Welcome to the summer issue of Cadence Magazine. This issue focuses on several topics, including research, faculty, and student activities. I encourage you to read some of the articles featuring outstanding scholarship and work innovation, coming out of Lamar University right now. Research such as corrosion-reducing surface scientists creating a coating that cost less than a dollar. The research and creative activity-related articles in this issue of Cadence showcase what Lamar University is all about—its people and what we can do for those in our community and local industries. The stability of LU as a key educational and economic anchor with its forward-thinking strategic plan and exciting endeavors is truly one of a kind. I cannot wait to be a part of the future of this great university.

I look forward to seeing you during the fall semester.

Sincerely,

Jaimie R. Taylor, President
The research team observed that the coating has high polarization resistance and a low corrosion rate. Through the use of the developed superhydrophobic coating, the researchers were able to observe its effectiveness in reducing water corrosion. Yao is director of LU’s Advanced Materials and Surface Engineering Laboratory.

Under his leadership, researchers, including Ian Lian, associate professor of biology, and mechanical engineering doctoral student Divine Sebastian, have created a new coating in the superhydrophobic class—then surface layers made of composite materials that provide roughness and low surface energy.

The research team observed that the coating has high polarization resistance and a low corrosion rate. Through an analysis of nanoscale interactions between the substrates and the corrosive environment using the in situ atomic force microscopy technique, they developed a method of creating protection coatings with more extended performance.

The team has designed and fabricated a variety of nano/microstructured surfaces. For example, the team created superhydrophobic nanograss-like structures with enhanced corrosion resistance for various engineering applications such as condensers, heat pipes or copper cooling channels. The results of the team's research analyzing the corrosion resistance of the simple and inexpensive top coating manufactured in their lab successfully shows that its water-repellent properties would be an effective means of reducing corrosion, which is critically important to industry, in particular the midstream industry. That application inspired LU’s Center for Midstream Management and Science to name Yao as its first honoree as a "Profile in Midstream."

The significant problem of pipeline infrastructure corrosion is that it generates enormous costs to the oil and gas industry. Recently, novel superhydrophobic top coatings have been favored because of their inherently water-repellent nature; however, durability and corrosion resistance of superhydrophobic top coatings are still questions in implementation.

"We are pleased with the outcome of the research and will continue work to enhance the mechanical durability of the developed superhydrophobic coating," said Yao. "We are evaluating the mechanical performance of developed coatings and localized corrosion rates to discern their implementation in the industry. We anticipate improving the coatings' mechanical durability in the very near future."
Iron Horse Terminals is a rail transportation company located approximately seven miles west of Beaumont with connectivity to two major rail lines along major trucking corridors. The company’s 24 miles of track and more than 1,200-car storage capacity has access to one of the largest high-density and low-density polyethylene facilities on the Gulf Coast, making it capable of enhancing the growing logistical needs of the region. With proximity to the polyethylene facilities and the equipment to be successful, Iron Horse Terminals began looking for ways to streamline processes and sought LU’s help to do so.

Lamar University partnered with the company to develop software to optimize operation of the organization’s strategically located railyard. “To support the current and future needs of Iron Horse Terminals and the region’s rapid expansion, this project will develop a web-based system,” said Maryam Hamidi, assistant professor of industrial engineering and lead on the project. “We’ll develop user-interface software using programming skills, database design and optimization techniques to increase efficiency. “Railyards are hubs of railroad transportation systems, which means they have complex operations,” said Hamidi. “The proposed software has the capability of serving multiple types of users with different levels of access and applications. It will store and aggregate all data including inbound and outbound radio-frequency identification readers and optimally assign railcars to tracks.”

This software will further visualize and generate the outbound car map/list for dispatchers and yard workers.”

The collaboration represents one of the College of Engineering’s critical strategic initiatives to increase and enhance industry-university partnerships and projects. “We are thrilled to have signed this partnership with Iron Horse Terminals,” said Brian Craig, dean of the College of Engineering. “This project represents the amazing capabilities of our faculty to enhance LU’s impact on the Southeast Texas region and our nation’s economy, while supporting the goals of the College of Engineering and the Center for Midstream Management and Science.”

On April 20, 2010, a blowout on the ultra-deepwater, semi-submersible offshore drilling rig, Deepwater Horizon, resulted in 11 fatalities, 17 nonfatal injuries, millions of barrels of oil spilled into the Gulf of Mexico and costs of more than $60 billion. The incident, the Deepwater Horizon tragedy, caused the largest marine spill in history and recentered the offshore oil and gas industry’s focus to safety.

Since the time of the incident, the National Academies of Sciences has awarded $7.25 million to eight projects aimed at advancing safety offshore. Through its partnership with the American Bureau of Shipping, Lamar University initiated a project to promote a culture of safety in the oil and gas industry and was one of the eight projects awarded funding. The National Academies of Sciences Gulf Research Program’s Safer Offshore granted $1,440,330 from Energy Systems Grants to LU and ABS. The partnership will develop an integrated, offshore energy industry, safety culture evaluation, benchmarking and improvement toolset.

The grant program supports projects that produce datasets, strategies and tools for measurement promoting a culture of safety in the offshore oil and gas industry. "Companies in high-hazard industries have learned that organizational factors have to do with not having a proper safety culture, failing to exhibit strong leadership to support the culture and not creating the consistent operational discipline at various organizational levels. Our project seeks to remedy these issues.”

"This project represents the amazing capabilities of our faculty to enhance LU’s impact on the Southeast Texas region and our nation’s economy." —Brian Craig

Continuously improve its health, safety and environment performance in a sustainable fashion,” said Craig. “It is critical for the industry to prevent tragedies, and, if we fall short, we have the responsibility to learn the critical lessons from our shortcomings and develop corrective actions to prevent occurrence and recurrence to protect our workers, environment and our nation’s economy.

“Companies in high-hazard industries have learned that organizational factors have been important contributors to major accidents;” said Craig. “Some of those organizational characteristics have to do with not having a proper safety culture, failing to exhibit strong leadership to support the culture and not creating the consistent operational discipline at various organizational levels. Our project seeks to remedy these issues.”

LU PARTNERS WITH IRON HORSE TERMINALS

by Shelly Vitanza

STRENGTHENING OFFSHORE SAFETY

by Shelly Vitanza

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Dancers Among Us, the first performance of its kind to be presented at LU, was a site-specific choreographic final project as part of the applied choreography class. The laboratory-style class allows students to actively engage in the creative process and present their works to the public. Working during a pandemic, the need to make the work more accessible and the challenge of finding new ways to connect to one another safely reigned. So Dancers Among Us took the audience on a walking journey across campus as they witnessed a variety of dance genres in multiple locations.

“As a class, we wanted to keep our dancers safe, but also reflect our creativity. Having the LU campus as our backdrop was a nice element,” said Amy Elizabeth, dance instructor for the department. “Spring 2021 found us with five second-year students and seven first-year students each tasked with completing a different assignment. The second years completely immersed themselves into the site-specific process while working with a small to large ensemble, while the first-year students worked introspectively to create solos to be presented in the round.”

Graduating seniors, Alexis Bertrand, Marissa Krutchinsky and Tyler Rooney took to the studio with topics of reflection. As their choreography was displayed, the audience was inspired and entertained through a lively hip hop dance that pushed one to see that the finish line to goals is never too far away. After the Fall, by Krutchinsky, showed her investigating her strength and will to keep going and growing with and for herself throughout her academic career and into her next journey. Rooney’s, There wasn’t a grand theatre. No bright spotlight, no stage. Instead, performers displayed the choreography of Dancers Among Us throughout the campus of Lamar University, and the dancers from the Department of Theatre and Dance proved once again they reign supreme in creativity during a pandemic.

Investigating topics of loneliness, seeking freedom from darkness, authenticity and accountability through self-evaluation as well as finding joy in everyday life even if it is elusive, the first-year solos covered a wide range of thought-provoking concepts that led them on individual journeys as young creators. Whether it be taking a stand for self, as Katie Medicis does in Consulting Contact, describing “the heaviest and most uncomfortable feeling... [whose] texture is disgustingly painful,” and Aaron McClendon in Psychogeography as he “became extremely vulnerable with himself and others to create the work,” or taking a stand for others as Neiyah Hethington does in The Struggle of Our Lives, addressing “the fight that any minority may be feeling as our country is in an uproar about inclusion and equality for all,” the young artists have genuinely pushed to produce a deeply investigated performance event with something for everyone.
Down to Earth sells herbal teas and natural bath and body products. The business believes in the use of herbs, essential oils and products only made from organically grown ingredients with no pesticides, artificial colorants or preservatives, or sulfates. Their best-selling product is their Palm-Free soaps, as the use of palm oil that is applied in so many products contributes to deforestation of rainforests.

