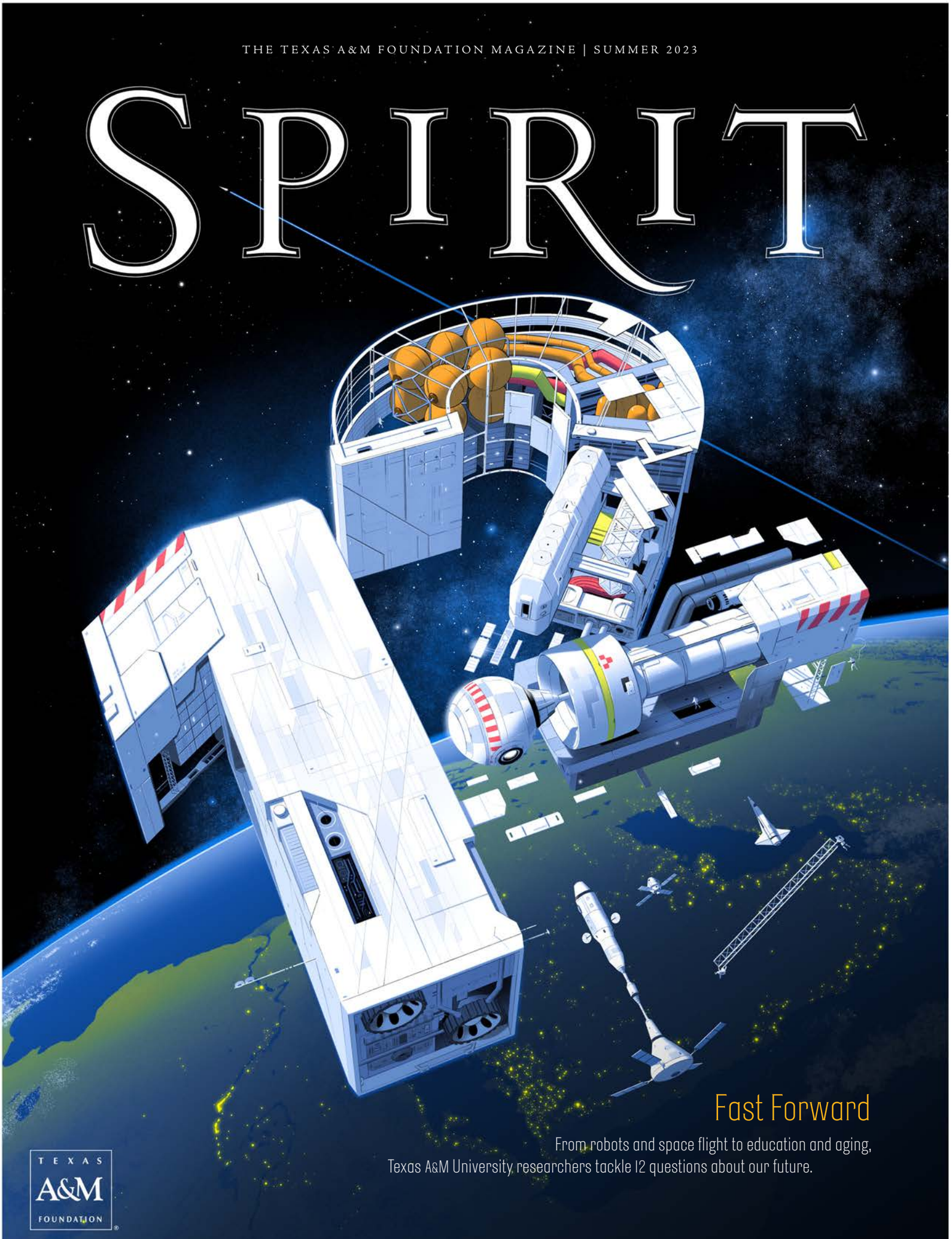
THE TEXAS A&M FOUNDATION MAGAZINE | SUMMER 2023

# SPIRIT



## Fast Forward

From robots and space flight to education and aging, Texas A&M University researchers tackle 12 questions about our future.

TEXAS A&M FOUNDATION®

# The World of Tomorrow

Despite the 20th century's overabundance of violent conflict, radical cultural shifts and political upheaval worldwide—which, at one point, had humanity teetering on the edge of nuclear annihilation—there was always a collective fascination with the future. Generation after generation, artists imagined how life might look decades or even centuries ahead. "Buck Rogers" depicted heroic space battles 40 years before the moon landings, "Star Trek" showed humanity united across galaxies at the height of the Civil Rights movement, and when I was a teenager, "Back to the Future Part II" promised we'd have flying cars and hoverboards by 2015.

Some of these futuristic stories were dark and dystopic, but even those usually ended on a note of stubborn optimism for the world to come. In recent years, though, it seems like that optimism has gone increasingly out of favor. TV shows and movies imagining a utopian future are few and far between, replaced by grim visions of totalitarian governments, like "The Hunger Games," or high-tech nightmares inspired by our fears of technology gone too far, like "Black Mirror." The pessimism on screen often reflects a widespread sense of unease and uncertainty toward the decades ahead and even a lack of faith in humanity to overcome its most pressing challenges. It's enough to ask: Is the future just not what it used to be?

At the Texas A&M Foundation, our explicit mission is to build a brighter future for Texas A&M University, one relationship at a time. We do this because we believe a brighter future for this university precipitates real hope for the state, nation and world as a top-tier institution for higher education and research. A combination of public support, impactful philanthropy, and passionate students, faculty and staff has made Aggieland an epicenter for innovation across almost every field and industry. If there's a problem endangering our future or a discovery that will enhance it, you can bet that someone at Texas A&M is already working on it.

In this issue's cover story, you'll meet researchers from across the university tackling daunting questions in their respective fields—questions with answers that will impact not just our lives but also those of coming generations. Whether they're implementing sustainable farming practices, building robots that work alongside humans or even slowing down the cognitive effects of aging, these researchers are pushing their fields forward for the good of humankind. Our nation and species may not have it all figured out, but for all of humanity's destructive tendencies, it's worth remembering that ingenuity, persistence and compassion are at the core of who we are. We may not have flying cars, but if we can work together, we have every reason to keep dreaming.

Thanks for all you do.

*Tyson Voelkel '96*

*PRESIDENT & CEO, TEXAS A&M FOUNDATION*

*Ready to get started on your legacy in Aggieland? Download our free Giving Guide using this QR code or learn how you can support the campus initiatives in this issue of Spirit at* ***give.am/Summer2023****.*

# Good Bull


Born almost three months prematurely, Mike Miesch '55 (right) developed a severe hearing impairment that affected his speech. Starting early in life and continuing into his college career, assorted "experts" tried to limit his options.

Fortunately, Mike had brains, grit, resilience and the loyal support of his younger brother, Pete '55 '62 '63 (left). Because the siblings communicated easily with each other, Pete embraced being Mike's interpreter—even following his brother to school on the first day to keep tabs on him.

Soon the 4-year-old Pete joined Mike in first grade, forming an academic partnership that would span the brothers' undergraduate years at Texas A&M University, where they roomed together and supported themselves by working in food services and parking cars at football games. Both earned degrees—Mike in entomology and Pete in petroleum engineering—before going their separate ways.

Apart, the two continued to succeed, with both earning master's and doctorate degrees, raising devoted families and enjoying successful careers. Pete worked on Texas' Eagle Ford Shale and recently donated valuable geologic maps, well logs, cross-sections and seismic lines of the area as a gift-in-kind to benefit the Department of Geology and Geophysics.

But Pete's biggest contribution remains helping his brother smash through society's limiting beliefs and prevail, in a true embodiment of the Aggie core value of loyalty. "I've never seen camaraderie between two siblings like this," said Pete's daughter, Liz. "Most people would be broken by everything they've faced—but not them. Nothing can break the special brotherly bond they share."

*Do you have a Good Bull story to share? Send your submission to our editor, Dunae Reader '15, at dreader@txamfoundation.com.*

PHOTOGRAPHY/IGOR KRAGULJAC '08

# Issue

summer 2023

COVER FEATURE

## Fast Forward

From robots and space flight to education and aging, Texas A&M University researchers tackle 12 questions about our future.

DEPARTMENTS



*The Department of Rangeland, Wildlife and Fisheries Management houses a unique barbed wire collection that details the nation's land stewardship history.*

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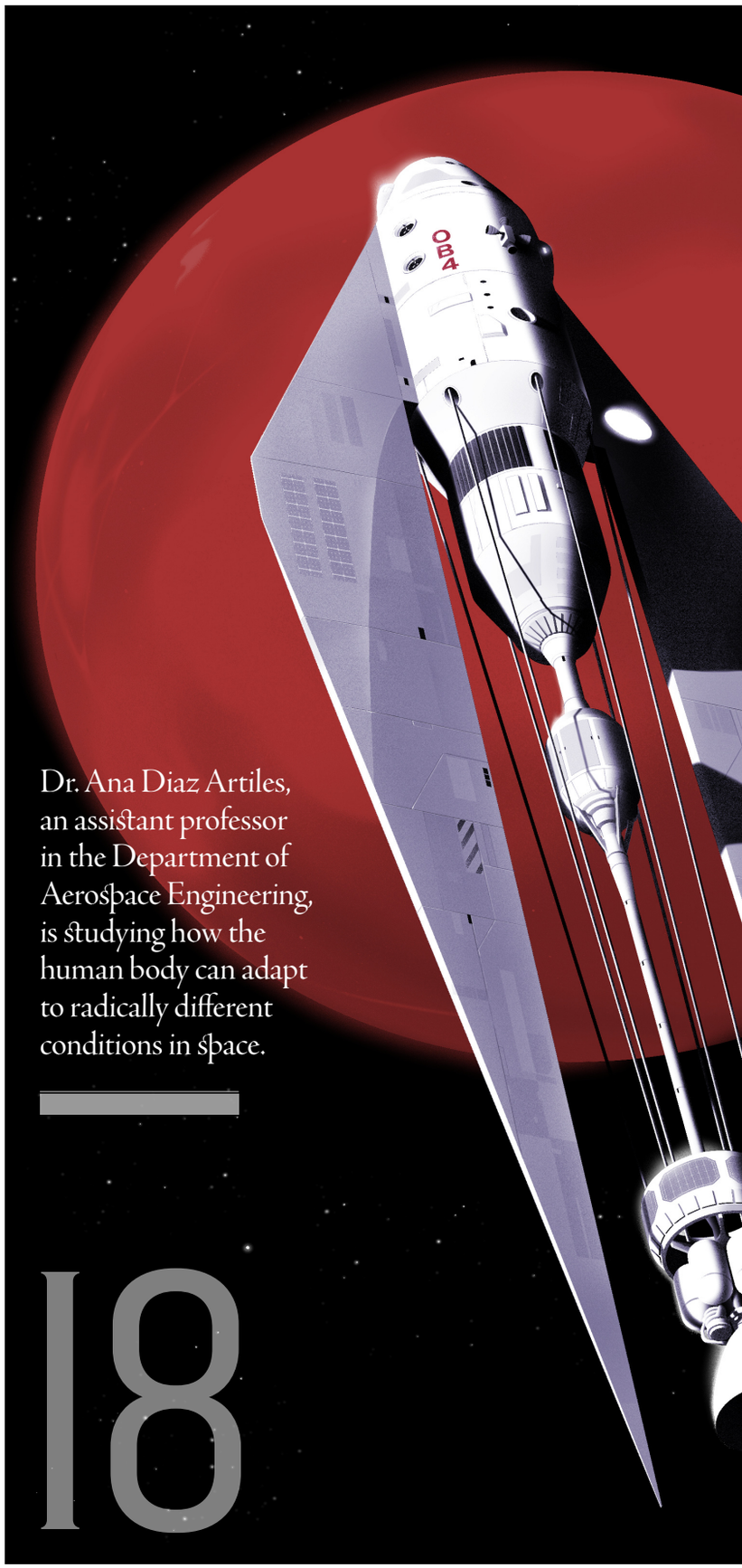


Dr. Ana Diaz Artiles, an assistant professor in the Department of Aerospace Engineering, is studying how the human body can adapt to radically different conditions in space.

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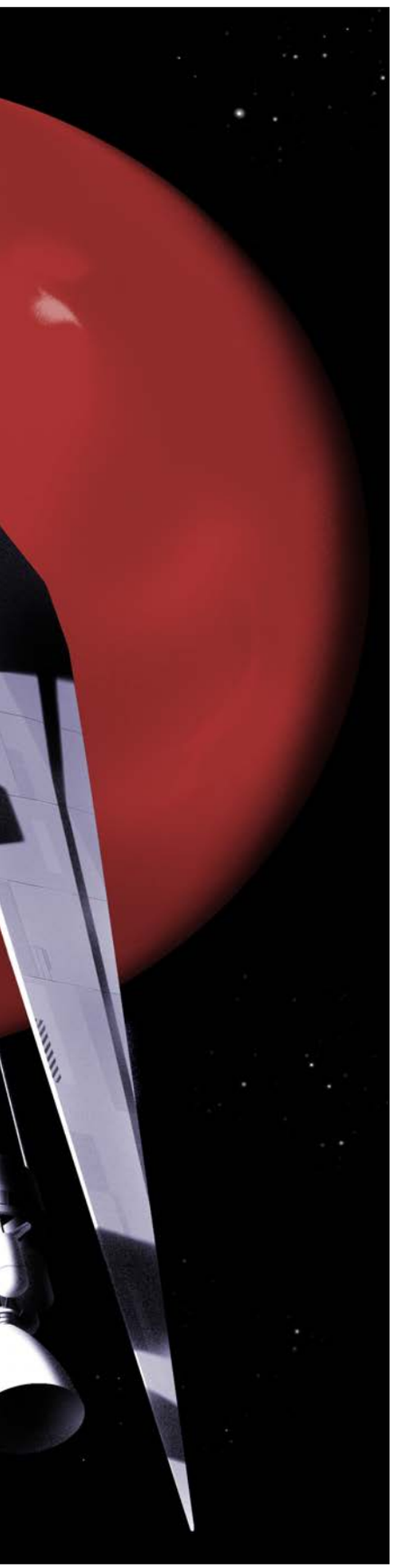
Read online at spirit.txamfoundation.com.

LEAD BY EXAMPLE™

ON THE COVER

This issue includes six illustrations from Spain-based artist Señor Salme, including this cover scene depicting a futuristic space station in the shape of the number 12. His art, which takes style cues from retro science fiction pulp magazines, is also featured in the cover story and below.



TRAILBLAZERS

## Pleasant Good Morning to You

For almost 30 years, Horace McQueen '60 was the voice of Texas agriculture.

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FACULTY FIELDWORK

## What's Next With Artificial Intelligence?

Faculty discuss artificial intelligence's rewards, limitations and impact on our lives.

DR. RUIHONG HUANG
*Associate Professor*
*Computer Science and Engineering*

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STUDENT IMPACT

## Howdy, Ivan Sanchez '26

Regents' Scholar Ivan Sanchez '26 is spreading the sound of Mexican culture through College Station as president of Aggieland Mariachi.

*The musically talented economics major can play the saxophone and vihuela, but it's the violin that has captured his heart.*

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Spirit is published three times per year by the Texas A&M Foundation, which builds a brighter future for Texas A&M University, one relationship at a time. Through compelling stories and photography, Spirit celebrates unique individuals, the joy of giving back and the Aggie can-do spirit from a perspective that spans the entire campus. Direct inquiries to the Marketing Office, Texas A&M Foundation, 401 George Bush Drive, College Station, TX 77840-2811, call 800.392.3310 or 979.845.8161, or email info@txamfoundation.com. Information in this magazine is for educational purposes only and should be examined by independent legal counsel due to possible differences in local laws and individual needs.

# Mailbox


What's the nicest thing a fellow Aggie has ever done for you?

*Share your answer with our editor, Dunae Reader '15, at dreader@txamfoundation.com.*

Readers write in:

## Do you have a fond memory of the old Texas A&M Creamery?

*Read more responses online at* ***give.am/Creamery.***

It was one of those insufferably hot days, and I was walking from the Langford Architecture Building to the shuttle bus on the exact opposite side of campus. I took a shortcut and noticed more than a few people with **smiles almost as large as the scoops of ice cream** dripping down their cones. In my head, I heard the tunes of the ice cream trucks of my youth! I asked someone where they'd gotten such huge cones in the middle of nowhere. One sweet young lady walked me to the door of the Creamery.

I asked, "How is the chocolate? Or is the vanilla more decadent?" With a wink, this angel suggested the strawberry…and she scooped me what seemed a half gallon on a cone. It was like biting into a frozen juicy strawberry! I visited often after that with my friends. To this day, I have never had ice cream as good as the confections that were the Creamery ice creams.

—DAVID APPLEBAUM '80
*Pacific Palisades, California*

My friend Mary Michelle Hawver Ellis '82 and I recently talked about how **our friendship formed over trips to the Creamery** back in 1979. Our favorite outings started at the Cow Hop for the best nachos ever, and then we'd head to the Creamery for chocolate malts. We were both in the theater program, and we'd often head to the Creamery to reward ourselves after finishing work in the scene shop building sets. Mary and I became lifelong friends; we think it may be because neither of us ever had regrets about overindulging at the Creamery!

—LAURIE JAY '82
*McKinney, Texas*

The vanilla ice cream was the best! **I loved the aroma as you got close.** You knew what was waiting!

