin Hanegan (not shown ~ Josh Hansen, Josh Alarcon, Josh Thomas)
Dr. Mark Kulp, Associate Professor

I hope this newsletter finds you all in good health and one year wiser! As always it is hard to believe that another year has passed.

This past year was a particularly good one for me with lots of travel, some great field work, and success with obtaining some funding. Overall the first quarter of the year was relatively quiet with the notable exception of submitting a large grant and teaching stratigraphy again, which kept me pretty busy since I had not taught it in a decade. In May I was called north to Saskatchewan to complete surveys of the Northern Saskatchewan river where I had worked for part of the previous summer on an oil spill. This was a particularly interesting effort this summer in that we worked with oil-detection K9’s to find oiled debris and vegetation that was still present along the river banks. If you have never seen a K9 unit operate it is really impressive and the dogs did an unbelievable job of sniffing out the smallest quantities of oil in some very challenging environments. This work kept me very busy though the summer and between the beginning of May and the middle of August I logged approximately 2.5 months in Saskatchewan, overall a very rewarding and unique opportunity.

In the middle of this past summer I received word that a large proposal had been funded to UNO through the Louisiana Center of Excellence, which is the state agency responsible for handling Deepwater Horizon fine money that is intended for coastal research projects. This particular project involves co-PI’s from Tulane, University of Louisiana Lafayette, University of Kentucky, Lake Pontchartrain Basin Foundation and the Culpepper group. Each of the Louisiana universities currently possesses at least one industry 3-D seismic volume and we are using these data to pinpoint faults at depth that may extend up section to the Holocene. The goal of this project is confirm whether identified faults do extend up to shallow depths and if so document the timing and rate of slip that might exist on the faults using a combination of high-resolution GPS, shallow high-resolution seismic data, and chronostratigraphy. Whether the well-known faults of the northern Gulf have or are affecting Holocene environments is a big, somewhat contentious issue that potentially has huge consequences for the regional coastal restoration efforts. This is a two-year project that really just started so I will update you on our progress next year.

The other big project that kept me busy involved trying to establish a citizen scientist group that would monitor the presence of oiled debris and elevation changes on Grand Isle Louisiana. For a variety of reasons that I will not get into that particular project has not been going all that well but we continue onward to try and get a true group of locals engaged in the project. Meanwhile I recently met the Mayor of Dauphin Island Alabama, where we are to do the same thing in year 2 of the project, and he has been very supportive of the entire idea. We hope to get the project over there started in January 2018 and fingers crossed that it goes better over there than it has in Grand Isle.

Students of the laboratory continue to excel and the most recent students to complete their MS thesis include Joe Frank. Other students in the laboratory continue to make headway. Frances Crawford is currently working on developing a conceptual model for the source and evolution of large shell berms on marsh platform edges in the Biloxi marshes as well as the relationship between the area of open water ponds in marshes and the cross sectional areas of tidal creeks that are connected to the ponds. Ultimately Bryan found that a strong correlation does not exist for these systems and that they behave differently than large tidal inlets that connect backbarrier environments and the open ocean.

Greetings! I am enjoying my third year as an instructor in the department where I teach a number of introductory courses along with Earth Materials and Petrology. I always look forward to the “Wow!” when students look at minerals through a petrographic microscope for the first time. This summer I was appointed to the Louisiana Board of Professional Geoscientists. One of my roles as a board member is to assist in verifying candidate qualifications to receive a Geoscientist-in-Training (GIT) certificate or a Professional Geoscientist (PG) license in our state. Through the board, I am also involved in the National Association of State Boards of Geology that develops the ASBOG examination for geoscientist licensing. I recently attended the ASBOG conference in Portland, Oregon where I thoroughly enjoyed seeing the massive Columbia River flood basalt (pictured above) and some excellent lahars deposits.