“My personal favorite product would have to be our lavender and rosemary shampoo and conditioner, which are in dispensers for refills,” said Nguyen. “We promote recycling and sustainability.”

Using herbal teas as an example, Nguyen describes the process of research when it comes to conceptualizing her products as “ongoing.” For instance, she’s enrolled in herology courses and read a plethora of books and even textbooks in researching the benefits of different herbs to how hot water should be made for different tea leaves. As a result of the pandemic, more and more research is being made available regarding different herbal remedies that aid in relieving the symptoms of COVID-19.

“Down to Earth products—about 85% of the products carried in the shop—are hand-made right at our Nederland location,” said Nguyen. “A lot of love and time is taken to make each and every bar of soap, bath bomb and herbal mixture for tea. We also carry a vast array of one-of-a-kind pieces of art, jewelry and metaphysical products created by local artists and artisans. Funded purely off the strength of the combined income of Nguyen and her business partner, without loans or outside assistance, their Nederland location was found and rented in July of 2011. Research and trials of products were conducted—such as taste-testing herbal teas to make sure the taste was acceptable along with its herbal benefits—before the doors officially opened in September later that year. Following an entire month of working to stock and furnish the shop.

“The knowledge I received with my B.S. in biology helped me understand the physical human body and how different chemicals affect the body,” said Nguyen. “What I took with me from LU, I use every day at my shop, the knowledge from advanced physiology, botany, organic chemistry, and of course my business courses.”

Nguyen also believes her time at LU prepared her for life outside of college. Her relationships with her professors gave her experience working with management at Target. She attributes her ability to change, be flexible, have an open mind to recognize hidden opportunities and challenge herself to her experiences during her years at LU.

“Some might say that the working world is different than going to college, but that is not the case for me,” said Nguyen. “Professor Ana Christensen gave me the courage to continue and challenge myself through one of my hardest semesters due to the death of a family member. To this day, I can hear her voice and still remember her lectures.”

Down to Earth’s Beaumont location came in 2015, after Nguyen realized most Beaumont residents didn’t need to travel out of Beaumont to enjoy events, great restaurants or boutiques. Having lived in Beaumont since 1994, the possibility of capturing a whole new set of customers in a city she already knew so well sealed the idea for Nguyen. Although the Beaumont location required more leg work to start up, from inspections to multiple visits downtown before the shop could be opened, July 2015 saw the arrival of Beaumont’s first modern-day apothecary.

“My favorite part of owning a business is the relationships I get to make every day,” said Nguyen. “Relationships with my customers, my team—we’re like a family—and other local business owners. Being able to give back to the community along with other business owners is so rewarding.”

According to Nguyen, the most difficult part of owning a local business is trying to capture customers that aren’t specifically in her niche. When Down to Earth first emerged onto the scene, they didn’t have a marketing fund, so Facebook and word of mouth were the only marketing tools used to advertise at the time.

“We cater to those that are into healthy and natural products and alternative medicine,” said Nguyen. “It took time to be able to bring others to trust and understand the services we offer.”

Like many other business owners across Texas, the most notable obstacle she’s faced thus far was in 2020 during the COVID-19 pandemic. The survival of Down To Earth during this time stemmed from their understanding of alternative methods of generating profit, such as online sales, curbside pick-up and similar services not offered before, or were not readily utilized before he pandemic.

As it stands today, Nguyen and Down to Earth have come a long way from tea tasting trials and bath bombs that look like cow patties. Through the trials and woes that present themselves to entrepreneurs at one point or another during their journey, Nguyen persevered as a result of her research, experience and conviction. When she’s not busy operating her two locations, she’s spending time with her three daughters, Alice (5), Adelaide (4) and Zion (3), and her husband, Jordan Stanley ‘11. She enjoys reading, doing crafts, knitting and is a big foodie.

“My advice for future entrepreneurs is to always keep learning,” said Nguyen. “Take what you learned from school and then continue to build relationships with local entrepreneurs and learn from each other. The commitment you have already successfully accomplished by graduating from Lamar University should be a grand indicator that you will succeed if you commit.”
Lamar University is one of seven university teams chosen to participate with NASA in developing innovative design ideas that will help NASA advance and execute its Artemis program objectives.

The selections are a part of the 2021 Moon to Mars Exploration Systems and Habitation Academic Innovation Challenge, sponsored by NASA’s Advanced Exploration Systems division and in partnership with the National Space Grant Foundation. A team at Lamar University was awarded a $49,000 grant to design an electric excavator arm for lunar mining and construction, which prototype initiating in late May 2021. Graduate Kevin Peterson began thinking about this in his junior year. “I am a big space nerd,” he said. “If I was not about the falling launch costs enabling a more permanent human presence,” said Peterson “I would be more interested in that.”

Even prior to learning of the NASA challenge and grant, Peterson had been researching ways to help humans move around and mine for minerals and water on the Moon. In his research, he found propelling devices with hydraulic seals not feasible in extreme temperature and vacuum pressure of the Moon. He daydreamed about a way to build a piece of equipment, mulling over various methods of implementing the idea into a useful demo. A few of the requirements for space compatibility make the project even more challenging. “Each pulley assembly needs to operate with a single motor, but be bidirectional. There needs to be a rigid structure to get a pulley to ‘push’ with flexible cables rather than pull, and have long extension and retraction capabilities, while controlling the significant forces at play and keeping the design compact,” said Peterson. “As a student I don’t have the means to build a full-sized test piece, so it was going to be purely on paper until I found the grant.”

In early April, Peterson’s dreams took flight. “Purely on paper until I found the grant.” said Peterson. “As a student I don’t have the means to build a full-sized test piece, so it was going to be purely on paper until I found the grant.”

“During the standard boring first week of review in one of my classes, it hit me that hydraulic systems work, effectively, the same as pulleys,” said Peterson. “They both utilize a smaller force over a longer distance to enact a large force over a short distance. On the surface, that seems like a ‘duh’ moment, but I think most people think of hydraulics as a pressure-based system rather than a displacement-based system.”

From that eureka moment, Peterson worked on the core idea of a piece of equipment, mulling over various methods of implementing the idea into a useful demo. A few of the requirements for space compatibility make the project even more challenging. “Each pulley assembly needs to operate with a single motor, but be bidirectional. There needs to be a rigid structure to get a pulley to ‘push’ with flexible cables rather than pull, and have long extension and retraction capabilities, while controlling the significant forces at play and keeping the design compact,” said Peterson. “As a student I don’t have the means to build a full-sized test piece, so it was going to be purely on paper until I found the grant.”

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Although the proposal was not feasible in extreme temperature and vacuum pressure of the Moon, he realized that the significant forces at play and keeping the design compact, said Peterson. “As a student I don’t have the means to build a full-sized test piece, so it was going to be purely on paper until I found the grant.”

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“I feel as honored and humbled because I remember being at LU and going up those stairs in the College of Business and seeing all of the pictures of the Hall of Fame people of the generations before, and now I am one of them,” said Daniels. “I got into Rice and all the other places, but I wanted to go to Lamar. I’ve always been proud to be a Cardinal.”

Daniels is owner and president of Daniels Building & Construction, a multi-generational company founded in 1957. She has worked in all facets of the company. Daniels served as the executive vice president and CFO until 2013, when she became sole owner and president. The company has built notable landmarks across Southeast Texas and Southwest Louisiana, including Ford Arena, Christus Brazos & Joint Tax District Travel Center and numerous educational facilities such as the Lumberton FEMA Dome, Performing Arts Center and Lamar State College Port Arthur Multi-Purpose Building.
Voices literary magazine of Midwestern State University in Wichita Falls, Texas, has awarded graduate student Paola Brinkley first place President's Award in creative poetry writing.

Brinkley, who is pursuing her M.A. in English, submitted the poem at the behest of Katherine Hoerth, an instructor in the Department of English and Modern Languages.

Brinkley wrote the winning poem, "To the Stranger and Andy’s Frozen Custard," in her poetry class in fall 2019 in response to one of the prompts given in class, but the inspiration for the poem came from Brinkley’s high school days in Nome, Texas. It was a tradition for her high school band to go to Andy’s Frozen Custard the night before the Area Band Contest in Tyler, Texas.

"The contest is always held in the second week of January, the worst possible time for eating frozen custard," said Brinkley. "I remember shivering in my jacket, my fingers becoming numb from the frozen custard, but this did not stop me from enjoying this delicacy.