—BARBARA (BLAIR) GRAHAM '78
*Nolanville, Texas*

After the fall semester of my freshman year, I left the Corps of Cadets to walk on to the Texas A&M football team as Coach Jackie Sherrill was taking over the program. In the Corps, I had dropped weight to 182 pounds—not very good for a linebacker. **I went by the Creamery almost every day** for a chocolate shake or ice cream for 50 cents

The Creamery was out of my way but well worth the detour. I loved their vanilla ice cream with its extremely high butterfat content.

—JAMES WILSON '71
*Longview, Texas*

*The campus Creamery (below) opened in 1956 and moved locations a few times before closing in 1995. By the 1980s, it made and sold more than 300 gallons of ice cream per week using Texas A&M's dairy herd. Read about the newly opened Creamery on page 6.*

or something crazy cheap like that. It helped restore my playing weight, and it tasted so good doing it too!

—CAL MCNEILL '85
*College Station, Texas*

The ice cream was always a treat after classes. At least once a week, **someone dropped a scoop on the sidewalk!**

—LINDA HEINEMANN '80
*Houston, Texas*

As a freshman, I lived in Mosher Hall and walked daily to the Academic and Agency Building (now the John R. Blocker Building) for class. Stopping in the Creamery once a week was a **real treat, especially on a warmer day.** I loved the chocolate malts and convinced myself that the daily walking on campus burned all the calories!

—LAURA FULTON '85
*Houston, Texas*

I grew up in Ohio. Keep in mind this was before the internet. Somehow, my mom found out about the Creamery, and we had to go there when I first visited Texas A&M's campus. That was some of the best ice cream. Dare I say, **even better than Blue Bell?**

—HUGH AYLES '89
*Cedar Park, Texas*

The Creamery was a real treat. I would stop by and **get a chocolate malt.** After four years of Sbisa and Duncan dining halls, most things out of the ordinary were a real treat, but this was the best.

—BILL RICHARDSON '69
*San Marcos, Texas*

As a home-grown Aggie raised in Bryan, my mother often brought **me and my two brothers over to the Creamery for a sweet treat!** We usually drove our 1969 baby blue Ford Country Squire station wagon with wood panels. This continued for many years and often included a trip to the airport to watch planes arrive and depart Aggieland while enjoying our cones.

—KYLE FRITSCHE '87
*Longview, Texas*

The Creamery was **a favorite of basketball coach Shelby Metcalf** and became a team favorite for travel days. I would call ahead and order about 16 milkshakes for us to pick up as we departed to Austin, Waco, Houston, Dallas-Fort Worth, etc. It was always the highlight of our travels and fostered a bit of team bonding!

—DAVID HEATH '76
*Bryan, Texas*

**The Creamery is where I found the freshman 15!** It was such easy access as a floriculture major to walk out the back door of the Plant Sciences Building and pick up that creamy chocolate malt as I headed to the shuttle bus stop.

—LEANN WIREY '80
*San Antonio, Texas*

As a Fightin' Texas Aggie Band member, I remember walking from class on hot autumn days and **stopping by the Creamery to get a large cone.** It made the long drill practices more bearable and gave me the energy to do my best!

—HENRY LUDDEKE '69
*Cuero, Texas*

On my way to class on Mondays, Wednesdays and Fridays, I would stop at the Creamery for **the best 5-cent ice cream cone** in the world. It was something to look forward to each week!

—JAMES HOPPER '68
*Dallas, Texas*

# Campus

## Hypertension Tats

Led by Dr. Roozbeh Jafari, Texas A&M University researchers have created a temporary tattoo that can accurately measure blood pressure around the clock. Invisible and weightless, the tattoos have the potential to make blood pressure readings more convenient and precise than current blood pressure cuffs.

The tattoos use bioimpedance, a technique that involves blood flow's response to an electrical current, to precisely measure an individual's blood pressure. The tattoo is made of a material called graphene, similar to what is found in graphite pencils. The material is strong, ultra-flexible and adheres to the skin directly over a person's arteries, allowing it to remain for up to one week. Circuits within the tattoo send the gathered information to a computer to interpret the data.

"Realizing unobtrusive and passive technologies for the frequent recording

**Kent Moore '72** revealed his excitement about the fall 2022 opening of the Debbie '74 and Kent '72 Moore Family Creamery located in Aggie Park. Thanks to the Moore family's donations, Aggies can enjoy Blue Bell's classic flavors, shakes, ice cream sandwiches and several other ice-cold desserts while strolling through the park.

*Enjoy readers' recollections of the old campus Creamery on page 4.*

"Fond memories will be made here. This is going to be a very special place as it matures, and it's something that Texas A&M needed."

## Fighting Aggie Hunger

Launched by the Department of Residence Life in the Division of Student Affairs, the Grocery Give & Grab (G3) program is part of an ongoing effort to combat food insecurity and reduce food waste among Aggies. Since spring 2019, the program has allowed students to donate any unopened, unexpired and nonperishable food items into one of 12 bins placed in residential neighborhoods as they leave for the winter or summer break. Residents experiencing food insecurity are encouraged to take items without permission or paperwork.

"It helps Aggies in a discrete way," said Marcela Lopez '23, a student assistant working with the initiative. "They can grab food and go without shame or judgment."

In spring 2022, the Aggie Green Fund—a grantmaking organization for campus sustainability projects—provided funding for bookcases to be placed at permanent donation locations. In addition, beginning in fall 2022, G3 locations were added to the 12th Can's list of Pocket Pantries across campus to provide convenient access to food for students in need.

Student Org Spotlight: KANM Student Radio

WITH EREN RUDD '24

of blood pressure to address the worldwide problem of hypertension is among the most important global challenges in health care," said Dr. Roderic Pettigrew, inaugural dean for Texas A&M's School of Engineering Medicine.

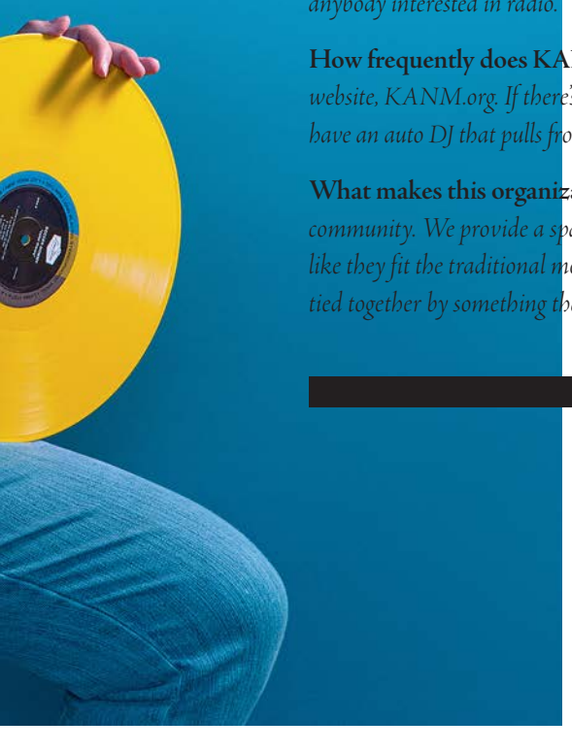
The project was conducted in collaboration with researchers at The University of Texas at Austin and supported by grants from the National Institutes of Health, National Science Foundation and Office of Naval Research.

**What is KANM's mission?** *Our main mission is running the radio station and allowing everyone to try their hand at being a DJ. We also want to provide a space for people on campus who are really into music as well as production and audio engineering. It's a good organization for people who are interested in the social aspects of music in any capacity to meet each other and have an atmosphere for discussion. We're all about providing a creative outlet.*

**What types of music or programming does the station play?** *We give our DJs a lot of free rein, but we follow FCC guidelines in terms of what kind of music you can play on-air. First-time DJs must take 30% of the music they play from our mandatory pile, but every other week at Music Review Crew, DJs get to pitch albums and vote on recently released music. Experienced DJs can also host podcasts or shows about sports and politics. We really want to provide a space for anybody interested in radio.*

**How frequently does KANM air?** *We're streaming 24/7 on our website, KANM.org. If there's a time without somebody's show, we have an auto DJ that pulls from our library and plays random songs.*

**What makes this organization stand out?** *It's an awesome community. We provide a space for people who don't necessarily feel like they fit the traditional mold. We're very diverse because we're all tied together by something that transcends everything: music.*



PHOTOGRAPHY/JOSH HUSKIN

# classnotes

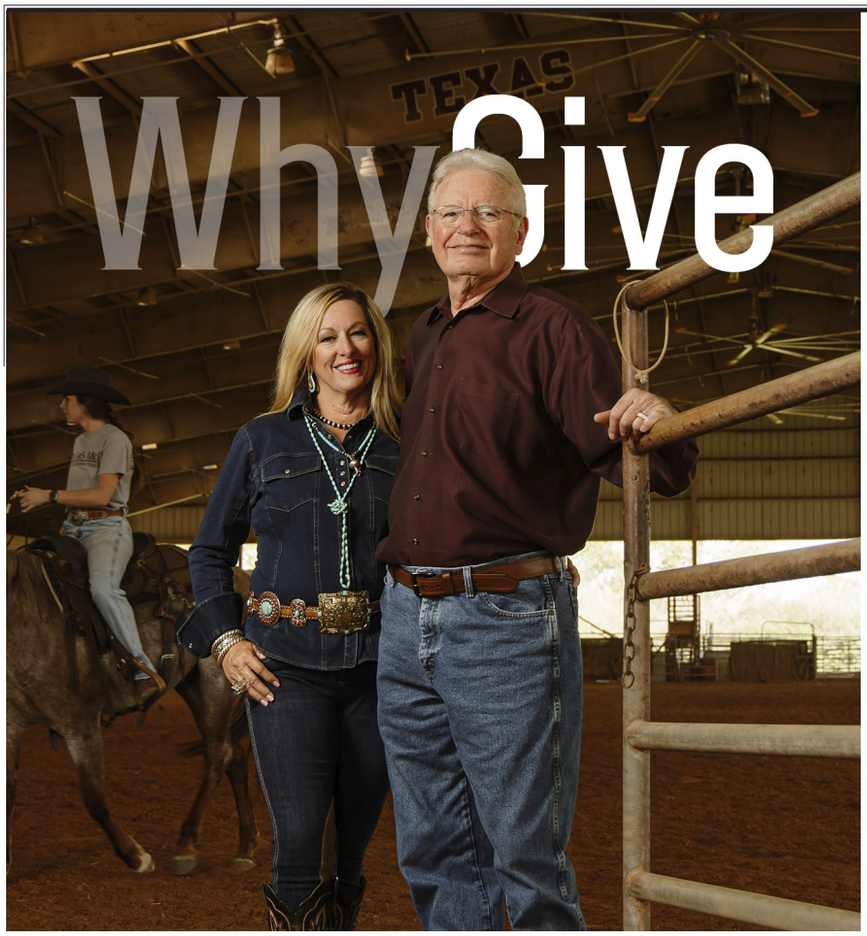
**Sbisa Dining Hall was the first university dining hall in Texas to become a 3-Star Certified Green Restaurant,** a title later earned by the Commons Dining Hall as well. The facilities earned the rating by implementing 39 environmental steps that focus on reducing energy consumption, waste, and water and chemical usage.

**Texas A&M researchers are helping develop walking robots for NASA** that can navigate icy surfaces, crusted sand and other rigid terrains more easily than wheeled rovers. The team will integrate the robots with embedded terrain-sensing technologies and cognitive human decision models to advance planetary exploration.

PHOTOGRAPHY/THE BATTALION

As part of a capstone project, **five mechanical engineering students proposed an interior renovation of the rotating crown atop the Queen Theatre** in downtown Bryan. Sponsored by the Downtown Bryan Association, the team redesigned the crown's 80-year-old interior mechanics and created an accurate set of shop drawings to ensure the building's regal topknot can keep spinning for decades to come.

# Why Give



PHOTOGRAPHY / JOSH HUSKIN

**Drs. Frederick Tan and Julie Lim** believe that residency is the most important time in a doctor's education. As physicians at St. Joseph Health in Bryan, the doctors have trained countless Aggies in Texas A&M University's Family Medicine Residency Program. After witnessing their daughter's participation in the program, they established a fund that will support residents and faculty on their journeys to learning family medicine and serving rural communities.

"These doctors-in-training will one day become our future doctors, and they deserve to have access to the best education."

## Conversation

Becky and Joe Horlen '73 found a way to support both of their passions—equine sports and student organizations—by establishing an endowment for Texas A&M University's Ranch Horse Team.

**What is the Ranch Horse Team?** *As part of the Department of Animal Science, the Ranch Horse Team is dedicated to improving students' horsemanship skills. Its members participate in collegiate stock horse shows and compete in trail, ranch pleasure, reining and working cow horse events.*

**Why did you choose to support the team?** *When we went to competitions, we noticed that unlike most teams, Texas A&M University's team wasn't funded by the school. We felt there was a lack of knowledge about the Ranch Horse Team, and they needed funding. We also believe that a quintessential part of the Aggie experience is the "other education." Through student organizations, students learn skills they can't learn in class. We know how hard it is for student organizations to find extra funding, so we believe in the value of giving to them.*

**What impact will your gift have?** *We hope our gift will help fund any of the Ranch Horse Team's needs, like travel and training fees. We also hope it will stimulate other Aggies to donate.*

**What giving advice do you have?** *Creating a gift is simple. You just contact the Texas A&M Foundation or the department you want to support, and they'll work with you to develop your gift. With so many different organizations, programs and colleges at Texas A&M, it's easy to find a cause to support that aligns with your passions.*

*Watch our Giving Academy video series to learn how you can create a directed gift through the Texas A&M Foundation to benefit the campus area you're passionate about, just like the Horlens.*

## Because everyone's voice matters.

Charles Gordone, the first Black playwright to win the Pulitzer Prize for Drama, was known for embracing racial unity. As a Texas A&M University English professor, he uplifted each voice in his classroom until his passing in 1995.

"He believed it was important to embrace all of who you are as an individual, but he also understood that it's important to our society that we embrace each other," said Denica Gordon-Mandel, Gordone's granddaughter.

Gordone played a crucial role in promoting equality efforts in Aggieland. To honor his legacy, Gordon-Mandel created the Charles Gordone Foundation Excellence Writers Award for American Voices to fund scholarships for students from underserved groups.

"It's a wonderful opportunity to help individuals of color and those from disadvantaged socioeconomic backgrounds get the recognition they deserve," she said. "Learning more about my grandfather's impact at Texas A&M has been inspiring, and I hope to preserve his memory and extend his passion for helping everyone find their voice."

PHOTOGRAPHY / JASON KINDIG

## Because good leaders should be recognized.

Judge David L. Evans '71 wanted to quietly close out his meteoric law career. However, his colleagues had a different idea. On paper, the third-generation Aggie is a former lawyer with more than two decades of private practice experience and nearly two decades as a state district judge in Tarrant County. However, to his friends and colleagues, Evans is the embodiment of a true Aggie leader.

"David understands the respect lawyers and judges should show one another," said Evans' colleague, Neal Adams '68. As a lawyer, Evans was known for arriving at his firm before 6 a.m. Beyond the firm, he prosecuted lawyers accused of misconduct as the former chair of the Commission for Lawyer Discipline. He also mentored many lawyers and judges throughout the state.

To honor his dedication to the legal profession and the pursuit of justice, Adams and U.S. District Judge Mark Pittman '97 spearheaded the creation of a Dean's Endowed Scholarship in his name to support students at Texas A&M University's School of Law. More than 60 lawyers and law firms across the state have committed support, allowing Evans' legacy to live on for generations.

"I am humbled beyond words to have this scholarship and help law students pursue their careers in a meaningful way," Evans said.

**Paul Motheral '52** credits his success as an engineer to exercising both his left and right brain through science and music. He grew up in a home filled with music, from his mother's singing to his own clarinet. To ensure other Aggies have access to a balance of arts and sciences, Motheral and his wife, Elizabeth, established a fund for Texas A&M University's Wind Symphony, which is open to students of all majors. The gift will support the group's travel as they exhibit their talents to audiences worldwid

"The Wind Symphony acts as a bridge for Aggies from all majors to experience the cross-section between science, arts and culture firsthand."

*Interview by* TORIE NOELLSCH

ILLUSTRATIONS BY JOE MCKENDRY

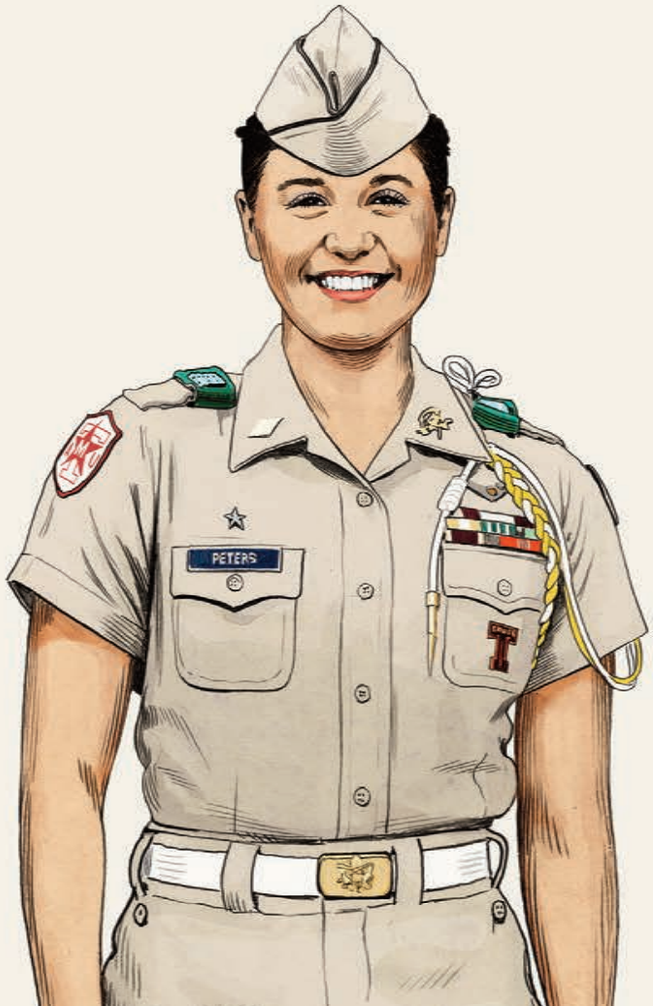
# The Quad

## A Day in the Life of Cadet Melina Peters '24

Far before the day's formation to long after the flag is lowered, this cadet and scholar makes each of her "hundred hours" count.