Students examining the world famous Degray Spillway turbidites during the 2017 Stratigraphy field trip to the Ouachita Mountains in Arkansas. Although the weather was warm and sunny on the first day the conditions did not last long and two days later at the top of Mount Magazine we found ourselves in extremely cold and wet conditions that resulted in some students sleeping in the lodge.

Frances Crawford, Celeste Woock, Jarrett Levesh, and Julie Torres (not shown are Bobby Mohollen and Jared Bullock)
**Dr. Mark Kulp, Associate Professor**

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Students of the laboratory continue to excel and the most recent students to complete their MS thesis include Joe Frank and Bryan Carter. Joe worked on mapping deep-seated faults imaged in industry seismic data and in conjunction with high-resolution, shallow seismic data was able to show that slip on the faults at depth likely controlled the orientation of at least one paleo distributary of the Holocene Mississippi River. Bryan’s work focused on determining whether there exists a relationship between the area of open water ponds in marshes and the cross sectional areas of tidal channels that are connected to the ponds. Ultimately Bryan found that a strong correlation does not exist for these systems and that they behave differently than large tidal inlets that connect backbarrier environments and the open ocean.

Other students in the laboratory continue to make headway. Frances Crawford is currently working on developing a conceptual model for the source and evolution of large shell berms on marsh platform edges in the Biloxi marshes as well as the impact they have on marsh vegetation. Julie Torres is mapping the location, geometry and sequence of beach ridge progradation on Grand Isle using ground penetrating radar and cores. Jarrett Levesh is following up on summer intern work at Upstream Oil and Gas LLC during which he used 3D seismic and well logs to map the location and slip history of a fault in Breton Sound. Celeste Woock continues her project, jointly with Alex Kolker of Tulane, to map the rates and spatial extent of subsidence across the delta plain. All four are making good progress in their work and I anticipate that all will have completed by the middle of 2018. This past fall we accepted two new students to the group, Bobby Mohollen and Jared Bullock. Bobby comes from West Chester University in Pennsylvania and Jared from Millsaps College in Mississippi. We are in the process of figuring out exactly what each of them will work on but in some capacity it will focus on evaluating whether faults below the Louisiana Coastal Zone have or are currently affecting Holocene environments.

On the home front things continue to march right along. Jonah just turned 7 and the opportunity to be his father has been amazing. I am continuously amazed by the things he says and his observations. Mary continues to excel at St. Martins and doing great things in the upper school math program there.

Yeah, lots going on. Be sure to stop in if you are nearby, we all enjoy the random alum popping in to say hi. All the best.

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**Dr. Melanie Stiegler, Instructor**

Greetings! I am enjoying my third year as an instructor in the department where I teach a number of introductory courses along with Earth Materials and Petrology. I always look forward to the “Wow!” when students look at minerals through a petrographic microscope for the first time. This summer I was appointed to the Louisiana Board of Professional Geoscientists. One of my roles as a board member is to assist in verifying candidate qualifications to receive a Geoscientist-in-Training (GIT) certificate or a Professional Geoscientist (PG) license in our state. Through the board, I am also involved in the National Association of State Boards of Geology that develops the ASBGE examination for geoscientist licensing. I recently attended the ASBGE conference in Portland, Oregon where I thoroughly enjoyed seeing the massive Columbia River flood basalt (pictured above) and some excellent lahar deposits.

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**Sigma Gamma Epsilon (SGE) Honors Society in EES**

Sigma Gamma Epsilon is the Earth and Environmental Sciences Honors Society. Our main objectives include advancement of academic, scientific, and professionalism of our members through the Earth Sciences. Members of SGE gain these experiences through dedication of our time and energy to our community and department. SGE is continuing our tutoring program. Every member dedicates one hour per week to tutoring in the EES Department. Community involvement includes Energy Day, STEM Education Day, New Orleans Gem and Mineral Show, and the BIG Event. There are many more opportunities coming up throughout the year that we look forward to adding to our community engagement list! This May, Will Morrison was awarded the TARR Award in recognition of his contributions to the EES Department, SGE membership, and excellent leadership skills.