The employees seemed to judge us, ten kids and two band directors at nine o’clock at night, disobeying the laws of season, frolicking as if the cold did not bother us. This memory is so senescent, which is why it has stuck with me."
A lumina Lyndsey Brantley ’08 describes herself as a “small-town island girl who came to LU with big dreams.” Originally from Galveston, Brantley graduated from high school and wanted to find a school near her hometown that would allow her to earn a degree in civil engineering. “Lamar University gave me the support and scholarships that I needed to start my career,” Brantley explains. “I loved the program, loved the teachers and loved my advisors.”

Brantley's memories of her time at LU include studying with her engineering partners, spending time with friends in the Setzer Student Center and making lifelong friends in her sorority, Alpha Kappa Alpha. “I still meet with some of my sorority friends every week,” she says. “But I think my most favorite LU memory was meeting my husband on my very first day on campus.”

Brantley met her husband-to-be on move-in day for freshmen, when fraternity members help incoming freshmen move into residence halls. “He was part of the group that helped me move in,” she recalls. “He was a senior when I was a freshman. Seventeen years later, we are happily married, have one son and are proud love bird alumni.”

After graduating from LU in 2008 with a degree in civil engineering, Brantley went to work in corporate engineering. “I quickly went back to work in engineering and used my income to fund my beauty endeavors,” she explains. “My engineering career lasted more than a decade, but my skin care line was my passion and eventually became enough to sustain me full time.”

It was Brantley’s own struggles with sensitive skin and ingrown hairs that resulted from polycystic ovary syndrome that led to the debut of her skincare line, Camellia Alise, in 2016. All of Camellia Alise’s products are alcohol, paraben, gluten and sulfate free and all natural. “I formulated natural skincare products that I wanted to provide a product that could be used by everyone and help give them skin that they can be proud of.”

In 2017, Brantley opened her own skin care and beauty training facility to teach others how to perform specific spa services, including infrared detox, facial care and more. “I loved the program, loved the teachers and loved my advisors.”

In terms of her career so far, Brantley is most proud of being able to empower others. “That has always been my major goal,” she explains. “I am dedicated to empowering other budding entrepreneurs. I learned this at LU, where I was given many opportunities to mentor those young engineers coming in behind me.”

Ultimately, her goal is to own five different spas in five different states, and to continue to grow her business’s profitability. “In addition, I'm hoping that I can find balance,” she explains. “I want the business to be self-sustaining, so I can find balance between my work and life.”

For future entrepreneurs, Brantley offers the following advice. “Don’t be afraid to explore things,” she concludes. “Try things to figure out if they are the right fit for you. Be sure to do your research. You may not know everything every step of the way, but you’ll need to have an idea. I did my research before I picked LU, and that definitely paid off. Go for it, but be sure you do that research.”

“I am now living my big dreams,” Brantley smiles. “I am now a mom, a wife and an entrepreneur. I am trying to change the world one person at a time.”

For more information about Camellia Alise, visit camellialise.com or visit the spa location at 3315 Southmore Boulevard in Houston. Follow Camellia Alise at facebook.com/CamelliaAlise or @camellialise on Twitter and Instagram.
Qiang Xu named 2020 College remembers both acting director of the LU and renowned paleontologist.

**COLLEGE SNAPSHOT:**

Pandemic, the conference was cancelled and it gave me invaluable lessons learned so much about what the biggest event in my career hearing other students from research, LU students appreciated experience presenting, sharing their determination to continue research being conducted across Overall, I enjoyed learning about presentation was well-received of Triaxial Braid Composites select few students from across the competitive event inviting a Research Symposium is a annual event. were selected to participate in the prestigious Gulf Coast Undergraduate Research Symposium hosted by Rice University Oct. 31, Dylan Palomer and Daniel Qalipa, both mechanical engineering students, were selected to participate in the annual event.

"We are very proud of their participation and the high marks they received from Rice University’s faculty," said Cleistian Bahile, acting director of the LU Office of Undergraduate Research and physics professor.

The Gulf Coast Undergraduate Research Symposium is a competitive event inviting a select few students from across the country.

"The talk I presented was about the ‘Mesoecological Characterization of Triaxial Braided Composites Fabric with Yarn Angle Variations,’" said Qalipa. "My presentation was well received and the chair of the judging with the audience members. Overall, I enjoyed learning about research being conducted across the country. With the high-quality work presented by the student presenters, they inspired me by their determination to continue their work during the conference."

In addition to gaining experience presenting, sharing research for valuable input and hearing responses to their research, LU students appreciated hearing other students from around the country presenting and discussing their research. "Participating in GCURS was the biggest event in my career thus far, and it was an incredible experience," said Palomer, who learned so much about what other researchers were doing and it gave me invaluable lessons for improving my own work. Because of the COVID-19 pandemic, the conference was held virtually for the first time in its 12-year history.

**James Henry awarded funding, donations for industry research**

The Center for Operator Performance has awarded James Henry, assistant professor of chemical engineering, a total of $141,027 for research related to the workflow of machine operators. To facilitate the research, Emerson Automation Solutions has donated a simulated control and related software.

COF is a consortium of U.S. industry and academic research groups that focus on human factors in engineering, awarded Henry $57,404 for his proposal titled "Effect of Action Demand Load on Operator Response Time and Accuracy." The research will identify the optimal amount of work load for machine operators, so that they neither become bored nor less responsive or overwhelmed.

There is a lot of focus on the negative effects at the high-end of the work load," Henry said. "There is less evidence about the effects of having too little work to keep our minds occupied or on task."

Henry received an additional $83,623 of funding for a separate proposal, "The Effect of Advanced Process Control on the Degradation of Process Knowledge." The research will seek to determine how much operator knowledge and skills are lost when companies implement the advanced process control, an automated process machine. Henry hopes to discern how much skill atrophy occurs when automated systems are used and to establish best practices to help operators keep their skillset intact.

For both studies, Henry intends to recruit student volunteers who will use the Emerson Automation Solutions simulation equipment to approximate the workflow environment of process operators. ‘The main challenge of this project was in designing the simulator and having it function realistically enough to really mimic the work of an operator," explained Henry. "With this donation, we can start with an entire testing platform already in place."

Once the tools are in place, Henry will begin training students on many of the tasks frequently used by operators. "Using the simulations, we can teach the students many of the relevant skills and then see how quick and accurate their response time is in different scenarios," he said. "We also should be able to see how well students recall those skills when they don’t use them for a period of time."

"This is a great example of how industry can drive research by letting us know where they need answers and knowledge," he said. "And the location of LU makes us very attractive to this industry for this type of collaboration."

**Cardinal remembers**

Kendrick Aung was named 2020 Cardinal of the Year. Aung is a well respected and beloved mechanical engineering professor who served as interim department head from August 2015 to June 2020. Aung has been a professor in the College of Engineering for more than 15 years and is well respected for his dedication to teaching and mentoring students.

Aung was a well-respected and beloved mechanical engineering professor who served as interim department head from August 2015 to June 2020. He was a gifted teacher, as well as a dedicated academic who devoted himself to teaching and mentoring students. Aung was an exceptional mentor who was dedicated to students and their success. He was always enthusiastic about his work with students and his research.

Virtual career fair draws hundreds of students

Virtual career fair draws hundreds of students.

In response to COVID-19 concerns, the College of Engineering hosted its first virtual career fair for students. More than 100 recruiters attended the event, as did students from across the country.

"I am very encouraged by the participation of both students and recruiters," said James Henry, assistant professor of chemical engineering. "I strongly encourage LU students to participate in these virtual fairs and to use them as an opportunity to network with potential employers."

**Westgate, students explore badlands**

A s LU paleontologists have recovered fossil evidence suggesting Utah’s semi-arid badlands were once a tropical rain forest when the climate was much warmer than it is today. The team received a National Science Foundation three-year grant for approximately $764,000. The grant funds a multi-university collaborative project, titled ‘Collaborative Research: After the Bridgerian Crash: An Integrated Analysis of Mammalian Paleocommunities and Paleoclimatology During the Middle Eocene’ to excavate and study 40-million-year-old mammal and associated reptile fossils in the Uinta Basin near Vernal, Utah. James Westgate, Regents’ Professor Emeritus of Earth and Space Sciences, has been working with the team to secure the grant for the past eight years. He and several students have explored the 40-million-year-old Uinta Formation’s exposed badlands southeast of Vernal, Utah, as well as the tropical rain forest at Tortuguero, Costa Rica, to compare the two regions.