**0500:** And I'm up!
This early morning routine isn't easy, but I wake up by diving into my Bible study. Afterward, I turn on some fast-paced music while I do my hair to mentally prepare for the training ahead.


**0545:** A pre-sunrise salute.
I fall into formation on the Quad and am brought to life by cadets shouting "campusologies." Those who fail this campus history test get a round of pushups in before standing at attention again. We salute the flag, and the Corps Commander releases us to our squadron commanding officer. I join Squadron 21 to begin physical activity.




Service. Next step: hopefully get accepted into its international affairs master's program before enlisting in the Marines to attend Officer Candidates School.

**1200:** Hold on to your Cholula!
I return to Duncan on the hunt for a bottle of hot sauce to spice up my grilled chicken and veggies lunch. Like McDuncs, Cholula is a hot commodity (pun intended) and disappears fast. I look forward to this part of the day and camaraderie with my pals.

**1330:** I am *not* a spy.
Time for my favorite and most challenging course of the day: Russian. Few students pursue a minor in Russian like me, so I am instantly greeted by a small group I've learned with since I was a freshman.

**0650:** This McDunc is mine!

I'm on a new mission: get my hands on a McDunc—Duncan Dining Hall's version of a McMuffin—before they run out. Sandwich in hand, I head for a serving line and am greeted by Ms. Elaine, who has served cadets for 40 years. She has a motherly way about her that feels like home. Speaking of mothers, I put my pull-out name, "Quad Mom," to good use during training chow drilling freshman cadets about their day.

**0720:** Nap? Yes, please.

Back to my dorm for a quick shower and re-bag (post-formation nap). An hour later, I pull my hair back in the second bun of the day.

**0930:** Dressed for success.

I enter my first class in my Bravos and properly shined boots. It's time to focus on leadership and political science to earn my international studies degree through the Bush School of Government and Public

**1600:** Another wardrobe change.

Extracurriculars are starting, so it's time for another wardrobe change. If today were Monday or Wednesday, I'd be heading to Ross Volunteers practice, but Thursday means I'm suiting up for Corps women's soccer practice.

**1630:** Game on, girls.

I join my fellow Corps women on the field, glad I listened to an epic movie soundtrack on my drive to Penberthy to relax my mind and prepare for the soccer drills and scrimmage ahead.

**2100:** Reporting for duty.

Reporting to the Susan and Michael J. Plank '83 Leadership Learning Center as a student assistant, I hope for a quiet night to give me time to focus on my studies.

**0000:** Signing off.

Exhausted but fulfilled, I walk across the eerily quiet Quad to my dorm where I plop down my backpack, brush my teeth, and change into my PT gear to get ready to roll out of bed and do it all again tomorrow.

*Melina is supported in her daily Corps activities, leadership training and education by the Class of '51 Sul Ross Scholarship, Class of '68 Sul Ross Scholarship, and the Cindy and Hubert Hillman '75 Scholarship. Want to help more hardworking cadets like her live each day to their fullest by creating a Corps scholarship? Contact:*

KELLY CORCORAN '95, ASSISTANT VICE PRESIDENT FOR DEVELOPMENT, 979.450.4563, KCORCORAN@TXAMFOUNDATION.COM

# Legacy

*By* DORIAN MARTIN '06

ILLUSTRATION BY STEPHAN SCHMITZ

Focusing on retirement? Certified financial planner Stephanie Harris '96 offers five timely tips to optimize your finances for the long term starting at age 50.

Reaching middle age brings two of life's most joyful experiences: grandchildren and retirement. However, the passing years also increase the probability of life-disrupting surprises, like a dependent elderly parent or health crisis.

These challenges don't have to adversely affect a person's long-term financial health. "We're big believers in understanding where clients are in life and helping them align their assets with their values to achieve their financial goals," said Stephanie Harris '96, who co-owns the S. Harris Financial Group in San Antonio with her husband and business partner, Scott '95. Honored in Forbes' list of America's Top Women Wealth Advisors from 2020 through 2023, she shared five financial considerations to keep top of mind as retirement nears.

### 1. Create a financial plan.

A comprehensive plan that includes current and projected savings and spending rates offers a road map to financial security. "Having a comprehensive financial plan gives you greater peace of mind as you undergo transitions," Harris said. "We regularly meet with clients and ask for financial updates as well as changes to their health and family because these changes can impact a financial situation. With more knowledge, you can adjust your financial picture as needed."

### 2. Take the long view.

Older adults should maintain a balanced portfolio with an eye on the long term. "Someone retiring at age 60 to 65 may actually live longer in their retirement years than their working years," Harris explained, adding that it's important to remain invested in the stock market to stay ahead of inflation. "Even if you're 60, the money you're investing in the stock market isn't typically the money you'll need in the next five years. It's to protect the dollars you'll need in your 80s or 90s."

### 3. Prepare for life changes.

An older adult's life trajectory can rapidly change based on a health diagnosis. Therefore, people in their 50s need to start planning for long-term care needs not included in standard health insurance. Harris recommends considering long-term care insurance, which could help cover the cost of hiring assistance with daily living activities (such as bathing, dressing, etc.) that are often part of the aging process. She encourages investigating this type of policy earlier rather than later since most underwriters will not approve a policy when there is a diagnosis of certain age-related health issues.

### 4. Continue to track savings and spending.

Older adults must continually assess their savings and spending rates as they age to ensure their finances still align with their values and goals. This approach (which only requires paper and pencil or electronic tools and apps) can help individuals spot small costs—like daily Starbucks trips—that quickly add up and can become a surprisingly large percentage of a person's monthly expenditure. "If you're tracking your spending, you can focus on trimming an expense if a category surprises you," she said.

### 5. Keep tabs on changing ways to distribute wealth.

Unless new tax legislation is passed, changing laws will likely increase the amount of income and estate taxes you pay beginning in 2026. Because of this, Harris encourages high-net-worth adults to evaluate making a financial gift to heirs before 2025. In addition, a tax law passed in 2019 now requires non-spouse heirs to distribute funds from inherited IRAs over a 10-year time period after death. Since this could put the beneficiary in a higher tax bracket, she suggests considering a gift to a nonprofit such as the Texas A&M Foundation to reduce taxes.

Finally, charitable giving options shift later in life. People over 70.5 years old can tap their retirement plan to make a tax-free qualified charitable distribution of up to $100,000 each year to their favorite charitable organization.

## Retirement Ready

**20**

**years is the amount** of time the average American spends in retirement.

**70%–90%**

**of your pre-retirement income** is necessary to maintain your standard of living when you stop working.

**70%**

**of individuals who reach** age 65 will need long-term care at some point. The median cost of an assisted living facility was $4,957 a month in 2022 and more than twice that for a private room in a nursing home.

The Harrises' own long-term financial plan includes an after-lifetime gift to the Texas A&M Foundation for Texas A&M University that will create two scholarships, an excellence endowment in financial planning and an Aggie Ring endowment. "After the 2019 change to the tax law eliminating the ability to stretch distributions from retirement accounts to non-spouse heirs over their lifetime, we revised our documents and contingent beneficiary designations to leave our IRA accounts to the Foundation," Harris said. "This gives us the greatest tax efficiency in our overall estate plan and ensures that we leave a legacy to support the university we love." ◎

*Interested in establishing your own planned gift? To get started, download our free estate planning kit by scanning the QR code below or contact:*

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# did you know

## Layne's Chicken Fingers has served more than 13,777,920 cups of its secret sauce since opening in College Station in 1994?

When I sat down with Mike Garratt '98 for our interview and offered him a glass of water, he respectfully declined, pointing to the sweet tea in his hands. The words, "Soon to be famous" were enscribed above the Layne's Chicken Fingers logo on his Styrofoam cup. An hour later, after learning more about the restaurant that has become so ingrained in Aggie lore and tradition, I left thinking that it might be time to strike "soon to be" from the cup's design.

*By* MAMIE HERTEL '24

PHOTOGRAPHY BY JOSH HUSKIN


Garratt has been part of the Layne's Chicken success story since the beginning. When Mike Layne opened the restaurant in 1994, Garratt was a regular customer. "I was mowing lawns and working construction for my dad on a building behind Layne's," he shared. "I probably ate there three times a week." During one of his frequent visits, Garratt noted Layne's flowerbeds were overgrown and voluntarily tended to them. The act caught Layne's attention, and he offered the young loyalist a job on the spot.

## A College Station Classic

While earning his agricultural systems management degree from Texas A&M University, Garratt began working as a cook, eventually moving up to managing the restaurant. In 1997, he bought in and became an official partner but was at a crossroads after graduation. "I told Layne that I either wanted to buy him out, or I needed to leave and get a real job." Garratt became the sole owner in November 1999.

Although he's introduced new business practices and menu items over the years (coleslaw was the precursor to today's potato salad), Garratt chose to keep the Layne's name and character of the original Walton Drive location intact. Its maroon-and-white-checkered floor, mismatched booths and famous ticket wall—covered with artwork and messages from satisfied customers—lend a quirkiness that the company has embraced as part of its brand. And the food remains a comforting staple, especially the famous sauce.

Two additional Layne's locations opened in College Station in 2006 and 2015, but when it came to spreading the secret sauce outside Aggieland, Garratt was initially unsure. "I'd been approached multiple times throughout the years to franchise Layne's, and I always said no. Then these guys called me, and I don't know what it was about them, but I liked what they said."

Maybe it was less what they said, and more about who they were: a College Station native and his Wisconsin business partner who shared Garratt's love for Layne's Chicken. Matthew O'Reilly and Garrett Reed, who attended high school with Garratt, convinced him to lay the groundwork for franchising. Unsurprisingly, the first franchisee was an Aggie, and the first location outside College Station opened in Houston in 2021. "Aggies have a unique loyalty to our brand because there's a shared value system," Garratt explained. "The family-friendly atmosphere of Layne's reflects the tight-knit community that Aggies are known for."

## Fried Chicken Following

That tie remains strong as Layne's continues to expand outside Texas. More than 10 new locations, including some in West Virginia and Wisconsin, are in the works. At every location's grand opening, there's one constant: a lot of Aggie Rings. "We see a ton of former students come out," Garratt said. "They loved us from the beginning in Aggieland, and they support our new restaurants just like the original. They're helping us take this special Aggie tradition beyond College Station."

The symbiotic relationship between Aggies and Layne's is undeniable, and thanks to this support, former students can soon look forward to their favorite chicken order wherever life takes them after graduation.

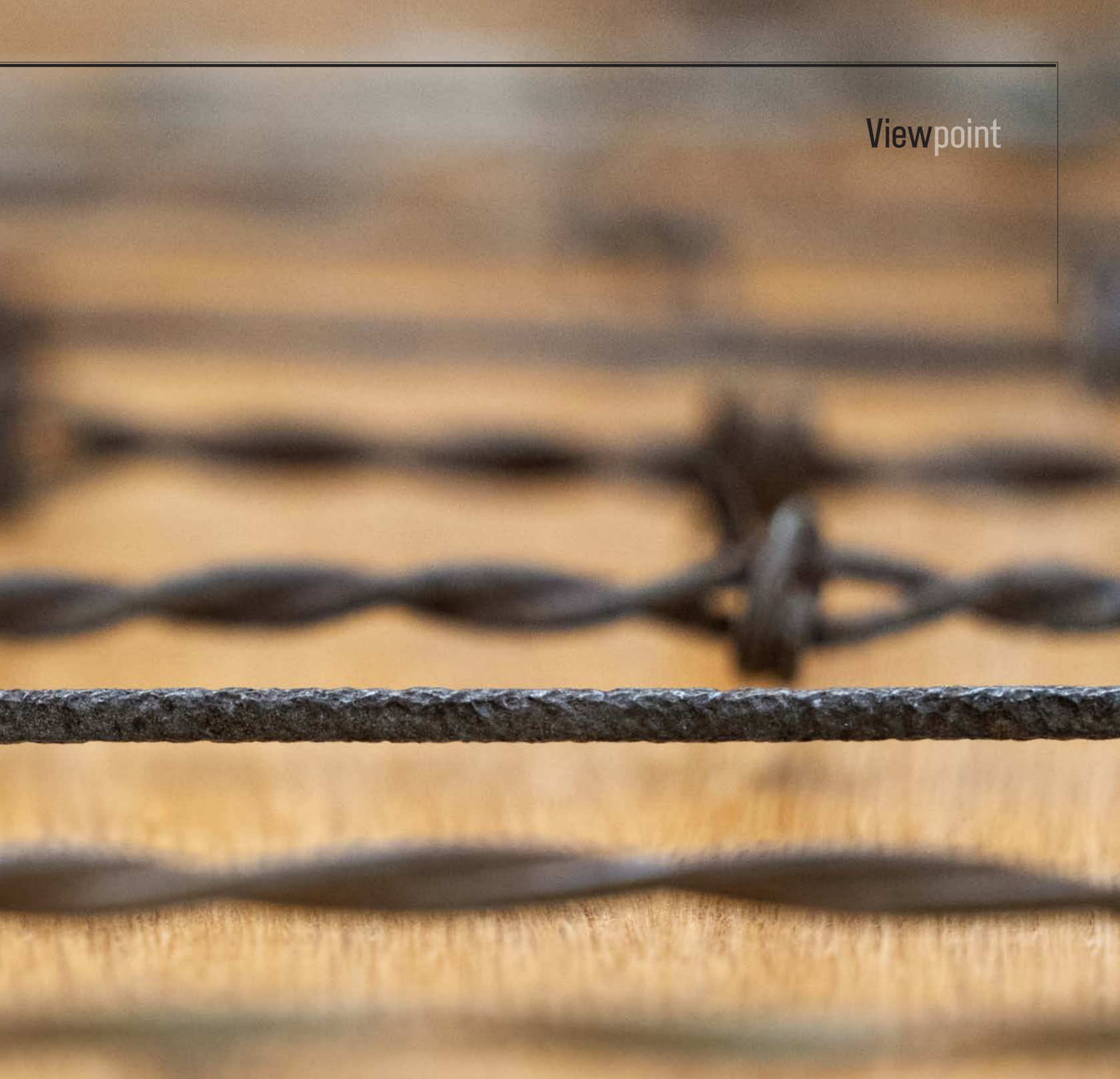
As for me, I'll take the chicken finger basket with extra sauce, fries, potato salad, Texas toast and a taste of Aggieland any day, anywhere in America.

# The Wired West

*By* SADIE KAMMLAH '25

Once characterized by vast, open ranges inhabited by settlers and Native Americans alike, the American West changed forever in the late 1800s. After the passing of the 1862 Homestead Act, which provided 160 acres of federal land to anyone who agreed to farm it, land disputes intensified and a need for hard boundaries emerged.

Many turned to fabricating homemade twisted wire to enclose their livestock and protect their property. But in 1874, Illinois farmer Joseph Glidden created an industry when he invented the first commer-



cially successful barbed wire. With his patent, he introduced a poky product that would forever snag shirtsleeves and alter how private land and natural resources were managed.

Today, some of that history lives on in a unique collection donated to the Department of Rangeland, Wildlife and Fisheries Management by the late Gaylon Lane, a retired soil scientist with the U.S. Department of Agriculture's Natural Resource and Conservation Service. Containing 269 individual strands of barbed wire amassed since 1965, the collection shows how fencing designs evolved from single, smooth threads to multiple-strand mesh and braided wires with various fixed and mechanical barbs. Each strand is labeled with its creator, patent name and date. The oldest dates to 1853—a smooth, single-wire snake-ribbon pattern called the "Meriwether."

Now housed in the Horticulture/Forest Science Building, the collection is a visual reminder of both the nation's history with land stewardship and its economic, social and environmental implications for the future. "Land becomes more important across generations, not only as it relates to the land itself but also other natural resources from wildlife to water," said department head Dr. Roel Lopez '96 '00. "This collection is a special reminder of the history that brought us to this point, but it also reminds us that the people who walk our halls have an opportunity and responsibility to improve our future stewardship methods and approaches."