The elected 2017-2018 Omicron Chapter Officers include:

- **President:** Brittany Kime
- **Vice President:** Jarrett Levesh
- **Treasurer:** Miles Esquerre
- **Secretary:** Celeste Woock
The Society of Earth and Environmental Sciences at UNO is always looking for fun volunteer events and hosts gatherings to get department members and friends together for the goal of promoting our field and passions for the Earth. Open to all students, we have guest speakers to further our understanding of environmental processes and help us stay current with research trends and local goings-on.

Spring and fall 2017 has been busy for The Society for Earth and Environmental Sciences (SEES). We had a Dochordopping trip to Mississippi to gather goods for grab bags for the mineral auction and volunteered at several events including the Gem show, hosted by the New Orleans Gem and Mineral Society, Energy Day and Super Saurus at the Children’s Museum, and joint with SGle had Holoween Pumkin Painting and Potluck, and Believe in Girl Scout Presentation on the University of New Orleans Campus. As the year moves on SEES has been prepping for our largest fundraiser of the year, the 43nd Annual Mineral Auction which will be held on November 17th at 7:00 pm at the Cove on campus. The mineral auction proceeds go towards three areas of student interests: 1. keeping membership dues affordable for students; 2. supporting an annual group field excursion; and 3. funding the annual scholarship that go to the top performing SEES members. Scholarships can cover student tuition, support attending field camp fees, or provide for internship expenses. Looking forward to seeing everyone at the mineral auction!

The 2016-17 officers are:

- Jennifer Housy — President
- Allyson Daley — Vice President
- Korey Kanzieg — Treasurer
- Kevin Pham — Secretary

Association of Petroleum Geology-AAPG

The American Association of Petroleum Geologists is the world’s premier professional association for geologists in the oil and gas industry. The association boasts 40,000 members worldwide, including 8,000 student members. The goal of the UNO AAPG student chapter is to expose students to fundamental topics, scientific research, events, realities, and opportunities in the oil and gas industry.

Over the past year we have hosted talks from Tom Burgeon, Stephanie Nwoko and Matt Gentry. Tom took us on a historical journey through the evolution of exploration geology in the Gulf of Mexico; Stephanie gave us a tutorial in 3D reservoir modeling and Matt shared his experience in entrepreneurship in the geosciences. We plan to host more guest speakers in the spring and take a day trip out to a functioning oil platform graciously led by Upstream Exploration LLC.

The 2017 officers are:

- Jarrett Levesh
- Brittany George
- Robert Mallow
- Jared Bullock
- Allyson Daley
- AL�™ — Managing Director

Dr. Ioannis Y. Georgiou, Associate Professor, and Director of the Pontchartrain Institute for Environmental Sciences (PIES)

Greetings to all students, faculty, alumni and friends! I hope everyone reading this update is doing well.

I’ve had an interesting and relatively busy year, with lots of field work, international travel and new and exciting research. Last year I was invited to give a talk at Delft and Technical University Delft (TUDeff) in the Netherlands, presenting some of our research on coastal morphodynamic impacts due to sea level rise, and while there, met with existing and new collaborators to continue research on delta systems evolution and stratigraphy. On my free day, my friend and colleague Dirkjan Walstra showed me the Dutch storm defenses, the polders, gates, and dunes and beaches of the north sea, ending the day strolling near the “sand engine”, a massive shoreline and beach nourishment project constructed several years ago, and having haggis and pie overlooking the stormy north sea; great memories. I hope to return soon.

Last spring, I visited south Brazil to continue research on basin infilling with Professors FitzGerald (Boston University) and Hein (VIMS). The coast of Brazil is an ideal area to study former shoreline processes because sea level has dropped 2.5 to 4 m during the past 6,000 years (far-field effects) and influenced many basins. Therefore, we were looking at erosional features at the base of levees. We are studying sedimentary processes leading to Chersier (sand ridges within mud coast) development using instrument deployments at the mouth of the Tijucas River and by datuming and determining the stratigraphy of the ancient onshore Chenier plain through coring, ground-penetrating radar, RTK, and LiDAR surveys. On this last visit, we drove south from Florianopolis to (almost) the Uruguay boarder and visited dune and beach systems along the way, collected sand samples and new GPR data for analysis, to determine the origin of the sand comprising this superb part of the Brazilian coast.