“One preliminary evidence indicates that 40 million years ago, global climates were much warmer than today’s and Utah’s Uinta Basin was home to a tropical rain forest inhabited by a diverse mammalian community including tarsier primates and mouselike mammals, similar to today’s tropical rain forests,” said Westgate. “Mammals fossils we have recovered suggest that a tropical rain forest existed in northeast Utah during deposition of the Uinta formation.”

The research team is comprised of paleontologists from Lamar University, Midwestern University, UCLA, San Diego Museum of Natural History, Grand Valley State University and Rochester Museum & Science Center. The grant budget includes funding for two LU students to serve as field assistants during three summers.

“The funding from NSF will allow us to conduct the first comprehensive study of the fauna and flora of the Uinta Formation including mammals, reptiles, fish and plants which lived during a time of global warming,” said Westgate.

“The fossil mammals from the Uinta Formation are the type community for the Uintan North American Land Mammal Age and are used throughout North America to date mammal communities that lived here between 40-60 million years ago. We also have funding to send samples to a lab to get the first Uinta Formation radiometric dates using uranium-bisecuring zircon sand grains.”

Select student teams have been assisting Westgate in palaeontological research on Uintan age fossils since 2007 at an important micro-mammal (rabbit-size and smaller mammals) site called “The pond site.” These teams have helped to quarry 38 tons of claystone and screen-washed it, recovering all objects larger than 1 mm in diameter. To date, about 1,000 complete mammal molars and thousands of fish and reptile specimens have been recovered.

“Project is especially important to LU’s undergraduate majors because it gives them real-world research experience in the field and a chance to present discoveries at scientific conferences,” said Westgate.

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**Westgate, students explore badlands**

by Shelly Vitanza

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**Paleontology field assistant after completing a geology field survey of the Uinta Basin by driving through Salt Flat Mountain Road on the North Road from north to south near Bighorn Park, Dixie Flats 19 and Money Creek.**

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**Paleontology field assistant after completing a geology field survey of the Uinta Basin by driving through Salt Flat Mountain Road on the North Road from north to south near Bighorn Park, Dixie Flats 19 and Money Creek.**
by Shelly Vitanza

V maya Manchaiah, Jo Mayo Endowed Professor in Speech and Hearing Sciences, joins a national team that has designed hearing aids costing less than a dollar. Manchaiah was invited to join the research initiative because of his work to develop and test accessible and affordable solutions to people with hearing loss and tinnitus.

Aimed at helping millions of older people worldwide who suffer from moderate age-related hearing loss, the research team has developed an ultra-low-cost, proof-of-concept device known as LoCHAid. Made from a dollar’s worth of open-source parts and a 3D printed case, LoCHAid looks like wearable music players and are expected to meet World Health Organization requirements for hearing aids.

“My work focuses on developing and testing accessible and affordable solutions to people with hearing loss and tinnitus,” said Manchaiah.

As co-founder of the Global Audiology Initiative, Manchaiah has worked to develop hearing solutions for people worldwide. M. Saad Bhula of the School of Chemical and Biomolecular Engineering at Georgia Institute of Technology contacted him to work collaboratively to develop affordable hearing aids because of his renowned contributions in the field of audiology. “I provided input in refining the hearing aid based on accessible characteristics to meet the needs specific to age-related hearing loss,” said Manchaiah. “We tested multiple prototype devices in our lab for various acoustic characteristics—gain, frequency response, distortion, internal noise—and benchmarked them against the standards. This helped provide feedback to engineers who were building a device with optimized acoustic properties.”

Manchaiah said the published results in the journal PLOS ONE are based on lab studies. The researchers now have approval to perform clinical trials which will be conducted at Latar University, in India and in Malawi.

The hearing aids researchers soldered together in the lab that only cost $0.84 to manufacture (not including assembly and distribution costs), are larger than most manufactured hearing aids, have an expected lifetime of a year and a half and don’t have the ability to adjust frequency.

The researchers are now working on a smaller version that will increase the cost to $4 and require sophisticated manufacturing.

“This initiative is based on ‘frugal science’ principles,” said Manchaiah. “The project demonstrates that we can develop low-cost solutions with good acoustic quality benefiting those who are underserved.”

“The project demonstrates that we can develop low-cost solutions with good acoustic quality benefiting those who are underserved.” —Vinaya Manchaiah

Cognitive Behavioral Therapy for Tinnitus

Beukes and Manchaiah co-authored tinnitus book

The Department of Speech and Hearing Sciences is pleased to announce the 2021 publication of Cognitive Behavioral Therapy for Tinnitus by Plural Publishing Inc. The book was written in part by Elda Beukes, a graduate student and post-doctoral researcher in the department, and Vinaya Manchaiah, a Mayo Medical Professor of Speech and Hearing Sciences. Cognitive Behavioral Therapy for Tinnitus is the first book to provide comprehensive cognitive behavioral therapy training materials specifically developed for the management of tinnitus.

Tinnitus is a perception of sound (ringing, buzzing, etc.) in the ear or head. It is a problem for perhaps 50 million Americans adults, experiencing tinnitus. While there is little known for tinnitus, CBT therapy can offer an effective strategy for managing the symptoms and side effects associated with this chronic condition.

“For some, having tinnitus can be very distressing. Not everyone is aware that this condition based solutions treatments can be very helpful in the aid of better managing tinnitus and the associated problems. Cognitive behavioral therapy is the intervention with the most evidence of effectiveness but is not always accessible or available,” said Beukes. “The idea behind the book is to provide an easy-to-follow program for professionals to use and to provide the needed self-help treatment.”

Beukes and Manchaiah share their expertise in the treatment of tinnitus, based on their own experience of hearing loss and tinnitus. Their readers are provided with a comprehensive guide on the treatment of tinnitus. This book is the first book to provide comprehensive cognitive behavioral therapy training materials specifically developed for the management of tinnitus.

The theme for this year’s event was Breaking the Glass Ceiling: Excellence and Beyond. Belachia Wallace, principal attorney and mediator at the Wallace Law Firm, delivered the keynote.

Dyrhaug’s sculpture on display at Redbud Gallery

Kurt Dyrhaug, professor in the Department of Art and Design, was accepted to the 2021 Texas Sculpture Group Juried Exhibition. His sculpture, “Großer Flügel #262,” was included as part of On the Bayou Texas Sculpture Exhibition juried by Tanja Peterson from Berlin, Germany, and on display Jan. 16 to Feb. 23 at the Redbud Gallery in Houston.

New uniforms for the Showcase of Southeast Texas

The Showcase of Southeast Texas is getting new uniforms in 2021! The marching band is delighted to again perform with the FedEx Miller Company. After 11 successful seasons in the original Showcase uniforms, the LJ Marching Band is updating its look and functionality. Many thanks to the dean of the College of Fine Arts and Communication, Darla Holthausen, and Mary Morgan Meany Department of Music Chair Brian Shook for their support.

Notable differences are the interlocking LJ logo, new color fade on the jocket fronts to help the “L” pop more, silver trim on the jacket’s “L” and white gauntlets, the removal of the shoulder wings, new silver form of the shakos and a second set of black gauntlets and plumes to give a “dark option.”

The drum majors will have two jacket options: 1) gray with color fade and the red, black and white interlocking LJ; and 2) all black with the red, black and white interlocking LJ. The students will also be acquiring a set of pink plumes to further show our support for the Susan G. Komen initiative for the fight against breast cancer (and all cancer).
Lian named Faculty Mentor of the Year

by Shelly Vitanza

In 2020, associate professor of biology Ian Lian became the sixth faculty member to be awarded the Office of Undergraduate Research’s most prestigious award, Faculty Mentor of the Year.

Lian, one of five faculty members nominated for the honor, was selected for his continuous support of undergraduate students in their research efforts, including publishing research, attending conferences and meetings, and contributing to students’ overall professional development.

“It was honored to be nominated by my colleague for the award and was pleasantly surprised to receive it,” Lian said. “It’s definitely a highlight of my professional career.”

His support of undergraduate research is personal. It was pivotal for him as an undergraduate student at the University of California at San Diego. In fact, he sought employment at a university that promoted undergraduate research so he could create similar environments for his own students.

“One of the main reasons I joined LU is its unique balance in teaching and research, which allows me to conduct research and pass on this experience to the students through mentoring activities,” Lian said.

During his years at LU, Lian and his undergraduate apprentices are regular participants at the highly selective Gulf Coast Undergraduate Research Symposium organized at Rice University. He has trained Beck Fellows and McNair Scholars. One of his research groups was selected to participate at the prestigious 2015 Posters on the Hill event hosted by the Council of Undergraduate Research at Capitol Hill in Washington, D.C. Lamar University students have been selected to participate in this event only three times in the history of this event.