TO SUPPORT THE DEPARTMENT'S WORK IN LAND CONSERVATION AND NATURAL RESOURCE MANAGEMENT, CONTACT:

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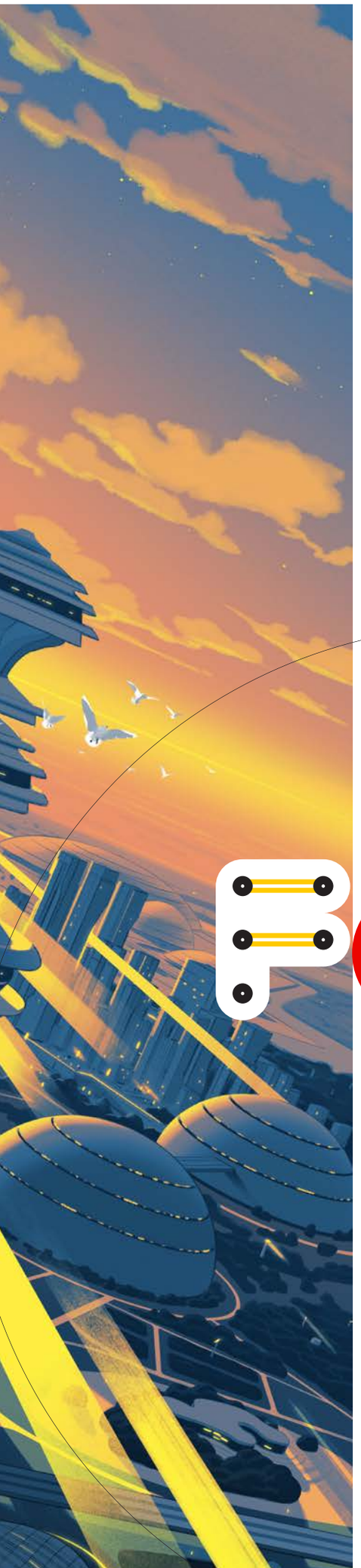


Illustrations by Señor Salme

By Bailey Payne '19

# Forward Past

FROM ROBOTS AND SPACE FLIGHT TO EDUCATION AND AGING, TEXAS A&M UNIVERSITY RESEARCHERS TACKLE **12 QUESTIONS ABOUT OUR FUTURE.**

How will we responsibly adopt

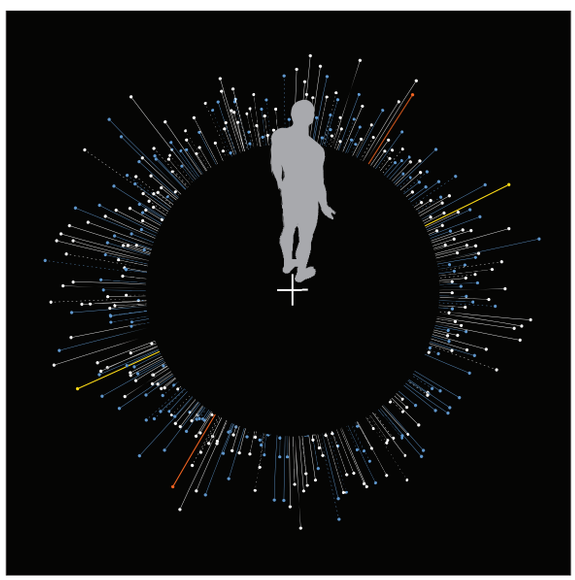
# new social technologies?

DR. GREGORY PAPPAS

While interactive technologies like the internet, smartphones and social media continue to integrate deeper into our lives, widespread faith in these technologies enhancing our personal relationships and civil society is waning drastically. In a 2022 Pew Research poll, 79% of Americans said social media had divided people in their political opinions, and 69% believed it made people less civil in discussing those opinions. Beyond political discourse, these technologies have also been criticized for deemphasizing face-to-face connection, incentivizing addictive behavior and harvesting personal data across platforms. With the promise of only more disruptive technologies like artificial intelligence on the horizon, how can we ensure we move forward responsibly?

"People tend to split opinions of technology into extreme optimism and pessimism," said Dr. Gregory Pappas, "but most of us are somewhere in the middle." Pappas is a Texas A&M philosophy professor and a National Humanities Center fellow who teaches an undergraduate course on the ethics of technology. "When it comes to new technologies, I think we should be experimental but cautious—experimental enough to be open to the good, but cautious enough to acknowledge the costs. And then, importantly, we should reflect on how our adoption of past technologies has changed us."

As a more extreme example, Pappas cited Amish communities. Most assume the Amish forego modern technology altogether, but in reality, many use cars, electricity, modern farming machines and cell phones. Their slowness in adopting the latest trends stems from their hard-line convictions about preserving community, family and simple living. "We don't need to go that far, but we can learn from how deliberate they are," Pappas explained. "My concern is not so much that technology will one day replace us. It's that we'll increasingly use technology to replace our relationships with each other." Individually and collectively, we can still choose to maintain face-to-face communities and values alongside new technologies, but only if we treat those technologies as choices and not inevitabilities.



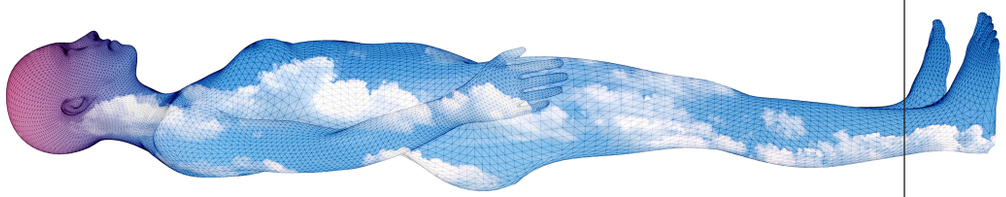
How will we help communities **survive climate disasters?**

DR. MICHELLE MEYER

In the aftermath of Hurricane Harvey, news media and public sentiment focused on Houston, which experienced severe flooding that overwhelmed more than 200,000 homes. While the massive response to devastation in the city was warranted, some of the areas hit hardest by the storm were small, rural communities along the Gulf Coast that had fewer resources dedicated to extreme weather events. "They have less data, less planning and less consideration for what they may need," said Dr. Michelle Meyer, director of Texas A&M's Hazard Reduction and Recovery Center. "Sometimes, the town's mayor, emergency manager and volunteer firefighter director are the same person. It's our job to help them however we can with what they have."

Meyer comes from a sociology background. Much of her work at the center examines how disaster preparedness and response policies can inadvertently threaten some communities more than others. "For example, lower-income people are buying and increasingly renting cheaper homes that often aren't built to code and can't withstand damage from a disaster," she explained. "Or they can only afford to live in neighborhoods that are less expensive precisely because they're more apt to flood." And while federal funds aim to mitigate losses, those funds are often doled out based on property values rather than personal need, sending disproportionately more money to middle- and upper-class owners and leaving out renters entirely.

The Hazard Reduction and Recovery Center is now heading a project to help small towns and rural communities, particularly low-income communities and communities of color, build resilience to more prevalent climate hazards. In addition to that project, the Department of Energy recently awarded a grant for Meyer and Texas A&M researchers to collaborate with The University of Texas at Austin, Prairie View A&M University, Lamar University and Oak Ridge National Lab to study the risks and impacts of flooding and air pollution in Beaumont, Port Arthur and the greater southeast Texas area.



Will we harness our

## circadian clocks to enjoy healthier lives?

DR. DEBORAH BELL-PEDERSEN

Circadian clocks don't get a lot of respect these days, especially at a university like Texas A&M. As finals come around and due dates creep up, students start chugging energy drinks like water and daisy-chaining one all-nighter after the next. And even if your college days are behind you, the beginning and end of daylight savings time can serve as a bothersome reminder of how much even one hour's difference can impact the body. Dr. Deborah Bell-Pedersen, director of the Texas A&M Center for Biological Clocks Research, thinks it's about time to consider our clocks an integral part of wellness.

"Almost every organism has an internal clock to keep it synchronized with the 24-hour environmental cycle," Bell-Pedersen explained. "Our clocks don't just influence our sleep cycle. They regulate our bodies to ensure certain biochemical reactions don't overlap. We're physiologically different people depending on the time of day." This has effects on how we take prescription and over-the-counter drugs.

For example, many older people take statins to lower their cholesterol. But those drugs are only effective when taken in the evening, as the body doesn't produce the enzyme they're targeting during the day. Bell-Pedersen has joined other researchers in her field in advocating for more consideration of biological clocks in medical trials and criticizing the harmful physiological effects of daylight savings time.

Her research, supported by the WoodNext Foundation, includes testing chemical compounds that could "reset" the body's clock, potentially eliminating the symptoms of jet lag and helping shift workers like nurses, firefighters and truck drivers who are at greater risk for metabolic disorders due to their nocturnal work schedules. "We're studying that as well as compounds that could help with sleep fragmentation," she said. With the center's myriad projects, Bell-Pedersen and her team have firmly established Texas A&M at the forefront of a burgeoning field.

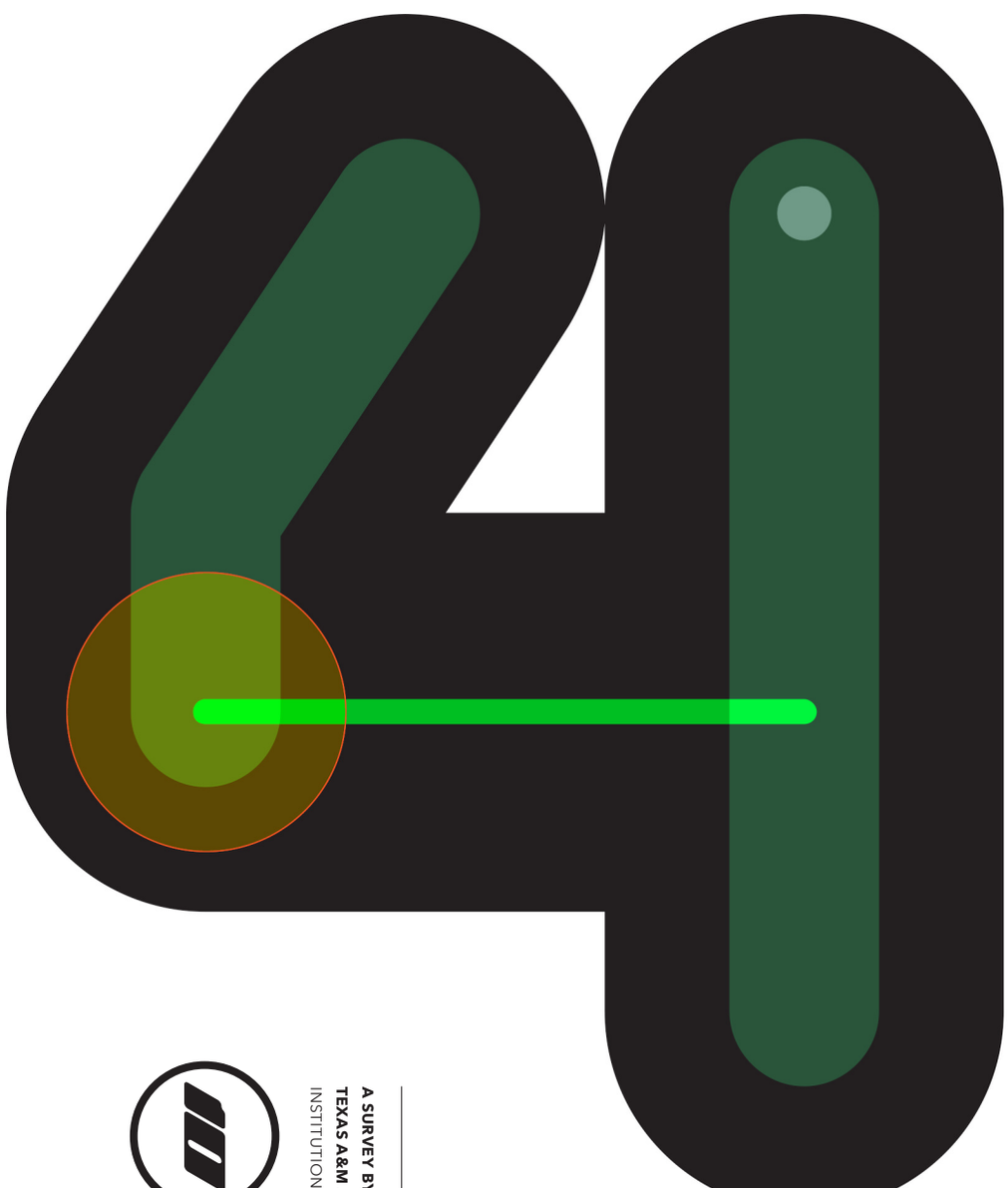
# How will humans and machines **work better together?**

STAVROS KALAFATIS

When people think about how humans and machines work together today, they might imagine an automotive manufacturing plant where robotic arms dance around the assembly line, welding parts with mechanical precision. But these, along with other manufacturing robots, tend to work in secluded cages, as their imposing size and speed combined with unwieldy programming makes them too dangerous to function alongside their human counterparts. Stavros Kalafatis, a professor of practice in the Department of Electrical and Computer Engineering, is working toward a new vision.

Specializing in data center system optimization, Kalafatis enjoyed a long and successful tenure at Intel before pivoting to academia. He pursued robotics research after former President Barack Obama directed billions of dollars toward creating advanced manufacturing robots, allowing Kalafatis and other Texas A&M researchers to secure funding through the Advanced Robotics in Manufacturing consortium at Carnegie Mellon University. "If you look at that car assembly line example, robots primarily handle the more dangerous parts of the manufacturing line, with humans doing more detailed work like polishing the dashboard and attaching small parts in the cabin. We're developing robots that could work with humans at a close distance—inches away, in fact."

To operate safely, these smaller robots must detect human movement accurately and predictively, veering out of the way before a worker encroaches on its space. "We use artificial intelligence to train robots in a virtual environment," Kalafatis said. "They learn to recognize limbs moving, hand gestures and even facial expressions that might indicate frustration in the human operator." He envisions robots and humans becoming increasingly collaborative, uniting their respective talents for precision and decision-making and building the future together, hand in metal hand.



**A SURVEY BY THE NATIONAL SCIENCE FOUNDATION RANKED TEXAS A&M AMONG THE TOP 10** PUBLIC HIGHER EDUCATION INSTITUTIONS IN THE NATION IN FISCAL YEAR 2021.

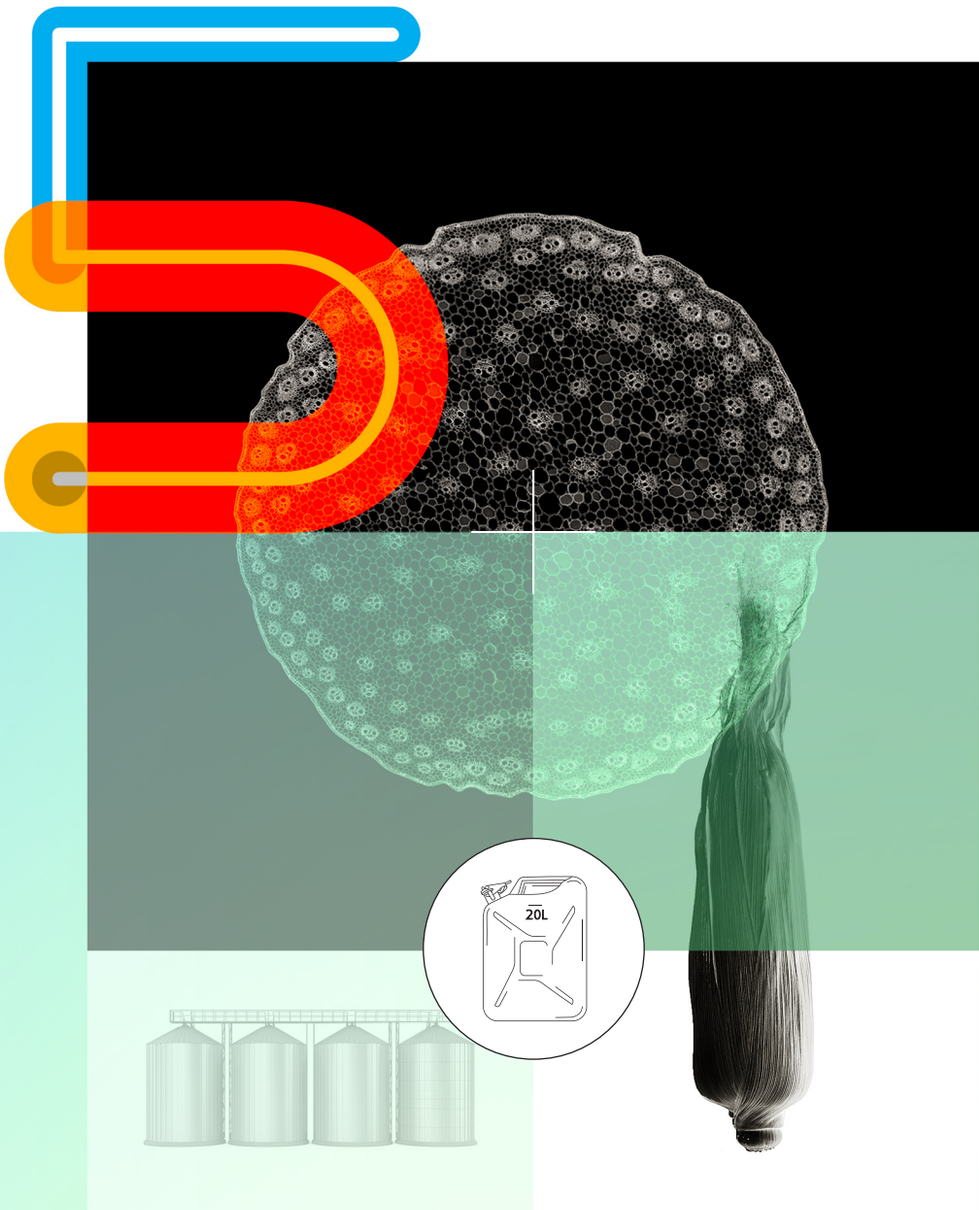
Will we overcome obstacles to **producing renewable biofuels?** • DR. NEIL GEISMAR

Biofuels have a complex reputation in the world of energy. Their potential is promising: carbon-friendly renewable energy from sources like corn, vegetable oils and lumber waste. Corn-produced ethanol, for example, already comprises around 10% of gasoline at the pump partly because it helps petroleum burn more efficiently. But just as you can't have your cake and eat it, too, if we burned all our corn for fuel, we wouldn't have any left to make tortilla chips, popcorn or high-fructose corn syrup. Also, we would starve.