We entered our third and final year of our BOEM project with resource economists Rex Caffey (LSU) and Daniel Petrillo (Mississippi State). The objective is to investigate the economic and geomorphologic viability of utilizing outer continental shelf (OCS) sand versus nearshore sand sources for coastal restoration projects in Louisiana, to determine project initial cost and outcome as a function of both sand quality, strategic placement, and project performance (both in terms of physical response – morphodynamic evolution, and associated economics). We are presently finalizing simulations to feed the economic model.

Our BOEM Mississippi River Delta Front project with Profits Sam J. Bentley and Kevin Xu from LSU and Dr. Mike Miner from BOEM where we are evaluating geophysical processes driving delta front instabilities is coming to an end, but not without a lifeline! We were lucky to have received extension funds, sufficient to support a seven day research cruise on the delta front aboard the RV Point Sur. This incredible expedition run 24/7 with two shifts yielding 36 piston cores, even more multicores and at least 40 free fall cone penetrometer drops. The team has 4 abstracts at the AGU Fall Meeting, which for the first time will be help in New Orleans next month. Other researchers in the lab and the Pontchartrain Institute (PIES) include Tara Yocum who joined the group this past summer and Mike Brown. Mike leads the field support group for PIES and is routinely in the field with our graduate students helping us collect our data and Mike play a significant role in many of the ongoing projects in the lab and PIES. Jack LeBien, returned to us last summer while completing his masters in applied physics, helping with various analysis on multiple projects within the lab. It’s great to have such resources around.

Graduate students are progressing nicely with their work. Our most recent graduates are Tara Yocum and Joshua Alarcon. Tara studied growth laws for sub-delta crevasse in the modern delta and Joshua studied the role of shoreline slope on controlling overwash on Barrier Islands using storm storms. Pricka Souza (now in Brazil) and Kevin Hanegan (now part time) are doctoral candidates and working on their papers with expected graduation in the spring 2018. Kevin’s research involves testing the runaway transgression hypothesis in response to relative sea level rise, and Pricka is comparing tidal and fluvial predictions using hydrodynamic observations, cores and seismic data. Tim Nelsen and Joshua Flathers are writing their results and discussion, and not far behind is Ben Beasley. Brittany Kime and Sean Kenny who will be defending their prospectus. I also want to welcome our newest graduate students Joshua Thomas and Joshua Hansen – yes, that makes four Joshua’s in the group.

Maja and the twins (pictured above) are doing great. They turned 6 recently. Avery loves animals and Julian discovered climbing. They are both fun to be around. Well, it’s been a pleasure - make sure you drop by if you are near for a lengthier update or to catch up. Cheers!

Brittany Kime, Tim Nelso, Ben Beasley, Josh Flathers, Pricka Souza, Kevin Hanegan (not shown – Josh Hansen, Josh Alarcon, Josh Thomas)
She has been collecting the data from commercial fishermen and other scientists in various vessels in the Gulf of Mexico. Our hope is to continue similar research in the future when the current project ends and we have already submitted three proposals to do so.

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) continues conducting research on the invasive Island Apple Snail (Pomacea maculata) which has begun spreading through the water ways of Orleans Parish and plans to present some of his preliminary data at InnovateUNO in November.
Hello Students, Alumni, and Friends of EES:

After 10 years in our department, this is my first time taking office. It is my pleasure to serve the department in this capacity.

I’ll start with some good news. We have seen an increase in our undergraduate enrollment, along with other departments in the College of Sciences, and after multiple years of hiring freeze and loss of faculty, for the first time in years we are hiring new faculty. We are far from being near historic numbers, but it is a good note regardless.