“Dr. Lian has inspired many students to achieve great academic performances,” said Cristian Bahrim, professor of physics and director of the Office of Undergraduate Research.

“Without any hesitation, I can say Dr. Lian is one of the finest faculty mentors Lamar University has ever had. I am very happy that he received this high recognition from the advisory board members of the Office of Undergraduate Research.”

And Lian’s research and mentoring efforts continue. One of his current research focuses is on the characterization of metastatic potentials of cancer cells by establishing novel biomechanical markers. Two of his undergraduate students, now graduates—Nicolas Nikotloutsos ’18 and Tyler Nelson ’17, 20—have been involved in this project, which has resulted in two separate peer-review papers. “Both students were co-authors on these papers,” said Lian. “Considering that many graduate student’s theses are not publishable at such a professional level, even at the master’s level, I believe it’s a significant achievement for Lamar University’s undergraduate research effort.”

Nelson was accepted into the Doctor of Philosophy program in the Rice University Applied Physics graduate program as a full-time student beginning in the fall semester of 2020 as a direct result of his undergraduate research with Lian.

While pursuing a double major in biology and in mechanical engineering, Nelson began working in Lian’s research lab.

A grant to support research to create cell scaffolding for human cell culturing.

“This ended up working in Dr. Lian’s lab for the rest of my biology degree and for most of my mechanical engineering degree,” said Nelson. “There, I discovered how much I enjoy research and learned about experiment design and how a research lab operates.”

In 2019-20, Nelson ran a successful project sponsored by the Office of Undergraduate Research titled “Development of 3D Printed Substrate for ß-Islet Cell Culturing.” The project addressed the need to grow efficiently the ß-islet cells for Type 1 diabetes. Nelson and Lian proposed to use of 3D-printed plastics substrates for allowing ß-Islet cells to grow more densely and vigorously.

“Without any hesitation, I can say Dr. Lian is one of the finest faculty mentors Lamar University has ever had.”

—Cristian Bahrim

While working with Lian on his research projects, Nelson expressed his interest in pursuing a graduate degree in biophysics and bioengineering. Lian then helped Nelson attain his next opportunity at Rice University.

“Since we have an existing collaboration with Ching-Hwa Kiang’s lab at Rice University, I arranged to have Tyler working at her lab as a visiting student to characterize the biomechanical forces on various cancer cells using atomic force microscopy,” said Lian.
Q: How has your art been shaped as a Deaf person?

A: My family is hearing, but they learned sign language and have advocated my Deaf identity since I was very young. They were very supportive of ASL, access and equality for education. Because of them, I graduated in the top 8% of my 400-person class with honors. In addition, I was voted into the top 20 outstanding seniors of my class. My family allowed me to engage in so many meaningful Deaf events since I was young. We traveled to Gallaudet University, a private university in Washington, D.C., for the education of the deaf and hard of hearing, together for a parent and children program. I was too young to remember the event, but I remember standing in front of the Thomas Gallaudet and Alice Cogswell's statue as my dad explained the history of Deaf Education in America to me. I engaged in many Deaf camps, I volunteered for many Deaf events, and I've led and coordinated many events for the Deaf. I adore Deaf culture. I cannot live without it. If I did not have ASL nor Deaf culture, I don't think I would be able to define who I am.

Q: How has this influenced your art?

A: It has influenced my art greatly. I've been drawing and painting since I was an infant. I have a lot of art pieces that represent Deaf pride, our history and our struggles with audism, a form of discrimination where hearing people think they are superior to us and hearing is required to function in society. Other than Deaf art, I love nature and doing portraits of people. I own an art studio called Peacock Hand Studio. I love creating art pieces to inspire people. You can view my artwork at facebook.com /PeacockHandStudio.

Q: How did you become involved in Sign Light Films?

A: Daymond Sands, a Deaf person who owns an online TV show called Click Click and Crop, invited me on the show during his second season. I was supporting the Black Lives Matter movement by offering free art pieces to Black Deaf people for a short period of time. He is a Black Deaf person and saw the opportunity to include one of my art pieces as a prize for a contestant winner on his show and to interview me. While I was at the premiere, I ran into his filmmaker, Paul Andreaschik. Somewhere Paul and I became friends. One day, we were all sitting in a small group chatting about how we wanted to inspire people during the pandemic. We wanted to create inspirational movies. I helped with various film projects here and there. Then, I ended up being the director and producer of the film. Do You Believe? I worked alongside Paul Andreaschik, our other movie producer and filmmaker and Isaiah Willis, our other director. They both helped me to make the film. Through this journey, I discovered that I BURN for films and bringing access to ASL onto the screen for my people. I couldn't go back. Sign Light Films took notice of my talents and invited me to become chief administrative officer in their film organization. I will be making more films as a movie producer and director. In addition, I may engage as an actor in Sign Light Films movies and hopefully other film projects. For example, I decided to enroll into Click Click and Crop as a model for their third season. I was selected and are invited on the show to model as a cosplay actor. The TV show will be released Sept. 25 and will be broadcast live.

Q: What is the importance of seeing Deaf actors in a Deaf movie?

A: I cannot stress enough how important it is to see authentic representation in the film industry. Often, hearing actors are not native users of ASL, nor do they truly understand the Deaf experience. Therefore, their performance on the screen is misleading and botches the beauty of ASL Deaf people bring authenticity to the screen. In addition, they are very capable of contributing to society. Therefore, I urge more film companies to hire Deaf actors instead of only Deaf actors but movie producers, directors, filmmakers, script writers and so on. We bring a whole new perspective to the screen.

Q: What have been some of the challenges of being a Deaf movie producer and director?

A: First, there are only a few known Deaf movie producers and directors in the nation. It is difficult for a Deaf person to navigate the film-making industry. There are not many people who believe that a Deaf person can be educated and stand out as a leader. Luckily, I worked with a cast and crew comprised of a large amount of Deaf people. In addition, the hearing members were fluent in ASL so they didn't create issues for me. However, we would love to have more sponsorship from other hearing organizations.

Q: What do you teach?

A: I taught ASL at the high school level for six years. However, I recently graduated with my master's degree in teaching ASL from the University of Northern Colorado and have been recently hired to teach at a college campus. I am moving on to teaching college students!

Q: Do you have any upcoming Deaf projects?

A: Yes! My participation in Deaf projects will never stop! I am the secretary for the Deaf Celebration Committee, which attracts approximately 2,000 members and vendors from the Deaf Community across Texas. Q Jones, a famous Deaf actor and comedian will be our guest star at the 2022 event. While I will help Sign Light Films with countless films, I am currently assigned to two film projects as a film director and producer.

Q: How did your time at LU prepare you for your professional journey?

A: I could have not done it without my ASL professors and interpreters who shared wisdom and advice with me. I am eternally grateful to them. I worked as a part-time ASL tutor in the Deaf Studies and Deaf Education Department. This job provided me work ethics and skills. I engaged in so many Lamar Deaf and ASL events and developed a strong sense of social skills and community networking for life. In addition, I am grateful for my time where I served as an officer for Signing Cardinal ASL club for four consecutive years. I also served as a Student Government Association representative and as president during fall 2015 and was re-elected the next spring semester. During my second president term, my officers and I organized a large event to premiere an ASL film, In the Can, and it packed the science auditorium on campus. At the end of my presidency term, I met CJ Jones, a famous deaf actor and comedian and introduced him to our campus. Signing Cardinal president at that time. We put together another event featuring Jones that packed the science auditorium on campus as well.

During my last semester at Lamar University, I left for student teaching. I am grateful for all those workshops that the Deaf Studies and Deaf Education department offered. I was able to be a part of local community workshops such as Texas Society Interpreter for the Deaf in Beaumont. All those various things provided me the tools that I needed to engage in teaching and as a movie producer and director.

Q: Anything else you want to share?

A: I could not have done this film without my amazing cast and crew. In addition to Paul and Micah, I want to thank our deaf make-up artist, Brittany Hawthorne, and our deaf hairstylist, Oscar Roman Alonso for doing an amazing job on the make-up for Jesus. I want to thank Jose Contras, our light director, and our main actor, Azriel BuPerry for capturing the role of Jesus well. In addition, I want to thank our other main actors. Ryan Sima, a Deaf person who played the role of Peter, and James Martinez, a child of a deaf adult who played the role of John. I want to give a BIG thank you to all my cast and crew. Without you, we couldn't have done this. We couldn't have done this without you guys!