To avoid burning more valuable food supplies, scientists have developed a fuel produced from corn stover—all the husks, stalks and leaves we don't eat. Reusing this byproduct is an admirable solution that has its own setbacks. For one, it takes a lot of the stuff to produce at economies of scale. "One biorefinery designed to produce 30 million gallons of ethanol annually would require about 375 tons of corn stover," explained Mays Business School researcher Dr. Neil Geismar. "To visualize that, imagine a stack of corn husks 100 feet tall, 100 feet wide and 20 miles long." Storing and transporting material of that magnitude can incur steep costs within the supply chain.

Dr. Geismar's research investigated whether reducing these costs could have prevented several recent failures by large biorefineries. Rather than have farmers take their stover directly to biorefineries, he proposed a network of depots that could compress the material into pellets, which are cheaper to store and transport. These pellets also have a longer shelf-life than does raw biomass, which deteriorates between its harvest and its use. "This supply chain structure reduces logistics costs, but the real savings comes from creating pellets that do not decay," Dr. Geismar said.

As America continues to test emerging energy resources to decrease greenhouse gas emissions and dependence on foreign oil, work like Geismar's will be critical in exploring ways to sustainably power the country.



## How will organizations navigate **human-made disasters?**

6

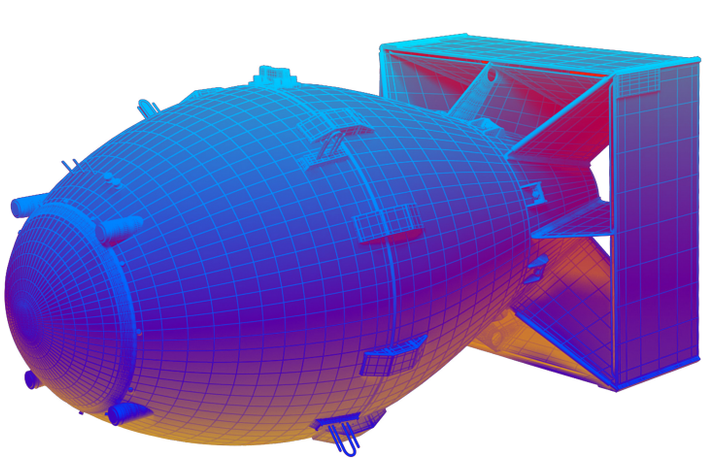
DR. ANDRES JOLA-SANCHEZ

Dr. Andres Jola-Sanchez grew up in Colombia amidst violence between the government, paramilitary forces, guerilla groups and powerful drug cartels—a layered conflict that still wages on at a low level today. "I saw the evolution of that conflict through the '90s to the present," he said. "It was informative, so to speak." His perspective only grew deeper after he started working for the Colombian government's National Planning Department and Ministry of Finance. As an assistant professor at Mays Business School, he draws from his experience to study how human-made disasters like war and conflict impact operations across firms.

"In any civil war or conflict, you have so many actors involved," Jola-Sanchez said. "You have the public sector, private companies and humanitarian organizations, and the conflict affects them all differently." He pointed to inventory management as an example of how armed conflicts turn conventional operations strategy on its head. "In peacetime, inventory is a tool to mitigate financial risk. But in conflict, keeping a large inventory could actually increase risk by turning your supplies into a strategic target."

For companies operating in conflict-affected areas, continually assessing and mitigating risk is critical. However, it's easier said than done, especially since human disasters are often more unpredictable than natural ones. "When a hurricane strikes, you know when it will make landfall and roughly when it will stop so you can start rebuilding," Jola-Sanchez said. "Most human conflicts don't have a set end date. When you don't know if a war will end in a week, a year or a decade, it makes it difficult to accurately forecast what your firm will need and when."

As the world grows increasingly interconnected and large companies broaden their span across continents, Jola-Sanchez emphasized the importance of global firms monitoring the areas they operate in and preparing their operations for the unpredictable ripple effects of modern conflict.



## How will we determine the **source of nuclear threats?**

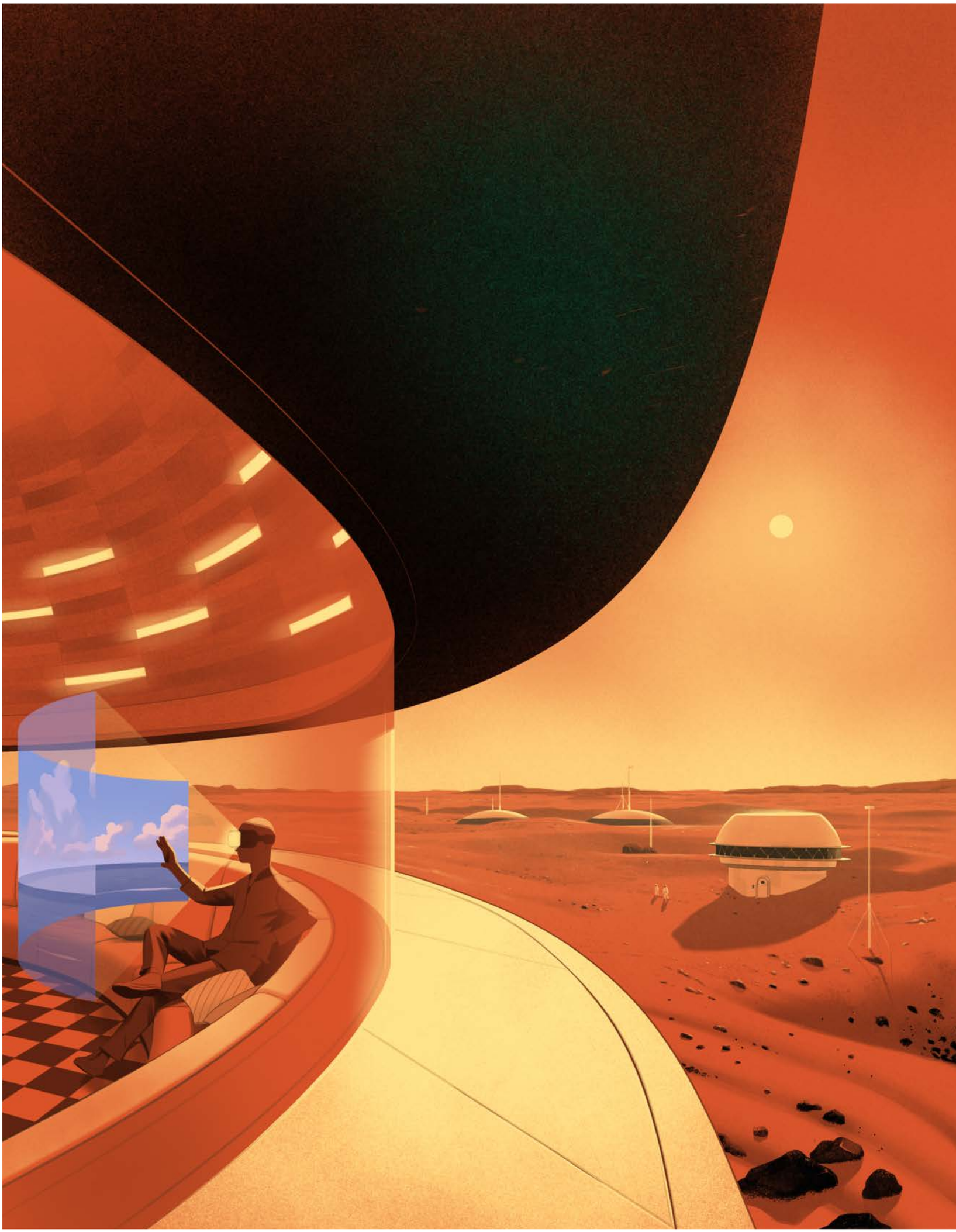
DR. SUNIL CHIRAYATH

7

It starts with a scenario out of a Tom Clancy novel: Nefarious actors have attempted to smuggle nuclear material into the United States, only for it to be intercepted by authorities before their plan could come to fruition. In the ensuing days, federal investigators would need to determine the material's origins and other characteristics quickly and accurately. If it's plutonium, it would have had to come from one of the world's 439 nuclear power reactors scattered across 30 countries or from one of 220 research and training reactors across 53 countries. Knowing which one would prove critical in determining our government's response—the fate of nations would be at stake.

"We'd take a sample from the intercepted material to verify whether the material is plutonium," explained Dr. Sunil Chirayath, professor of nuclear engineering and director of Texas A&M's Center for Nuclear Security Science and Policy Initiatives. "If so, we'd analyze for three focused parameters: What type of reactor produced it? How long ago was it produced? And how long did the uranium burn inside the reactor to produce the plutonium sample?" Nuclear forensics researchers like Chirayath would then use statistical methods to analyze a "fingerprint" from the sample to determine all three parameters of interest and match them to a small grouping of potential reactors. But this method wouldn't work if an adversary mixed material from two different sources to conceal their origins. "That's where artificial intelligence comes in."

Utilizing machine learning, a type of artificial intelligence (AI), Chirayath and his research team have developed a methodology that can simulate different material mixtures, producing a database of identifying markers for investigators to reference in their search. To validate the methodology, doctoral student researcher Dr. Patrick O'Neal '16 '20 '23 successfully used it to identify the sources of three plutonium samples with known origins. While this AI-assisted approach has great potential, Chirayath emphasized, "It's not a silver bullet. Technical forensic techniques can only go so far. You need policies, agreements and other intelligence gathering to prepare for potential threats and attribution."



A serene field stretches toward a tree line in the late afternoon. Light birdsong and the occasional high-pitched chorus of cicadas fill the air. The environment isn't quite photorealistic, but as the user audibly crunches leaves beneath their feet and even smells the piney air, their heart slows as they stroll through the calming virtual world projected through their headset. This is Dr. Jay Maddock's vision for a more conscious application of virtual reality (VR) technology designed to give residents of bustling urban areas and others without ready access to nature, like astronauts, a chance to experience the natural health boost of a walk in the woods.

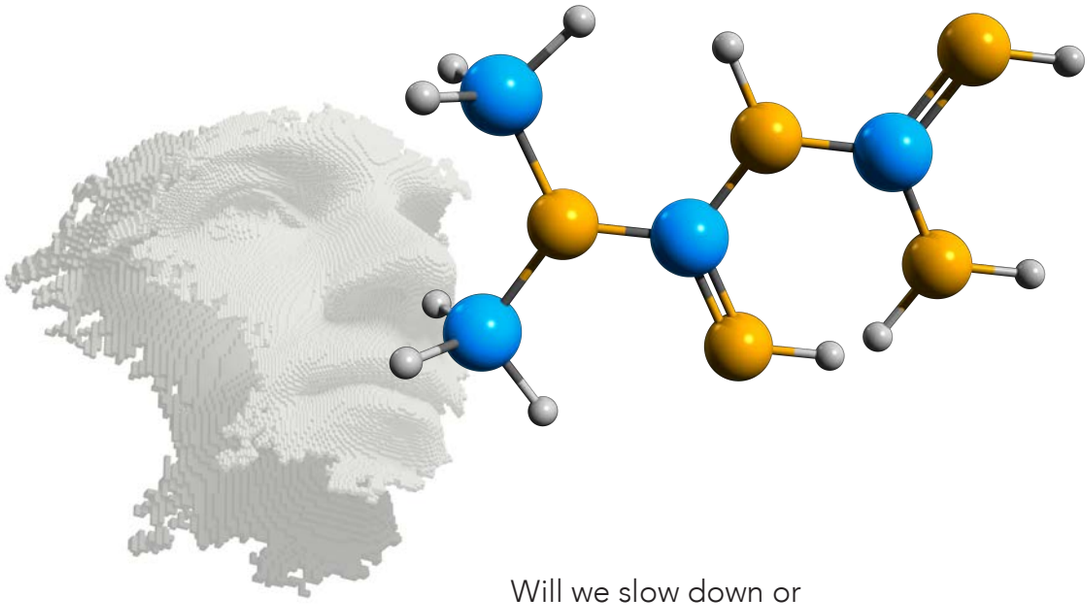
"We can look at biometrics to see that just being in nature has tangible positive effects," said Dr. Mark Benden '90 '92 '06, who oversees Maddock's research in the School of Public Health. With more young Americans than ever reportedly struggling with mental health, Maddock and his team at the school's Center for Health & Nature are exploring VR as a therapeutic tool for anxiety and mood disorders. Artificial nature scenes are not meant to replace the real deal, he said, but combined with other forms of treatment, they could provide a "hair of the dog" solution for young people entangled in our fast-paced digital society. "The target audience is more likely to adopt a technological solution, and we want to see if this can positively impact them."

As director of the school's Ergonomics Center, Benden is interested in how technology and product design can encourage healthier, safer habits on and off the clock. Complimenting Maddock's work, Benden and his team are also exploring using VR to train workers in hazardous occupations the same way commercial pilots train on simulators. "We could teach someone how to use a tool on a particular valve in a controlled environment, so they don't have to figure it out on an oil rig in the dead of winter," he explained. As VR technology unfolds and is touted as a means of escaping reality, Benden, Maddock and their peers continue to imagine new ways to use the virtual world to improve the real one.

## Will virtual reality help us thrive in life and work?

DR. MARK BENDEN '90 '92 '06 & DR. JAY MADDOCK

TEXAS A&M MAINTAINS FORMAL AGREEMENTS FOR RESEARCH COLLABORATIONS AND FACULTY-STUDENT EXCHANGES WITH **MORE THAN 117 INSTITUTIONS IN 40 COUNTRIES, PLUS ACTIVE RESEARCH PROGRAMS IN ALL CONTINENTS.**



Will we slow down or
**prevent the cognitive effects of aging?**

DR. ASHOK SHETTY

Modern medicine has done wonders for extending overall life expectancy across the developed world, promising more golden years to spend with those who matter most. But there's a specter hanging over the horizon of our lives: the fear of cognitive decline and disorders like dementia and Alzheimer's disease. There are more than 6 million Americans living with Alzheimer's—about 1 in 9 people aged 65 or older. These diseases rob patients of autonomy, greatly distress loved ones, and collectively incur staggering medical and social costs. Researchers have searched far and wide for cures to these ailments, but one encouraging treatment may have been hiding in plain sight.

Dr. Ashok Shetty, professor and associate director at the Institute for Regenerative Medicine in the School of Medicine, has performed studies using metformin, a common drug for treating Type 2 diabetes, to maintain cognitive and memory function in the aging brain. It works by controlling microglia, the resident immune cells in the brain. "In physiological conditions, microglia are good cells that perform basic housekeeping by removing pathogens and debris," Shetty explained. But just as white blood cells in patients with immune disorders can turn against the body, microglia can react to a brain injury or neurodegeneration by continually secreting proinflammatory cytokines, weakening cognitive function.

In a 2021 study, Shetty and his team observed metformin regulating microglia in aging mice, enhancing brain performance and preventing cognitive decline. He and his team aren't the only ones studying the drug's unexpected benefits. The American Federation for Aging Research is conducting a landmark six-year study of the drug in more than 3,000 people between the ages of 65 and 79 to test metformin's efficacy in delaying the development of dementia and other age-related chronic diseases. "Finding a cure for a disease like Alzheimer's after its onset is very challenging," Shetty said. "Therefore, our focus is also on extending our health spans—the time in which we enjoy physical and mental health—to keep up with our improved lifespans to promote healthy aging."

# 10

Will creativity take center stage in our classrooms?

DR. JOYCE JUNTUNE '97

When Dr. Joyce Juntune '97 began her educational career teaching pre-K through middle school students in California and Minnesota in the '60s and '70s, her principal regularly preached the power of creativity. "He wanted to help teachers learn how to become better thinkers," she said. "After all, how could we teach students to think creatively without doing it ourselves?" In California, her school largely taught children of migrant workers, many of whom spoke English as a second language. Teaching by the book just wouldn't cut it. "For example, before a lesson, I might have had my students draw a simple sketch to retain what we were learning. Later, we would learn the words to label that sketch and make the lesson stick."

"Using simple but out-of-the-box methods to stimulate students' natural creativity now defines much of Juntune's teaching philosophy. As an instructional professor and researcher in the School of Education and Human Development, she approaches her undergraduate courses with the same thinking she learned nearly six decades ago. "I ask myself, 'What will these students know at the end of the week they don't know today?'" she said. "'And how will I know they know it?'" Her current students, many of them future teachers, learn to prioritize creativity not just as a byproduct of learning but as its driving force across all subjects. "When you develop creativity, you learn to constantly ask questions, look for solutions and then let those solutions prompt more questions."

There is ongoing debate in education about standardized tests like Texas' STAAR test, which assesses schools throughout the state based on their students' performance. "When you 'teach for the test,' you risk being more concerned about your input to students rather than the outcome of their learning," Juntune said. She emphasized the importance of teaching each student holistically to keep them engaged in lessons. "If you can do that, the test will take care of itself."