It’s been a year since Ms. Linda Miller retired, and despite a temporary replacement, Ms Cindy also retired. It took some time, but I have a temporary replacement, Toby Roesler for his previous service as an advisor.

Thank you for your patience and understanding.

We are very grateful for our volunteer faculty. First I would like to thank Brad Robison, who is teaching courses in Petroleum Geology. Basin Geology and other much needed courses that directly serve our Geology majors and graduate students with interest in Petroleum. Brad, your presence in the department is welcomed by the faculty and students we truly value what you do for us. I would also like to mention that Brad will be leading our 2018 IBA team to competition in those courses he is continuing to teach. I know he has many hands. I would also like to thank you to Toby Roesler for his previous service as an advisor to the IBA teams of the past, where he played a significant role in the success of the IBA teams. We hope this relationship continues. We also hope to bring more experts into the Department in the future. Our students (SEES, SGE, and AAPG) have done an extraordinary work with various events throughout the year. Their spirit in organizing and participating at events continue to bring the student community closer, and help provide unique experiences for our students.

In closing, I am pleased to announce that the students annual fundraising event, the Annual Mineral Auction will return to campus after an off-campus trial. The event will take place on November 17th at 7:00 pm at the Cove. Please come out to help support our student organizations. Thank you and All the Best,

Ioannis Y. Georgiou

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A message from the Department Chair

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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 scholarships programs within the Department to flourish during periods when state support wavers. Permanent support to the Department has been established with the creation of endowed accounts from which the interest is used to support a specific purpose. These accounts are managed by the UNO Foundation and include:

William W. Craig Memorial Award (No. 80069): an award for students who display excellence in teaching earth science.
Jennifer K. Miller Memorial Award (No. 80111): an award for graduate students who display research excellence in environmental geology.
Jules & Olga Braunstein Undergraduate Scholarship (No. 80351): merit-based scholarships for undergraduate geology and geophysics majors.
Geology and Geophysics Research Fund (No. 80863): a fund to support graduate student thesis research.

The Department maintains the Earth & Environmental Sciences Fund (No. 90243) which is used to support special projects, such as the purchase of vans, departmental seminars, special events, and faculty and student travel.

Contribution to any of these funds is greatly appreciated. The preferred form of donations is a check that is payable to the UNO Foundation and sent to the Department Office. If you want to target a specific fund, please indicate the name or number of the fund on the check. Thank you in advance for your donation.

Earth and Environmental Sciences

Dr. Iris Moreno Totten (1968-2012)

We are proud to note that one of our alumni, the late Dr. Iris Totten ’91, ’94,03 has been honored with the establishment of an award in her memory. The Geoscience Education Division of the Geological Society of America presented the first “Iris Moreno Totten Geoscience Education Research Award” at their Annual Meeting in Seattle (http://community.geosociety.org/geodivision/awards/tottensaward). Iris earned all three of her degrees at UNO. She started her BS in Geology in Fall 1986, and graduated May 1991. Subsequently, she earned an MS in Geology in December 1994, and her PhD in Curriculum and Instruction in 2003. She worked a geologist with Mobile for five years between her two graduate degrees. After completing her PhD, she served as a professor at UNO for two years and then took a tenure track position with Kansas State University for six years (2006-2012). Iris died on May 26, 2012 (b. Dec 2, 1968) at her home in Wamego, Kansas. She is survived by her husband Dr. Matt Totten (married 1995) who still teaches at KSU. She is also survived by her children, Cody and Wyatt. At UNO, Iris is perhaps most widely remembered for the huge geological block diagram constructed of concrete in the southern courtyard of the Science Building. This popular and effective teaching aid has been used for the past 15 years by school children as well as UNO Intro Geology students for the past 15 years. (contribution by Krag Derstler)

Dr. Totten teaching geological concepts to visiting high school students, using the giant block diagram that she created in the South Courtyard of the Science Building on UNO campus. (c. 2004)