For more information on Sign Light Films or to view Do You Believe?, please visit signlightfilms.org.
Students connect with long-term care residents
by Shelly Vitanza

Elizabeth Long, an assistant professor in the Joanne Guy Dolman School of Nursing who coordinates community-based service learning, and student and project coordinator Makayla Brown ‘21 organized a 10-week project last May called Cardinals CARE (Cardinals Adopt Residents for Engagement) with a two-fold mission. The program connected residents in long-term care facilities with nursing students and provided those students with required community-based service learning hours prevented because of stay-home/stay safe parameters. The project was so well received by the residents, long-term care facilities and student, it was extended into the fall 2020 and spring 2021 semesters.

For more than a year, no visitors or non-medical personnel were allowed in long-term care facilities, and residents were isolated in their rooms away from other residents. As a certified geriatric nurse practitioner, Long strives to be an advocate or a voice for older adults. “As a gerontological nurse educator, I have the opportunity to guide future nurses and nurse peers by advocating for older adults through education and practice. Helping to bridge gaps and gain knowledge and application of evidence-based practice in the care of older adults promotes improved outcomes and experiences for older adults,” she said. Last October, the National Heart Center of Gerontological Nursing Excellence awarded Long the Distinguished Educator in Gerontological Nursing Award, recognizing her leadership as a nurse educator working with students, faculty, providers and older people in diverse settings.

“Loneliness and social isolation was an issue for many older adults prior to the pandemic, both in long-term care and in the community. The pandemic has compounded the issue,” Long said. As more people are vaccinated and the numbers of COVID-19 cases are declining, long-term care facilities are starting to open up to increased visitations although there are still some limitations.

More than 200 students and about 30 residents in 13 different long-term care facilities and more than 900 nursing home residents across the Golden Triangle during the last year. Some students were assigned up to 10 patients to send letters, inspirational messages, artwork and more to brighten the patient’s day and keep them company. To maintain privacy, facilities assign each resident a number, which is then provided to the letter writers.

Each resident also received a self-addressed envelope so those who choose to can share their name and with restrictions lifting, have an opportunity for face-to-face meetings. Some students received responses back and continue to interact with their resident post-graduation.

“I wanted to make an impact on our community and be able to show others what it means to simply care for those who need it most,” said Brown. “As future nurses, we are born with the desire to care for others. I believe this project is impacting me just as much as it’s impacting the residents.”

After graduation, Brown began her career as an ICU nurse and believes everyone needs someone to be there for them. “Many of these residents did not have anyone to talk to,” she said. “A simple positive message can really change someone’s day. Your words carry a major impact, so why not use them to make other people smile? You never know what someone is going through, and you could potentially turn someone’s day around. Making one person smile can change the world. Maybe not the whole world, but our students received responses back and continue to interact with their resident post-graduation.

“I wanted to make an impact on our community and be able to show others what it means to simply care for those who need it most.”

—Makayla Brown ‘21

Troclair represents association of gifted Debbie Troclair, a member of the board of directors for the Council of Exceptional Children/The Association of the Gifted, represented the organization at its 2020 convention and expo in Portland, Ore., last February. Troclair, associate professor of educational leadership, also presented two sessions, “If I’m So Smart, why do I ____?” and “An Analysis of the 2e Literature: What We Know About 2e Students.” Additionally, as a member of the diversity committee for the council, she and other board members published an updated resource. “A Critical Call to Action: Supporting Equity, Diversity and Access for Gifted Students” from a panel presentation at phiDEL 2019, the annual conference of the Texas Association for the Gifted. The call-to-action document is a resource for educational administrators to help ensure that the gifted programs in their districts respond to the needs of underrepresented gifted student populations. Troclair also was invited to develop and facilitate an online professional development seminar with Eleonore van Gerven of The Netherlands titled “Bibliotherapy for Gifted Learners,” for graduate students in her July 2020 teacher training program.
Lamar University has expanded its Department of Chemical Engineering, and a new professor and chairperson, Thomas Kalb, director of the LU Center for Midstream Management and Science, said Thomas Kalb, director of the LU Center for Midstream Management and Science. This allows us to expand the curriculum and add new courses, creating more opportunities for students to specialize in areas that align with the needs of the industry.

Lamar University has also established a new position for Lou Casson, an industry leader in corrosion technology, to help bring intuitive training solutions to operators. "This is a great opportunity for Lou to use his expertise to help bring innovative solutions to the industry," said Dr. Dirk van Oostendorp, an industry leader in corrosion technology.

"We have been actively planning and preparing for this expansion, and we are excited to offer students more opportunities for hands-on learning and industry-specific courses," said Diane Clark, chair of the LU's Department of Deaf Studies and Deaf Education. "With the expansion of our engineering programs, we will be able to attract more students and provide them with the skills and knowledge they need to succeed in the field of midstream.

The expansion of the Gulf Coast Regional Center of Innovation and Development and Education, Lou was a board member and was passionate about fostering innovation and collaboration. The challenging problems facing technology innovations, commercialization, education and training are of great importance to me, and I am confident that our new programs will help solve those problems.

"I am excited about the opportunities this expansion provides for our students and the industry, and I am confident that we will be able to make a significant impact on the future of the midstream industry," said Tom Plett, dean of the College of Engineering, Science, and Technology.

Lamar University is the only institution of higher learning that offers both master's and doctoral programs in midstream management and science. This allows us to provide students with a high-quality education and to support the needs of the industry.

"I am very pleased with the progress we have made in expanding our engineering programs, and I am confident that our students will be well-prepared for careers in the midstream industry," said Diane Clark, chair of the LU's Department of Deaf Studies and Deaf Education. "With the expansion of our engineering programs, we will be able to attract more students and provide them with the skills and knowledge they need to succeed in the field of midstream.

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**Elisabeth Maxwell '13: Diving deep for the greater good**

by Brooke Barnett

I was during her time as an undergraduate researcher in Mozambique that Elisabeth Maxwell '13 found her true passion for combining marine biology with marine policy. "I had a reality check moment," she recollects. "I realized how the research we were doing and conservation efforts would impact the entire community. I saw the importance of integrating marine management, marine policy and community involvement."

Maxwell grew up with strong ties to LU, living in Beaumont and watching her siblings earn degrees from the university. Her mother arranged for a tour of campus for her 4-H aquatic science club, and this opened the door for Maxwell to start her own legacy at LU. "That tour was when I met Dr. Ana Christensen in the Biology Department and discovered that LU offered courses that included many of the marine biology topics that I wanted to study," she explains. "It felt right, and everything just fell into place. Once I started attending classes at LU, I knew it was the right decision and I never had any regrets."

Maxwell credits Christensen with helping to prepare her for graduate school and her future research interests. "Many times during my years at LU she would give me advice and help me understand how the research process works," Maxwell adds. "Her mentorship made a big difference in helping me to understand academia and how to be part of it."

Reflecting on her undergraduate experience, she felt very supported by the faculty of the Biology Department and enjoyed a true sense of community. "I remember walking down the hall and having faculty stop and talk to me, sharing their research and asking questions because they knew I was interested in pursuing science as a career," she says. "I was able to take classes as part of my course of study that gave me the foundational knowledge needed to be successful in my graduate studies."

During her time at LU, Maxwell was awarded the prestigious David J. Beck Fellowship two years in a row. One of the most distinguished honors a student can achieve, the Beck Fellowship honors outstanding academic achievement and allows unique experiences for undergraduate research. "Through that opportunity, I was able to study abroad for field research. The first fellowship allowed me to intern at the South African Shark Conservancy. In my second year, I was able to do a collaboration with the Marine Megafauna Foundation in Mozambique, where I collected data for my undergraduate thesis project. From collecting the samples to doing molecular biology work, I was involved in the entire research process and ultimately published a research paper. That field research also introduced me to how diving can be utilized as a research tool. All in all, it wasn’t a bad place to learn about research diving!"

In the decade since her research in Mozambique, Maxwell continued developing her diving experience and took a scientific diving course through the University of Maine. Through that course, she earned a number of certifications, including advanced open water, rescue diver and scientific diver through the American Academy of Underwater Sciences. She went on to earn her divemaster certification through an internship with the UMaine Diving Program. "I really found a passion for teaching others how to dive with a scientific purpose or goal in mind, and to learn how to do it safely," she explains. "I knew I eventually wanted to get my diving instructor certification, but it was just a matter of finding the right opportunity."

Maxwell, now living in Maine after earning dual master’s degrees in marine biology and marine policy from the University of Maine in 2017, successfully completed her Open Water Scuba Instructor Certification from the Professional Association of Diving Instructors in 2020. "It was perfect timing and a great way to wrap up last year," she reflects. "I’m already teaching my first class."