# 11

Will innovative farming methods sustainably feed the world?

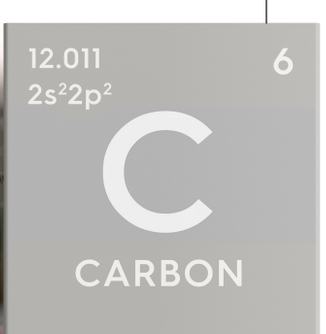
DR. JULIE HOWE '95 '99

Dr. Julie Howe '95 '99 isn't afraid to get down in the dirt. As a professor in the College of Agriculture and Life Sciences, her research is grounded in studying soil and unlocking its potential through innovative farming and land management practices. "Soil is at the center of everything," she said. "It influences food production, water purification and even our air quality." Texas' wide range of arable soil types, for instance, affects vegetation, land use and water resources, which influenced settlers and development throughout the state's history. But good soil is fragile, and despite dramatic advancements in agricultural techniques over the past few centuries, maintaining it has proven challenging.

Even when the state survives droughts, severe rainfall and winter storms like the dramatic 2021 ice storm, agriculture releases a significant amount of carbon into the atmosphere, worsening the effects of climate change and depriving the soil of the carbon it needs to stay healthy. "We want to address these problems in a way that benefits society and the average farmer," Howe said.

With support from the U.S. Department of Agriculture, she and her team are working with Texas farmers to implement practices like cover cropping—planting crops in the off-season for soil health rather than harvest—that aim to strengthen soil by retaining organic material, which is made of carbon. "In addition, we're working to reduce the formation and emissions of the greenhouse gas nitrous oxide, which forms from poor nitrogen fertilizer management. These practices will make agriculture more resilient to environmental stress and help mitigate climate change."

Implementing these practices has its share of hurdles. For one, in an industry where one lousy harvest can spell financial doom, farmers are justifiably wary of adopting unfamiliar methods, especially when those methods require an upfront investment. "Our practices are cost-effective in the long run, but we need financial incentives to encourage adoption in the short run," Howe stated. Continuing in the tradition of past Texas A&M AgriLife researchers bolstering the state's agricultural industry with research-backed techniques, she hopes her relationships with farmers can foster greater economic viability and environmental sustainability at once.



LIFE SCIENCES AND ENGINEERING CONSTITUTE THE BULK OF THE UNIVERSITY'S RESEARCH EXPENDITURES, COLLECTIVELY **GENERATING MORE THAN $838 MILLION IN FISCAL YEAR 2022.**

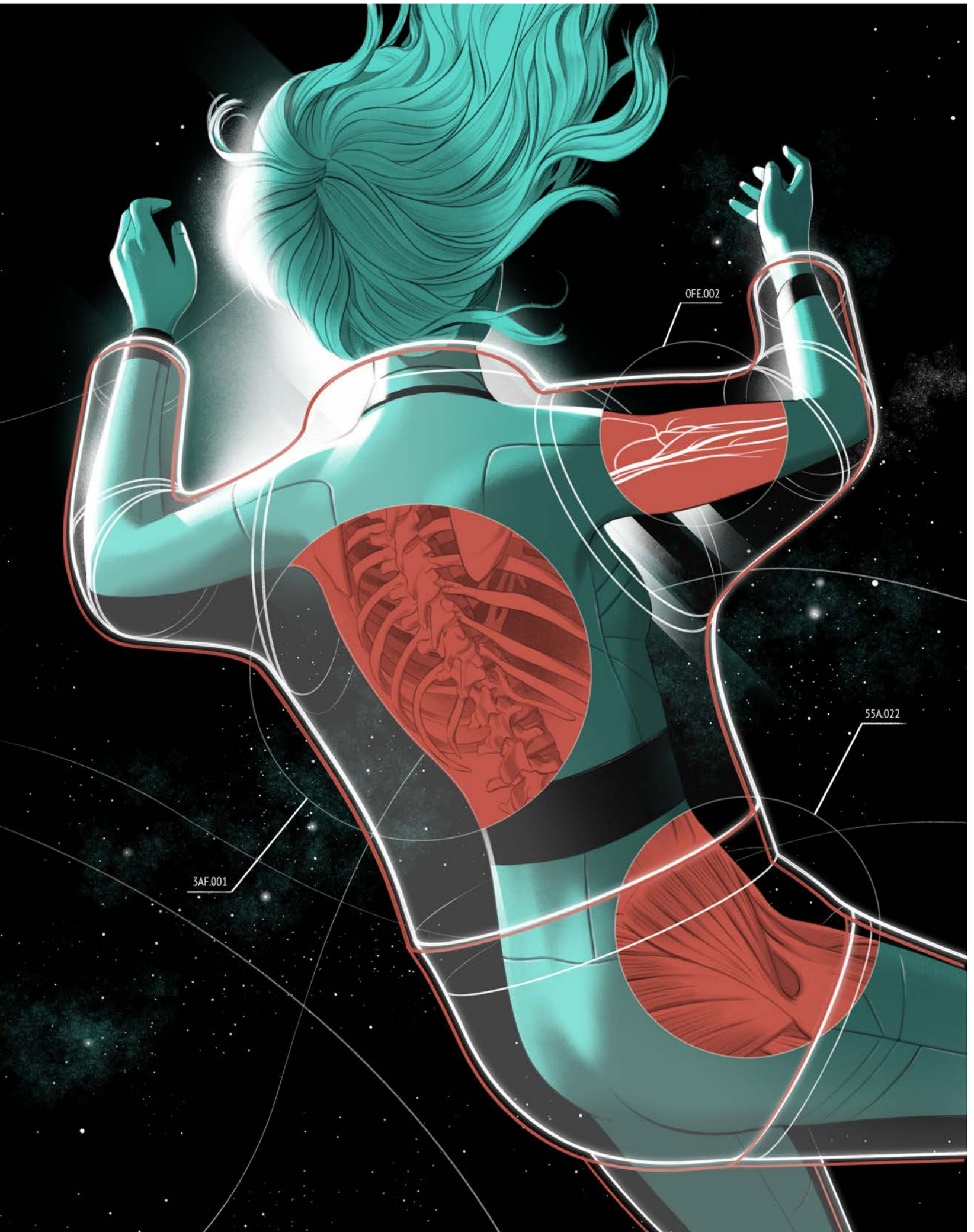
## Will we adapt our bodies to thrive without gravity?

DR. ANA DIAZ ARTILES

With NASA's much-publicized Artemis program and private ventures like Jeff Bezos' Blue Origin and Elon Musk's SpaceX putting space travel in the headlines, the final frontier is returning to the American imagination. Science fiction visions of colonizing Mars, interplanetary travel and even accessible commercial spaceflight are still far from becoming reality. But the pervasiveness of these ideas has inspired a research push from government entities and private interests, who are looking to the stars once again. Dr. Ana Diaz Artiles, an assistant professor in the Department of Aerospace Engineering, is contributing to that push by examining what happens in the human body as it abandons the gravitational forces that have kept it grounded for millennia.

Diaz Artiles has dreamed of helping humankind return to space since adolescence. "In high school, I watched the TV show 'From the Earth to the Moon' about the Apollo program and thought, 'This is what I want to do,'" she remembered. But her current research focuses less on helping people leave Earth's atmosphere and more on adapting their bodies to the radically different conditions that lie beyond. "The most-known physiological problems we face in weightless environments are muscle atrophy and loss of bone mass. But those are just parts of the picture."

Besides putting constant, strengthening pressure on our bones and muscles, gravity also pulls blood and other bodily fluids downward. Without that pull, the heart no longer has to work as hard to pump blood upward, and astronauts experience blood rushing to their upper body the same way it does for children hanging upside down from monkey bars. Using specialized methods such as parabolic flight, lower body negative pressure chambers and short-radius centrifugation, Diaz Artiles is investigating how this affects astronauts' motor function, vision and overall cardiovascular health long term. "Our next big step will be finding solutions to mitigate these issues," she said. After all, if humanity hopes to one day expand beyond Earth or even the solar system, it will first need to adapt to a new world of health challenges.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By Mamie Hertel '24

PHOTOGRAPHY BY JOSH HUSKIN

# Pleasant Good Morning to You

*For almost 30 years, Horace McQueen '60 was the voice of Texas agriculture.*

***It's Jan. 1, 1980. A new year dawns,*** and as the sun rises over cattle ranches and forest lands in the rolling hills of East Texas, farmers and ranchers are well on their way to completing their morning chores. For these Texans, the day begins like clockwork with a rooster's crow at dawn and the familiar voice and famous opening line of Horace McQueen '60 on his Farm and Ranch TV News program: "A pleasant good morning to you; hope everything's off to a fine start at your house this morning."

For nearly three decades, McQueen's reliable greeting was part of every East Texas household's morning routine. By the time the children arose to watch cartoons, McQueen had already reported on the latest agricultural news, production practices, weather forecasts and market conditions as the well-known and well-respected "voice of Texas agriculture." When asked what it felt like to be bestowed that title, he chuckled and humbly responded, "Well, I appreciate it, but there were a lot of good folks in farm broadcasting."

Yet, his distinctive reporting style and down-home relatability made him a central part of rural life for countless Texans. "I was in a taco place in College Station in the '90s and heard two Aggie girls in the next booth reciting Dad's opening line perfectly," said his son Dennis '82.

Today, the 84-year-old broadcaster lives with his wife, Carole, on their cattle and timber ranch in Grapeland, Texas, just 90 minutes up Highway 21 from College Station. It's beautiful country, and the smell of pine is strong. Their ranch-style home sits nestled on a hill. Inside, surrounded by a treasure trove of pictures, mementos and awards that document their lives, McQueen reflected on his legacy as one of the state's strongest agriculture advocates.

## *It All Started With a* Calf Scramble

When people from Texas discover I grew up in Montana, they often poke fun at my northern, rural roots by asking questions like, "Is there Wi-Fi up there?" or "Did you ride your horse to school?" I can't help but laugh while I confirm that, yes, we had internet access on my family's ranch and, no, we did not giddy up to get to class. Ironically, the only person I know who actually rode a horse to school is a Texan: Horace McQueen.

As youngsters, McQueen and his friend often rode to school and tied their horses up under the superintendent and principal's window. "They didn't like it because there wasn't air conditioning, and the smell got to them occasionally," he laughed. "They let us do it, though. The four miles there and back every day was a good little ride; it definitely beat taking the school bus."

Growing up on a farm in LaPorte, Texas, just east of Houston, McQueen's agricultural upbringing led to a passion for the industry. He spent his youth mowing pastures, working cattle and "all that other good stuff" on local farms and ranches.

IN 1955, FORTUNE STRUCK WHEN HORACE McQUEEN '60 CAUGHT A CALF DURING THE HOUSTON LIVESTOCK SHOW AND RODEO'S CALF SCRAMBLE. THE FOLLOWING YEAR, HE RETURNED WITH THE CALF AND WAS AWARDED THE GRAND CHAMPION BRAHMAN HEIFER.

In 1955, fortune struck when he caught a calf during the Houston Livestock Show and Rodeo's calf scramble. The following year, he returned with the calf and was awarded the grand champion Brahman heifer. When prodded to elaborate on his underdog success story, he grinned. "Well, let me tell you the full story...she was the only Brahman heifer in the show." Regardless, his grand champion sold for $700, and those funds helped him enroll at Texas A&M University to study agricultural journalism.

In addition to his calf scramble cash, McQueen received a scholarship that made becoming an Aggie financially viable. His college choice was also influenced by two county extension agents who mentored him while livestock judging in 4-H. "I figured if they were Aggies, it had to be a good place. I had the opportunity to attend Rice University on a scholarship," he said, "but I wanted to study agriculture."

## *Fast Track to* Broadcast

While majoring in agricultural journalism, McQueen double-minored in roping steers and riding bulls. He spent many college weekends at rodeos before landing his first job as associate editor for the National FFA magazine in Alexandria, Virginia, after graduation. A little more than a year later, he became the national editor for Farm and Ranch magazine in Nashville, Tennessee, the largest circulated farm magazine in the country at the time.

Just a year and a half into his role, the magazine went bankrupt. That's when McQueen called on his Aggie connections. "I called John Hutchison '36, the director of Texas A&M's AgriLife Extension Service," he shared. "I said, 'You know, Dr. Hutchinson, I really need a job.' And he had one for me." The job led McQueen and his wife to Lubbock, Texas, where he became the field editor for the extension service.

In this third editing job, he met Jack Tompkins '50, who owned several farm and ranch TV shows in Oklahoma and Amarillo, Texas. McQueen asked Tompkins, "Why don't we start a television show in Lubbock?" Without a second thought, Tompkins replied, "Sounds good to me."

Tompkins mentored McQueen for a short year, buying a station wagon, cameras and production equipment. He then kicked the bird, or rather broadcaster, out of the nest. "He told me I was on my own," he said. "I borrowed money to pay for the equipment he'd bought, and that's how Farm and Ranch News started." The move meant that McQueen was in business with himself, producing for TV stations in Lubbock, Abilene, Midland-Odessa and Big Spring. "Carole likes to remind me that the first month of television, I brought home $22," he said. "But it went up from there."

In 1973, McQueen decided he wanted to get back to his East Texas roots, so he made a deal with TV stations in Tyler and Lufkin and moved the family to a ranch near Troup, Texas, about 20 miles south of Tyler.

AFTER THE NATIONAL ASSOCIATION OF FARM BROADCASTING NAMED HORACE McQUEEN '60 THE TOP FARM BROADCASTER OF THE YEAR IN 1980, AN AGRICULTURAL CHEMICAL COMPANY SPONSORED HIM ON A TWO-WEEK EUROPEAN TRIP TO WITNESS AGRICULTURE ABROAD. HE LATER TRAVELED TO AUSTRALIA AND NEW ZEALAND AS WELL.

## *Agriculture* Abroad

As the producing host, McQueen had a broad autonomy over his TV show that allowed him to be live five days a week from 1973 to 2000. However, his greatest service to the agriculture industry was more than his consistent morning reports on the Farm and Ranch TV News program.

During his career, McQueen met with several presidents, including Lyndon B. Johnson, Gerald Ford, Ronald Reagan and George H.W. Bush, to advocate for agriculture and serve his audience. "It was fun to meet them," he shared. "But it was more about the opportunity to talk agriculture with our nation's leaders." He regularly traveled to Washington, D.C., and spoke with top economists and leaders to bring national news back home to Texas.

After the National Association of Farm Broadcasting named McQueen the top farm broadcaster of the year in 1980, an agricultural chemical company sponsored him on a two-week European trip to witness agriculture abroad. A second successful European trip sponsored by the Texas Farm Bureau inspired him to set his sights on another continent: Australia.

Working with representatives from a major Australian airline, Qantas, McQueen and a cameraman traveled the outback, filming local farmers and ranchers. The next year, he organized and led 35 Texan farmers and ranchers across the continent to discover Australian agriculture for themselves. The trip was so successful that the airline sponsored a third trip for the broadcaster in New Zealand.

## *Last Man* Standing

For the entirety of McQueen's 26-year career with Farm and Ranch TV News, he loyally served his audience in many ways, from sharing whether the day's cattle prices were up or down to offering insights into agricultural practices around the world. His breadth and consistency in the industry were unmatched, and, in 1986, the Texas County Agriculture Agents Association named him Man of the Year in Texas Agriculture. "When he started in the mid-1960s, 14 or 15 other guys were doing live shows daily," shared his son Dennis. "When he retired, he was the only one left."

In 2000, McQueen could have kept producing his show but opted to sell it to the TV station. His departure led to the show's demise, which lasted only a year and change without him. Shortly before he left, he was asked what he'd do next. "I don't know," he answered, "but I'm dang tired of waking up at 4 a.m. every morning."

While Horace got up well before sunrise to start East Texans' mornings, there was an even earlier riser in the McQueen household: his wife, Carole, who arose before her husband every day to make his breakfast and keep him on time. She ensured that

McQueen and their four children—Dennis '82, twins Deidre '87 and Debra '87, and Dale, a Texas Tech University graduate—had a "fine start" to every morning. "Without her, none of it would have been possible," McQueen shared.

Today, McQueen is applying his broadcasting experiences to life on his 700-acre Houston County ranch, a part of which has been in his family since 1854. The couple raises Murray Grey cattle, a premier beef breed he learned about in Australia. Not only did he bring the first live animals of this superior breed to the United States for his own herd, but he also brought several thousand units of semen to help ranchers nationwide incorporate Murray Grey genetics into their own cattle operations. Thanks to him, hundreds of ranchers today raise this cattle breed all over the country.

## *Aggie and* Agriculturalist for Life

Despite his time on air ending, McQueen still finds ways to reach audiences and contribute to the industry. He writes agriculture columns for several East Texas newspapers, while he and Carole also support aspiring Aggie agricultural communicators through three endowed scholarships in Texas A&M's Department of Agricultural Leadership, Education and Communications. In 2012, the College of Agriculture and Life Sciences honored him with its Outstanding Alumni Award, a testament to the lifelong Aggie and agriculturalist.

As an agricultural communications and journalism major, I couldn't help but ask for the voice of Texas agriculture's advice for a soon-to-be job-hunting graduate. "There are plenty of opportunities out there, but you've got to search them out," he shared. "Preferably, you'd find some Aggie like I did who knows the ropes and can help you open some doors. If you've got the right attitude, you'll figure it out."

Fortunately, McQueen's life has already opened many doors for agricultural communicators like me. His accomplishments and experiences shine a light on the endless ways to get involved in agriculture, whether it be editing a magazine or interviewing the president of the United States. He inspires every young Aggie to boldly ask for opportunities: ask for a job, ask to go overseas, ask to start a TV show, but most importantly, always ask how you can keep serving the people and places you care most about.

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TO SUPPORT THE NEXT GENERATION OF AGRICULTURAL COMMUNICATORS AT TEXAS A&M, CONTACT:

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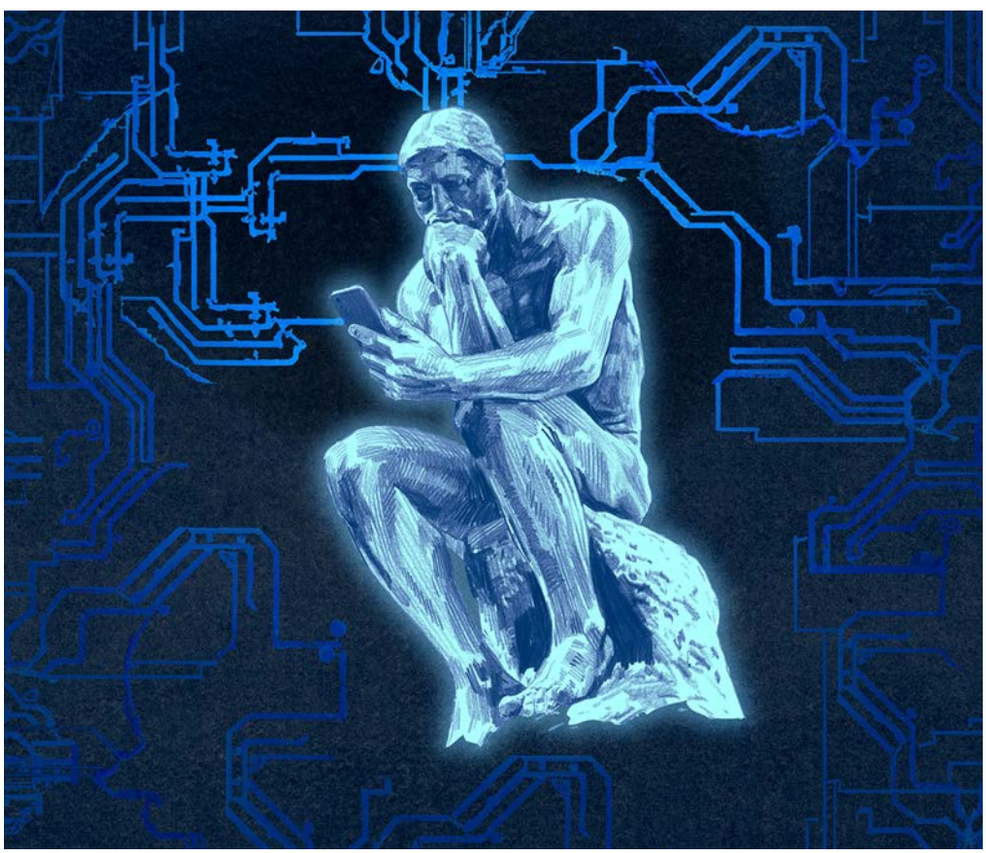
# What's Next With Artificial Intelligence?

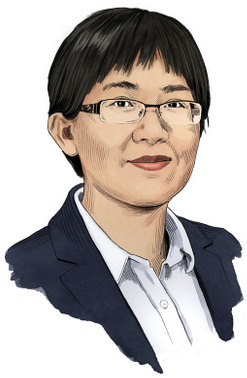
*Faculty discuss artificial intelligence's promises, limitations and impact on our lives.*

*By* LYDIA HILL '21

ILLUSTRATIONS BY JOE MCKENDRY

Every time you ask Siri or Alexa a question or use a suggested response for an email or text, you're interacting with artificial intelligence (AI) technology. The term was coined in 1956 to describe computers performing tasks that once required human input, and since then, AI has become entwined in our daily lives. As its capabilities advance, will it morph into an all-powerful tool that can solve all our problems? Faculty members across Texas A&M University weigh in on AI's impact now and tomorrow.





**Dr. Ruihong Huang**

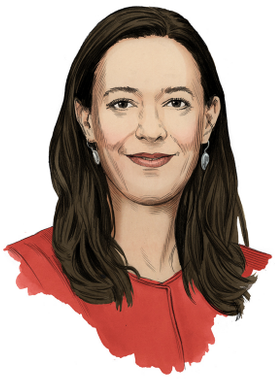
ASSOCIATE PROFESSOR, COMPUTER SCIENCE AND ENGINEERING

## A Reasoning that better mimics humans.

Today, AI technology can pull up the weather on command and solve your online shopping questions. But how does a machine understand what we're saying? The answer lies in the field of natural language processing, which uses advanced AI algorithms to analyze large amounts of text and develop word sequence associations. When someone talks or types a question, the machine draws from these associations to examine the context and predict the best word sequence to answer the question.

"Researchers are impressed by what AI can do with language," Dr. Ruihong Huang said. "But the underlying model is not how humans think. AI doesn't really know what you're talking about because it can't reason." As the director of Texas A&M's Natural Language Processing Group, Huang studies how AI can better mimic human reasoning when analyzing language for tasks like identifying social media posts about local disasters or detecting media bias in news articles.

While the human-like AI programs from the movies are still a fantasy, Huang hopes advances in natural language processing will produce machines with greater accuracy to help people and companies with simple yet tedious tasks. "There have been amazing developments with AI," she added, "but we still have a long way to go."



**Hannah Bloch-Wehba**

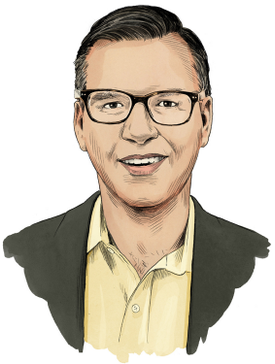
ASSOCIATE PROFESSOR, SCHOOL OF LAW

## New laws that uphold our values.

As with any technological development, AI is not without its issues. Though Siri offering the wrong information might be a small inconvenience, mistakes become more serious as AI technology undertakes greater responsibilities, like identifying promising job candidates or qualified federal aid applicants. Such systems could also be trained on incomplete data, causing unintentional bias toward different groups.

For Hannah Bloch-Wehba, addressing these problems is vital as more governments adopt AI decision-making technology. "Often, it's not very clear how an AI arrived at a decision, which leads to less public accountability," she explained.

Currently, AI development and use has little regulation, and lawmakers are still in the early stages of addressing potential disadvantages. "In the past few decades, technology regulation has been largely permissive to encourage innovation," Bloch-Wehba said. "We've never confronted technology quite like AI before, so the question of the right legal approach is still wide open." As society continues to incorporate AI in new ways, lawmakers will have to grapple with how to protect values like privacy and equality to make the technology better for everyone.



**Dr. Martin Peterson**

SUE AND HARRY BOVAY CHAIR OF HISTORY AND ETHICS OF PROFESSIONAL ENGINEERING, PHILOSOPHY

## A discussion of what it is to be human.

What is free will? What does it mean to have agency or moral responsibility? What is creativity? These are questions philosophers have discussed for centuries. Now, they have another question: Can AI technology ever possess these characteristics?

Not for a while at least, said Dr. Martin Peterson. "There is a fundamental difference between how a human brain and an AI system works," he said. "If we consider more than just the output and focus on how it was produced, we wouldn't say that current AI technology can truly think or be creative."

When considering current and future AI developments, Peterson recommends focusing less on aspects the average American can't control and more on using it in ways that align with your values. "For example, even if an AI could write all my philosophy papers, I'm not sure I'd want it to because I believe it's important for me to write those papers to develop my philosophical skills," he explained. "Even though AI systems can write a paper or compose music, it's still profound when humans do these things. AI creates material by drawing on existing papers or music, but humans can create something entirely new."


A local to the Bryan-College Station area, Ivan Sanchez '26 was first introduced to music by an elementary school teacher who hosted an afterschool guitar club. "It wasn't much—we played the same chord over and over again—but that sparked my interest in music," he said.

Today, the musically talented economics major can play the saxophone and vihuela, but it's the violin that has captured his heart. As he works toward a career in real estate, we sat down with him to learn about his favorite student experiences, including his role as president of Aggieland Mariachi.

*By* HILARY NGUYEN '26

PHOTOGRAPHY BY JOSH HUSKIN

*To support first-gen dreams through a Regents' Scholarship, contact:*

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ASSISTANT VICE PRESIDENT FOR DEVELOPMENT
979.209.0867
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# Ivan Sanchez '26

This Regents' Scholar is spreading the sound of Mexican culture.

## A MARIACHI'S MUSE

Get to know this Regents' Scholar as he shares his favorites things below.

| | |
|---|---|
| SOLO | ENSEMBLE(1) |
| STAYING IN | GOING OUT(2) |
| MIDNIGHT YELL | GAME DAY |
| MORNING BAND PRACTICE(3) | AFTERNOON BAND PRACTICE |
| PLAYLISTS | ALBUMS |
| BUY/HOLD PROPERTY | RENOVATE/RESELL PROPERTY |
| OPPORTUNITY COST THEORY(4) | SUPPLY AND DEMAND THEORY |
| WEEKENDS(5) | WEEKDAYS |
| "HOWDY" | "GIG 'EM" |
| MARIACHI UNIFORM(6) | BLACK TIE |

1. *I love making music on my own, but there's an indescribable feeling when I perform in a group. As members of Aggieland Mariachi, we are proud to share not only our art but also Mexican culture with audiences through a variety of performances, from the yearly Latinx Graduation Ceremony to the Houston Livestock Show and Rodeo. We've been a tradition for 20 years, and it's an honor to lead the group this year.*

2. *I love being outside. My Friday nights generally consist of band rehearsals and performances. But on nights I'm not busy, I love to just stargaze and feel the breeze.*

3. *Our group practices twice a week. We don't typically practice in the morning, but I always enjoy when we do. It's almost magical. We're all still waking up and it's a nice, slow way to start the day. Some of my favorite songs to perform are "Si Nos Dejan" ("If They Let Us") and "The Aggie War Hymn."*

4. *Though I didn't know it by name, opportunity cost—the impact of choosing one option instead of its alternative—was how I got interested in economics. I was at a pawn shop during lunch one day and discussed the opportunity cost of buying a game with the owner. He became my unofficial economics mentor after that!*

5. *My brothers come back to town on weekends, and we all gather at my parents' house. At times, we'll get our family's mariachi band together and spend the weekend performing.*

6. *The Aggieland Mariachi uniform is a fun twist on traditional mariachi uniforms. Not only are they maroon instead of the traditional black, but they also feature a Texas A&M emblem as the centerpiece. When we go to performances, we're easy to recognize; we're known to some as the "maroon mariachi."*

## First-Gen Dreams

As four-year awards, Regents' Scholarships support first-generation students whose total family income is less than $40,000 per year. A $100,000 endowment permanently supports one student at a time by awarding them an annual scholarship of up to $5,000 per year. To aid their transition to college, Regents' Scholars live on campus their freshman year, participate in a learning community, and have access to academic and social assistance programs.

Sanchez's donors, Carol and Sim Lake III '66, are enthusiastic about supporting scholarships. "My father, Sim Lake Jr. '38, impressed upon me the benefits of graduating from Texas A&M—not only the education but also the values of duty and honor that are instilled in Aggies," Sim said. "For that reason, my mother and I established a President's Endowed Scholarship (PES) in his name. Carol and I later established another PES. But as a land-grant university, Texas A&M has a responsibility to educate students who might not qualify for a merit-based PES. A Regents' Scholarship provided us with a great way to support first-generation students in Texas whose families do not have the resources to pay for college."

Following in his donors' footsteps, Sanchez also wants to give back to the Texas A&M community in the future. "I would not be where I am today without the inspiration and help of Aggies and mentors I've met along the way," he said.

*By* SADIE KAMMLAH '25

# Aiding Applicants

## By assisting students from her hometown with college applications, Annabelle Hutchinson '15 is helping brighten outcomes for others.

Sixty miles south of Houston and only half an hour from the Gulf of Mexico sits West Columbia, Texas, a small town rooted in community and state history as the first capital of the Republic of Texas. But historic fame doesn't necessarily lend a helping hand to rural residents who dream of more ambitious pursuits. For many high schoolers in West Columbia, college is not on the radar, and those who do apply can find it an intimidating task. For Annabelle Hutchinson '15, it was a path she had to walk on her own.

"Coming from a small town, I had great community support in many ways, but I didn't have much guidance on how to apply to college, what to highlight in my applications or where to find scholarships," she recalled. But her persistence and top performance in high school paid off, rewarding her with an Endowed Opportunity Award, a scholarship from the Houston Livestock Show and Rodeo, and the full-ride Terry Foundation Scholarship to attend Texas A&M University and earn dual degrees in political science and economics.

Now a lecturer for the University of Utah and a Ph.D. candidate in Yale University's Department of Political Science, Hutchinson is repaying her hometown by guiding others through the college application process. It's a tradition she began as an undergrad in Aggieland and continues each fall. She's helped about two dozen students prepare for their SATs, narrow down college choices, write admissions essays and apply for scholarships. "I started doing this because I wanted to ensure students from my small town had help finding schools where they could receive financial aid," she said. "Oftentimes, if students from low- and middle-income households can get into esteemed schools like Texas A&M, the costs can end up lower than attending a less prestigious school that offers much less financial aid. When I discuss college options with someone, I always encourage them to apply to a wide variety of schools because they won't know what scholarships or aid may be offered until they're accepted."

Hutchinson has assisted students in applying to trade schools, community colleges and big universities like Texas A&M, The University of Texas, Rice University, the University of Houston and Texas State University. West Columbia native Carson Ohlen credits her for pushing him to follow his passions in academia, a move that resulted in him earning a Terry Foundation Scholarship to attend The University of Texas, where he is currently a senior. "Annabelle exemplifies that you can do whatever you put your mind to, no matter where you come from or what resources you have," he said.

Expanding on this tradition of giving back, Hutchinson also hopes to offer high schoolers the chance to discuss career pathways by connecting them with individuals in her personal network who might serve as mentors. "A lot of people think they need to do a huge thing to make a difference," she said. "But I've learned you don't need to work with a big foundation or nonprofit to make an impact and decrease inequality of opportunity. If everyone gave a little bit back to their own community, we'd all be better off because of it."

*Do you know an Aggie who serves selflessly like Annabelle? Let our editor know at* ***dreader@txamfoundation.com****, and they could be featured in a future issue.*

"Annabelle serves as an example that you can do whatever you put your mind to, no matter where you come from or what resources you have."

—CARSON OHLEN
SENIOR, THE UNIVERSITY OF TEXAS
TERRY FOUNDATION SCHOLAR

# The Aggie Apollo Apostle

## One man's quest to send a Bible to the moon.

*Prior to his tragic death during a planned launch test in 1967, Apollo 1 astronaut Edward White II told a reporter he hoped to carry a Bible to the moon. In his memory, John Stout '44 (right) formed the Apollo Prayer League in part to fulfill White's goal. On Feb. 5, 1971, the Apollo 14 lunar module touched down on the moon's surface (below), bringing with it 100 copies of the lunar Bibles.*

*By* GRACE JONES '17 '21

At the height of the Cold War and the global contest to explore the next great frontier sits a story of both science and faith. It is the remarkable tale of the late Rev. John Stout '44, who served as chaplain to America's astronauts during a notable career at NASA. As the United States' race to the moon against the Soviet Union enraptured the nation, he carried forth a vision to send the first book to the lunar surface: a Bible.

Stout's story began in 1922 on the rural backroads of Handley, Texas, an archetypal small town. There, the young "Johnnie" developed dual interests in theology and astrophysics and desired to attend college. At Texas A&M University, he served in the Corps of Cadets and played football alongside All-American Aggie running back John Kimbrough '41 while earning a degree in chemical engineering. He was handed his diploma by Dwight D. Eisenhower, then U.S. Army Chief of Staff.

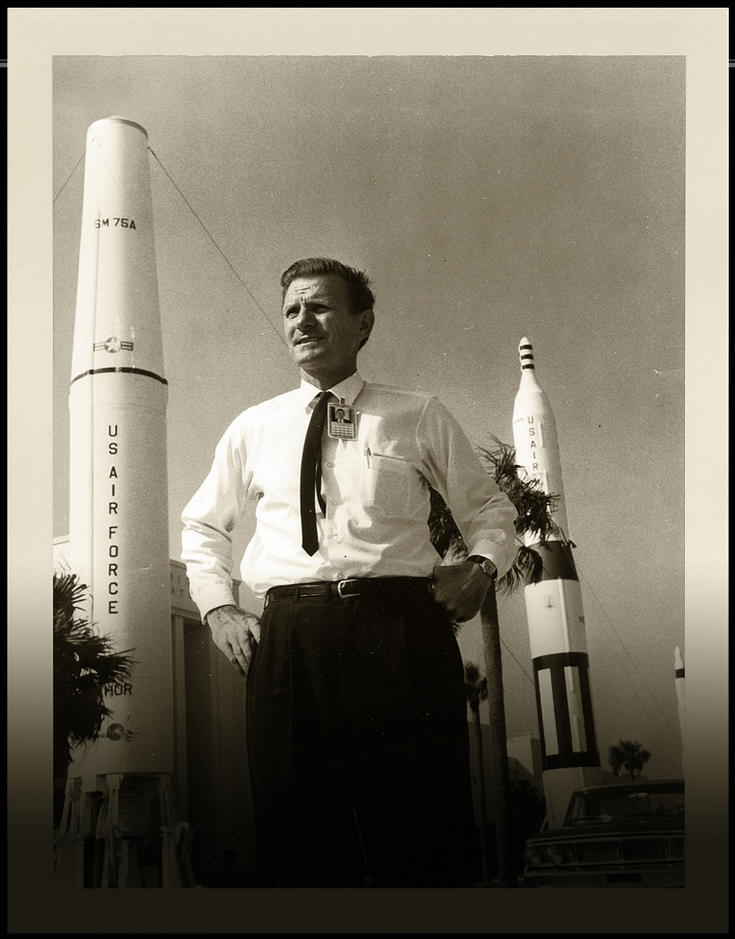
Following service in World War II, Stout and his wife, Helen, spent 11 years in Brazil, where he pursued missionary work and taught chemistry and engineering design at the University of Lavras. While living in South America, he fashioned a long-range photographic telescope, pointed his makeshift tripod at the sky and captured the first photograph of the Soviet Union's Sputnik 1 in 1957. Lyndon B. Johnson, a U.S. senator at the time, celebrated the event in a letter to Stout, dubbing him "Moon Watcher." It was just a precursor of his role to come in reaching the stars.