Currently, Maxwell is a research associate at the University of Maine’s Darling Marine Center and an assistant instructor in the Scientific Diving Program. "Research is what I do every day," she explains. "I work in the Damian Braddy Oceanography Lab, exploring a wide range of research interests including fisheries and aquaculture. Essentially, my job is to support the array of research that is going on at the lab. I do field work and am responsible for managing our field instruments. I oversee everything from basic temperature loggers to near-shore oceanographic buoys that hold a whole suite of instruments and are deployed for months at a time."

Maxwell credits her undergraduate experience at LU with helping to prepare her for her career today. "During my time at LU, I had lots of opportunities that helped me learn how to think creatively and approach research from new directions," she adds. "My undergraduate experience helped prepare me for the realities of graduate school research. I learned how to troubleshoot through problems that will inevitably come up when you are doing research in an uncontrolled environment. Going into graduate school knowing that sometimes things are going to go wrong or not as anticipated, and how to figure out next steps, was invaluable to me."

Looking forward, Maxwell hopes to pursue a career that blends science and diving, and she hopes her research efforts will serve the larger community. "I believe that research should provide resources and information that serves the public good. It’s a matter of looking at what problem a community, area or species is facing and figuring out how we can help through research."

"I would like to continue to push the envelope in how we use scientific diving in our research," she concludes. "There is so much more to the ocean than what we know—so much exploration to be done, so many species to discover and so many questions to ask. Marine science is not slowing down, and it’s a very exciting time to be part of this field."

**"My undergraduate experience helped prepare me for the realities of graduate school research."

—Elisabeth Maxwell '13**
We hope you enjoy reading about former classmates. If you have news to share—a position announcement, achievement, wedding, baby—or anything else—please let us know. We want to hear from you. If you have news to share—a...
Jennifer (Casenave) Becerra: B.A. introductory studies, is a fifth-grade science teacher at East Chambers Elementary School in the La Porte school district. She and her husband, Chad, live in La Porte.

Bonnie (Kinard) Blake: B.A. studies and dual education; B.Ed. dual studies and dual education, is the president and owner of Lifetime Literacy and is an appointment professor of AI and dual studies at California State University, Los Angeles.

Jennie (Ryan) Branch: B.A. human resources and obtains a master’s degree in management information systems, is an attorney at his firm, Brammer, Begnaud, & Lattimore CPAs and Consultants. He lives in Houston.

Will Stark: B.B.A. educational administration, is a director of data center design at TechPlanX; he lives in Dallas.

Karen (Carrillo) Cooper: B.A. English, holds a B.S. in educational leadership and teaches in Achille school with her husband, Trent.

Ashley McGlothlin: B.B.A. psychology, is a speech therapy specialist and education teacher in Bridge City school district; she lives in Bridge City.

Kristin (Smith) Dupuis: B.A. interdisciplinary studies, is a teacher at Beaumont Junior High school; she lives in Port Neches with her family.

Andy (Arrienta) Bloss: B.S. education, is a Principal Manager at the VA Operation Clinic in Alvin; she lives in Alvin.

Brandon (Lally) Christiansen: B.S. kinesiology. He is also executive pastor/outreach at Praise Church in Beaumont; he lives in Beaumont.

Ryan Mitchell: B.B.A. business administration, is a senior vice president of Ameriprise Financial Services. His wife, Mary, lives in Bonita, Calif.

Ryan (Reding) Otte: B.A. hospitality administration, is a director of marketing at 3 Bridges Sign & Collision; he lives in Bridge City.

Richard Chapa: B.S. in management information systems, is an account manager at Wells Fargo at the San Antonio district. He lives in San Antonio.

Philip Dysart: B.A. in management information systems, is an audit partner in the Houston office of Deloitte; he lives in Pearland with his wife, Dana.

Brandon Senat: B.S. in engineering, is a senior project leader for 3 Bridges Sign & Collision; he lives in Bridge City.

Anson (Brown) Thompson: B.B.A. in management, is vice president, PVSI marketing, Valero Energy Corp. She relocated there from Nederland. Her husband, Marlon ’12, B.S. finance, is an assistant principal at Neches River Christian School; she lives in Angleton with her husband, Arthur.

Samela (Hoosier) Macon: B.A. in interdisciplinary studies, teaches at Pingree High School in Tennessee; she lives in Nashville.

Jay Miller: B.S. in chemical engineering, is an associate professor at the University of Toledo; he lives in Toledo with his wife, Denise.

Colleen (Robichau) Ryan: B.A. in business administration, is a senior vice president of Ameriprise Financial Services. His wife, Marlon, lives in Bonita, Calif.

Jenny Richardson: B.A. in interdisciplinary studies, teaches at Pingree High School in Tennessee; she lives in Nashville.
SUMMER 2021

Treasurer

CANDIDATE CARDINALS | Welcome President Jaime Taylor | SUMMER 2021

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Cardinal District in May 2020. She brought more than 20 years of education experience. She was named principal of Barton Middle School in the same district. Her predecessor, Russell began his career as a teacher in Tyler Independent School District. He lives in Vidor.

Tony Hernandez

He was named as principal of Keller school district’s new middle school at Keller High School College in College City in May 2020 and began his appointment as principal of Vidor Middle School for the upcoming school year. He is married to April Hernandez who is also an educator.

Joe cherry

He is the second-grade math teacher at Port Neches Elementary School and was named principal of Tatum Middle School in Tatum, Texas in 2020 after 15 years in teaching and coaching. He has been in education for 15 years and is a master’s student in communication from Concordia University. He lives in Austin.

Kenny Rodriguez

He was named principal of Keller school district’s new middle school at Keller High School College in College City in May 2020 and began his appointment as principal of Vidor Middle School for the upcoming school year. He is married to April Hernandez who is also an educator.

T.J. Reed

An长沙 Butler

She was named as principal of Keller school district’s new middle school at Keller High School College in College City in May 2020 and began her appointment as principal of Vidor Middle School for the upcoming school year. She is married to April Hernandez who is also an educator.

Carol Dickey

She was named principal of Tatum Middle School in Tatum, Texas in 2020 after 15 years in teaching and coaching. She has been in education for 15 years and is a master’s student in communication from Concordia University. She lives in Austin.

Chris Lee

He was named assistant principal of the Disciplinary Office of Marketing Communications. She lives in Pflugerville.

Tracy Arsenault

She was named principal of Tatum Middle School in Tatum, Texas in 2020 after 15 years in teaching and coaching. She has been in education for 15 years and is a master’s student in communication from Concordia University. She lives in Austin.

Kris Thrasher

She was named assistant principal of the Disciplinary Office of Marketing Communications. She lives in Pflugerville.

Ananya Bhat

She was named principal of Tatum Middle School in Tatum, Texas in 2020 after 15 years in teaching and coaching. She has been in education for 15 years and is a master’s student in communication from Concordia University. She lives in Austin.

A.J. Troop/Walnut Grove. He lives in Orange.

Tad Miguez

He was named principal of Keller school district’s new middle school at Keller High School College in College City in May 2020 and began his appointment as principal of Vidor Middle School for the upcoming school year. He is married to April Hernandez who is also an educator.

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Mickelora Howard | B.A. English, ’17, and M.Ed. educational administration, is an assistant principal at the Lewisville High School. She lives in Lewisville.

Joanna Barlow | B.A. English, ’17, and M.A.T. English, ’18, is a postdoctoral fellow at Rice University. She lives in Houston.

Amelia Gionet | B.A. English, ’17, and M.A.T. English, ’18, is an elementary school counselor and a core instructional coach. She lives in Round Rock.

Samantha Spurgeon | B.A. English, ’17, and M.A. educational administration, is the executive director of the Early Childhood Education Center at Humble Independent School District. She lives in Houston.

Sara Ewing | B.A. German, ’17, and M.S. business, is a sales representative for the online platform of the German language learning company Duolingo. She lives in Houston.

Timm Davis | B.A. political science, ’16, and M.S. criminology, is a criminal justice specialist at the Harris County Sheriff’s Office. She lives in Humble.

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Timm Davis | B.A. political science, ’16, and M.S. criminology, is a criminal justice specialist at the Harris County Sheriff’s Office. She lives in Humble.
CATHERINE (ROTHENBER) ANDERSON 20, B.S. ed. psychology, teaching elementary school in the Northside school district. She lives in Norwalk with her husband, Brian.

T.J. Atwood 20, B.A. general studies, is a professional football player for the Houston Texans in Houston.

Maria Applicata 20, B.S. chemical engineering, is an engineering specialist for ExxonWorshel Burnt Meany. She lives in Cleveland.

Shelby Bevers 20, B.S. interdisciplinary studies, teaches fifth-grade English, language arts and reading at Grove Elementary School in Port Neches-Groves school district. She lives in Port Neches.

A.J. Carr 20, B.S. general studies, studied with the Houston Astros in June 2020 in Port Neches. He joined the Astros for the 2020 season. Carr lives in the Bridge City school district. He lives in Port Neches.

Heather Williams 19, B.S. interdisciplinary studies, teaches fourth-grade at Regenhardt Elementary School in the Nederland school district. She lives in Nederland.

Natalie (Rivera) Espinosa 20, B.A. education, bilingual special education in Garland school district. She lives in Garland with her husband, Austin.

Maryanne Conner 20, B.A. graphic design, is a junior designer at Roshcon. She lives in Humble Heights.
Humanities, Arts, Social and Behavioral Sciences, Education and Business Conference

WINNER: SURF CATEGORY

William Perry
Nursing
Mentor: Dr. Cynthia Pipkins
Project: Work-related Musculoskeletal Disorders and Psychological Factors in Licensed Nurses: A Secondary Analysis

“My peers in research are very talented and very inspiring. I was very humbled and honored to be recognized at this year’s HASBSEB Conference. All of the presenters there were of exceptional talent and had an unequaled zeal in each of their subjects.”

RUNNER-UP: SURF CATEGORY

Ashlyn Jones
Speech and Hearing Sciences
Mentor: Dr. Lakshita Morris
Project: Influence of a Self-Faced Online Training Program on Caregivers Reading Habits

“SURF provided me with invaluable opportunities. It helped me build a great mentoring relationship with Dr. Morris, who I regard so highly. I truly believe literacy development is a critical area of research, and I hope more students at LU, through O.U.R., can continue research in literacy development. I believe this experience will make me a more valuable graduate student and more experienced clinician in the workplace.”

Elizabeth Ninmons
Music Education
Mentor: Dr. Delia Greisner
Presentation: “The Pedagogy of Body Alignment”

“My experience in the HASBSEB Conference brought me excitement and inspiration. So many researchers mostly around my age discussed topics that were worthy of taking note. The mentors shared warm, constructive feedback and gave us advice on how to improve our research. The jewel that each person brought to the table was a sincere passion for people. It was an honor to take my turn and present my research alongside my peers. This conference highlighted the importance of transforming society for the better by informing oneself.”

Center for History and Culture of Southeast Texas and the Upper Gulf Coast Award for Best Presentation Related to the History and Culture of the Region

Viviana Denova
Business Management
Mentors: Dr. Geovig Sargygan and Dr. Kabir Sen
Presentation: “The Economic Impact of Tourism on the Texas Gulf Coast and Costa Blanca”

“I really enjoyed being a part of the HASBSEB Conference 2020. I really appreciate the fact that presenters had a platform to showcase their research. I feel so fortunate to be a part of Lamar University who cares about making sure we have an opportunity to show off our hard work.”

Christina Segura
Corporate Communication
Mentor: Dr. Andre Favors

“My experience at the 2020 HASBSEB conference was both richly rewarding and highly motivational. It was especially meaningful for me as a graduating senior to hear speakers like Dr. Holtzhausen and Ms. Maria Stamatis describe the impact research has had on their academic and professional careers.”

College of Arts and Sciences

Olouwtomisin Egbewale
Computer Science
Mentors: Dr. Sujing Wang and Dr. Xingya Liu

Callan Noak
Computer Science
Mentors: Dr. Sujing Wang

Nyah Scirilla
Biology
Mentor: Dr. Matt Hoch

Carissa Slaughter
Biology
Mentor: Dr. Ashwini Kucknoor

Danielle Soileau
Biology
Mentor: Dr. Ashwini Kucknoor

College of Engineering

Alexander Bahrim
Electrical Engineering
Mentors: Dr. Gilek Tchirkansky and Dr. Cristian Bahrim

Kalen Baker
Mechanical Engineering
Mentor: Dr. Yin Fu

Cymone Houston
Civil and Environmental Engineering
Mentor: Dr. Thinh Sevarum

Melissa Tan
Civil and Environmental Engineering
Mentor: Dr. Thinh Sevarum

Gabriel West
Mechanical Engineering
Mentors: Dr. Sushil Doranga and Dr. Jenny Zhou

College of Fine Arts and Communication

Chloe Smith
Speech and Hearing Sciences
Mentor: Dr. Jamie Arios

Madison Fondon
Corporate Communication

Kinlee Buesing
Speech and Hearing Sciences

Cesar Julian Delgado
Communication and Media

Mentors: Dr. Andre Favors and Dr. Jenny Zhou

College of Education and Human Development

Damans Thrash
Health and Kinesiology
Mentor: Dr. Shannon Jordan

College of Business

Viviana Denova
Finance
Mentor: Dr. Geovig Sargygan

Best Presentations for O.U.R. Sponsored Research

FIRST PLACE
Talon Weaver
Civil Engineering
Mentors: Dr. Ergin Rehamat and Dr. Cristian Bahrim, Department of Physics
Research: “Identifying Solar Sources of the Most Geo-Effective Interplanetary Disturbances”

SECOND PLACE
Rebecca Schilberg
Chemistry
TALM student
Mentors: Dr. Suying Wei and Dr. Sylvestre Tougayez, Department of Chemistry and Biochemistry
Research: “Rotational Signature of Perfluorooctanoic Acid as Revealed by Molecular Rotational Resonance Spectroscopy”

THIRD PLACE
Katherine Correll
Drawing and Biology
Reed Honors College
Mentor: Dr. Robert Kelley Bradley, Department of Industrial and Systems Engineering
Research: “The Babe Zaharias Medals: Exploring Methods of Replication for a Prominent Female Olympic Champion”

“I am truly honored to have been part of the O.U.R experience. The Office of Undergraduate Research has opened the doors of exploration for our interdisciplinary project, allowing us the opportunity to work with other universities and explore the use of technology for the replication of the historic Babe Zaharias’ medals.”
The Department of Earth and Space Sciences and Lamar University Geospatial Center offered a Master of Science degree in geospatial sciences for the first time this spring. The program includes a 30-credit-hour, thesis-based option or a 36-credit-hour, non-thesis option and is designed to train individuals to work in any sector of geospatial sciences.

“The M.S. degree will provide education in all the key areas of geospatial technologies most relevant to the contemporary workplace, including computer-based geographic information systems, remote sensing techniques, drone technology, digital image processing, spatial analysis and modeling, global positioning systems and data science in the big data era,” said Reda Amer, director of the LU Geospatial Center and director of Geographic Informational Systems programs. “Students will gain a combination of technical training, critical-thinking skills and the ethical framework necessary to be effective geospatial analysts in any sector of the field. Students will be given substantial practical experience in the application of state-of-the-art geospatial-based systems to a wide range of real-world applications,” Amer said.

Demand for well-trained geospatial professionals is growing much faster than supply. Trained individuals are needed at multiple levels, from certified entry-level technicians to mid-level master’s graduate and research scientists. The field of geospatial sciences supports decision making in a variety of fields such as physical and environmental sciences, geology, natural resources, agriculture, urban planning and management, political science, civil engineering, economics, business, real estate, education administration, health care, urban flooding and emergency response, and coastal restoration and management.

According to the U.S. Department of Labor's Bureau of Labor Statistics, jobs in the field of the geospatial disciplines are expected to grow nationally by approximately 19% between 2016 and 2026 and 28.3% in Texas. Potential career options with a master's degree in geospatial sciences include GIS analyst, cartographer, remote sensing analyst, drone photogrammetrist, environmental scientist, urban/regional planner, health geographer, GIS administrator, GIS developer and GIS project manager. According to the U.S. Department of Labor 2018 statistics, Texas is one of the states with the most GIS job demand. Moreover, southeast Texas offers one of the highest annual mean wages of cartographers and photogrammetrists at $75,230 to $103,710.

“The master’s program in geospatial sciences addresses the immediate and growing need to train a workforce for the rapidly expanding local geospatial industry in Texas,” said Amer, who has worked in GIS since 2000 and formerly developed a GIS certificate program at LU. “Graduates of this program will be able to convey to potential employers the comprehensiveness of their training at Lamar University and readiness to implement their knowledge obtained during the program through research projects and in the classroom, which is often not self-evident in the job application and interview process,” said Amer. The master's program in geospatial sciences is open to all students in all disciplines and will be delivered through a combination of face-to-face and distance education instruction.