### The Race for Space

In 1962, the couple returned to the United States. By this time, Stout had earned multiple degrees in theology and science as well as a doctorate in linguistics, and his accomplishments inspired NASA to recruit him as a senior information scientist. He accepted on the condition that he also act as the unofficial astronaut chaplain.

In this capacity, he befriended the era's astronauts, including Edward White II, an Air Force veteran and devout Christian who became the first American to walk in space in 1965 on Gemini 4. For White, the space program signified something far beyond international prestige: He believed it brought the world closer to the divine. He once told a reporter he hoped to carry a Bible to the moon, but his dream was cut short when he was tragically killed by a cabin fire in 1967 during a routine launch test for Apollo 1.

The next year, Stout honored White by forming the Apollo Prayer League, a support group devoted to praying for the safety of astronauts. As its membership grew,





he provided a source of hope and faith to those working tirelessly on the Apollo projects, but he always recalled his friend's wish for a Bible to reach the moon.

Utilizing groundbreaking microfilm technology developed by the National Cash Register Company during the 1960s, Stout and the Apollo Prayer League sought to create a Bible that would adhere to NASA's in-flight weight restrictions and could be carried to the moon's surface. The technology reduced all 1,245 pages of the King James Bible to a microfilm chip measuring about 1.5 square inches—a little larger than a postage stamp—that could be read by microscope.

## To the Moon and Back

After reproductions were made, several attempts followed to land the Bibles on the moon. Several hundred copies were carried on Apollo 12, but that mission lingered in orbit, unable to land. Before the Apollo 13 mission, George H.W. Bush—the U.S. ambassador to the United Nations at the time—distributed 152 copies in small bags to the crew, but an oxygen tank explosion again prevented a lunar landing. Despite not having been to the lunar surface, the Bibles became signs of answered prayers for the safety of both missions' astronauts.

Finally, on Feb. 5, 1971, Stout witnessed White's dreams fulfilled as Apollo 14 slowly sank into the moon's rocky surface, kicking up dust as astronaut Edgar Mitchell carried a Bible to the lunar surface. The crew carried 100 copies in the lunar module and 200 in the command module. News of the first lunar book spread to media outlets, which reported that the event was like a "breath of fresh air," and the term "lunar Bible" was coined.

Stout remained with NASA until the Apollo program ended in 1972. He passed away at age 94 on Dec. 8, 2016, the same day as astronaut John Glenn. He always treasured his relationships with the people who heeded John F. Kennedy's famous call to "climb space" and set sail with God's blessing "on the most hazardous and dangerous and greatest adventure on which man ever embarked." ◎

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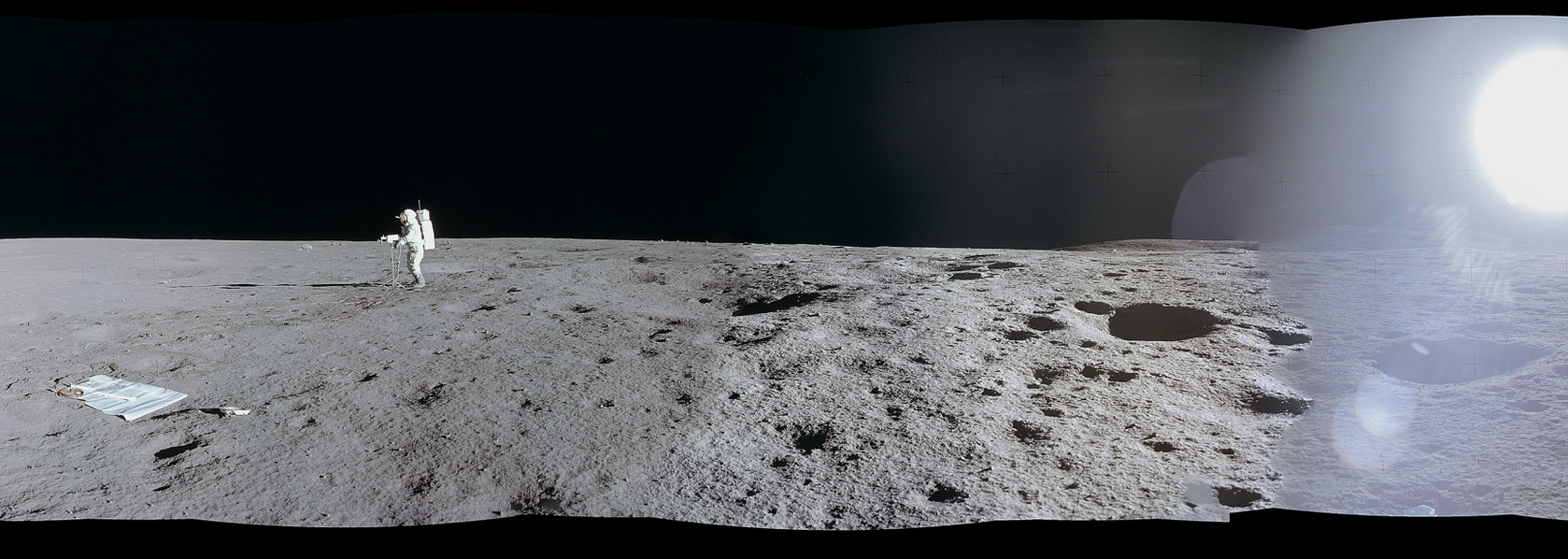
ABOUT THE AUTHOR

*Grace Jones '17 '21 is a doctoral student at Rice University studying the history of space, religion, and science and technology. She is also a human space flight specialist at The Aerospace Corporation. She holds a bachelor's in English and a master's in history from Texas A&M University.*

PHOTOGRAPHY/NASA (BACKGROUND); PRINCETON THEOLOGICAL SEMINARY WRIGHT LIBRARY (OTHERS).



*By* JEANNIE RALSTON
PHOTOGRAPHY BY JOSH HUSKIN

# For the Win

## A new partnership between Mays Business School and Texas A&M University Athletics helps athletes keep scoring well beyond their playing days.

"What did you do to be successful in football?" That's the question that got Chris Valletta '00 started on a path to entrepreneurial success. His dad posed it when the former Aggie offensive lineman, fresh out of the NFL, was anxious about starting a new job in sales. In response, Valletta made a list of traits he used in his sports career: dedication, discipline, and the ability to handle adversity and perform under pressure.

When Valletta applied those skills in his first year on the job, he became his company's top salesperson. He's now the co-founder of MISSION, a company he created with athlete-business icons Serena Williams, Drew Brees and Dwayne Wade that produces cooling gear for active people.

Realizing that the lessons he learned in sports translated to success in business, he began lobbying for a formal program at Texas A&M University to help student-athletes capitalize on their instinctual skills off the field or court. Today, his vision has manifested in the creation of AmplifyU, a one-of-a-kind partnership between Mays Business School's Reynolds and Reynolds Sales Leadership Institute and Texas A&M Athletics.

### Amplify What?

"We want you to think about life after sports before it hits you in the face," Dr. Janet Parish, director of the institute, told assembled student-athletes in a personal time management class. They listened attentively as Parish discussed how to maintain priorities when their time is much less structured in the real world.

Over the four-day AmplifyU immersion course in January 2023—the second time the program was offered—students took part in short courses like Parish's, as well as competitions, networking mixers, and insightful sessions with former athletes and industry representatives.

AmplifyU comprises two tracks: AmplifyONE focuses on personal development topics such as personal finance, entrepreneurship, personal branding and social media, and name, image and likeness (NIL) law. AmplifyALL centers on leadership topics like marketing, management strategy, building business teams and problem-solving.

> "I hope people will invest in athletes as human beings whose inherent value is not dependent upon their performance on the court or the field."
>
> —ALEX SINATRA '11 '14
> CEO & FOUNDER
> YOUR POTENTIAL FOR EVERYTHING

In many aspects, AmplifyU is similar to programs the institute already offers engineering and medical students. Like participants from other disciplines, student-athletes receive a certificate of completion and acknowledgment of the courses on their college transcript.

### Amplify Who?

Although not directly related, AmplifyU was born shortly after the Supreme Court allowed amateur players to control their name, image and likeness. "I realized more people than ever would be trying to take advantage of athletes," said Alex Sinatra '11 '14, a sports lawyer and the CEO and founder of Your Potential for Everything, a strategic sports consulting business, who helped provide the incentive for AmplifyU. "I knew we needed to give them the resources and education to understand contracts and recognize a good deal."

AmplifyU satisfies key requirements on educating student-athletes on NIL, but as a set program associated with a top-tier business school, it goes far beyond. Its mission is to develop well-rounded athletes who compete in any sport, from swimming to softball, and to prevent the all-too-common hazard of professional athletes going broke after their playing days because "they don't know how to be the CEO of their own career," Sinatra said.

Dat Nguyen '98, a former Aggie linebacker, has certainly done well after his seven seasons as a Dallas Cowboy. He is now a successful Chick-fil-A franchise owner but still wishes a program like AmplifyU had been available. "Something like this would have helped tremendously with my transition from play-

*Mays Business School has partnered with Texas A&M University Athletics to create AmplifyU, a program that helps student-athletes like Ava Underwood '26 and Jaden Harris '26 differentiate themselves to leverage their innate abilities for success in business.*

ing to business," he said. "As athletes, we lacked a chance for internships because we had limited time between sports and academics."

For Jaden Harris '26, a high jumper and triple jumper on the Aggie track and field team, AmplifyU introduced valuable topics. "Learning about things like loans and starting and keeping a company helps me have a base knowledge of business and networking," he said.

## Amplify How?

AmplifyU's creators would like to see the program become a fixture at Texas A&M to serve the hundreds of current Aggie student-athletes. They hope to offer one session in January before the spring semester and one in May after the term. Every other year, organizers also plan to host a conference that will be "an educational, motivational event and networking opportunity for everyone active with AmplifyU," Parish added.

To reach these goals, the program aims to raise $8 million for a permanent endowment. Valletta jump-started the program with a $60,000 contribution to fund the pilot AmplifyU session in May 2022 and has since added a $100,000 gift toward the endowment. "I hope people will invest in athletes as human beings whose inherent value is not dependent upon their performance on the court or the field," Sinatra said.

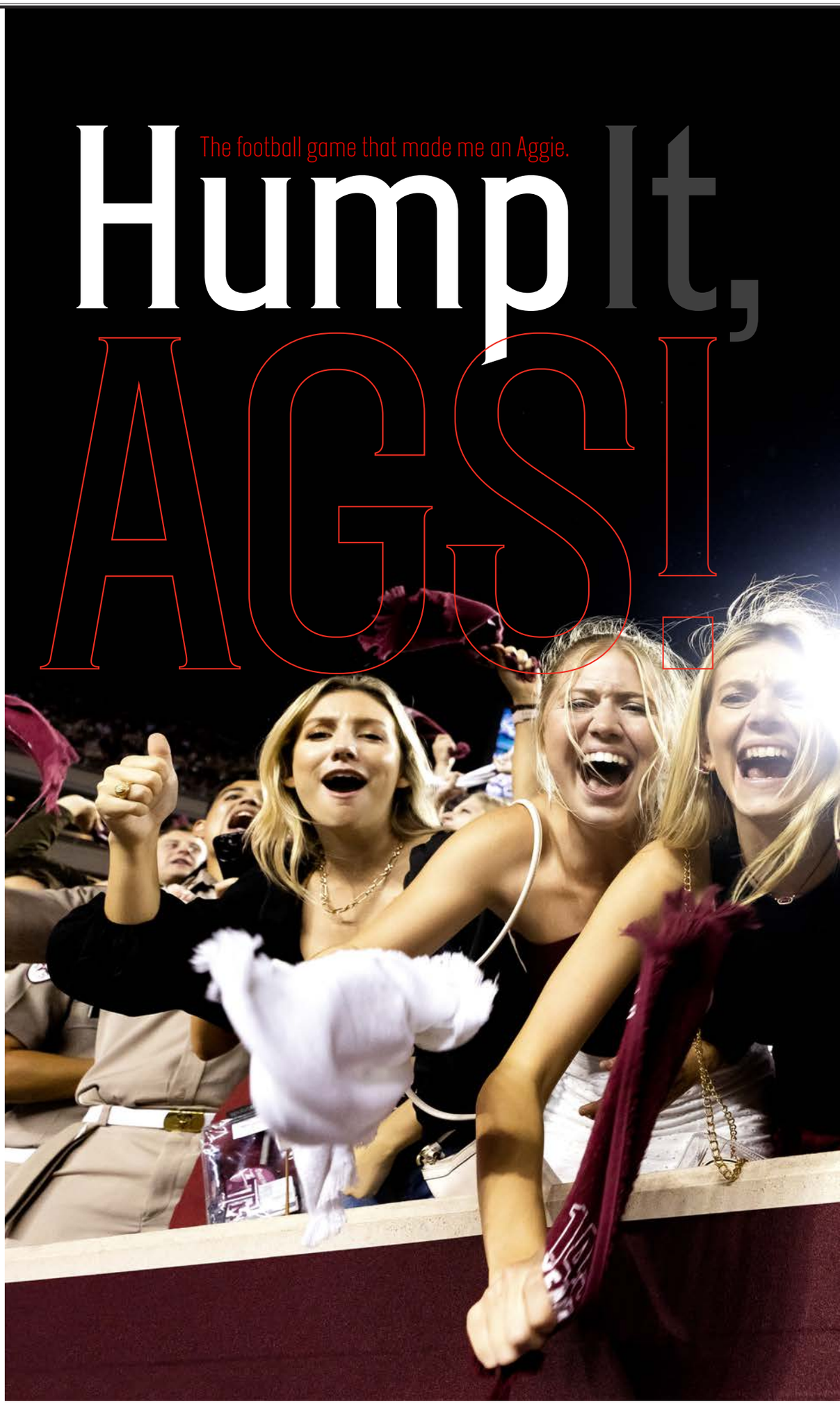
Ava Underwood '26, a Texas A&M women's volleyball player, said what she learned in the January course was "truly life-changing" because it provided vital insight on how to make the most of her talents as a student-athlete. "We are blessed as Texas A&M student-athletes to have the opportunity to be part of this special program," she said. ◎

TO TEAM UP WITH AMPLIFYU AND HELP MAYS COACH STUDENT-ATHLETES FOR A LIFETIME OF SUCCESS, CONTACT:

CASSIE MAHONEY '15
SENIOR DIRECTOR OF DEVELOPMENT
979.862.4531
CMAHONEY@TXAMFOUNDATION.COM

The football game that made me an Aggie.

# Hump It, AGS!



I gasped for air and debated using my 12th Man towel as a sweat rag as I surmounted the stairs to the second deck of Kyle Field. It was my first Aggie football game as a freshman in 2021, and we happened to be playing our most formidable opponent: Alabama. "We're almost there," Anna yelled over the crowd. She was the first friend I made at Texas A&M University and my guide for the day. I huffed out an "OK" and continued my climb to the third deck.

Once we settled into our place among a sea of maroon shirts, cowboy boots and white towels, Anna started rattling off all the game day traditions I needed to know. "Don't sit down, and wave your towel like this when everyone else does, and don't forget to..." she trailed off as the whistle signaled the start of play.

As the clock ran on, the environment was electric. Everyone was screaming at the top of their lungs for four quarters. Music, yells and a healthy amount of towel threads filled the air. I don't know much about football, but with two minutes left, I could tell we had a chance to win. As Seth Small '22 kicked the game-winning field goal, the stadium shook as more than 106,000 fans let loose ear-piercing screams. Someone got so excited in the chaos that they hurled a water jug in the air and accidentally clocked me in the head.

Head injury aside, I had never felt more connected with so many

*By* TIARRA DRISKER '25

people than at that moment. As I linked arms with a perfect stranger to sing "The Aggie War Hymn," I felt I was exactly where I was supposed to be. My friends and I made the 2-mile trek home, and all I could think about was the feeling I had in that stadium.

Just months before, I had no idea what an Aggie was or what it meant to "Gig 'em." I didn't attend Fish Camp and only toured campus once before enrolling. Somehow, this fine university of 70,000 people had managed to pull me into its community, traditions and culture in very little time. If you had told me five years ago that I would be giving a thumbs-up with pride, spinning a towel like mad and swaying with strangers, I would have been baffled.

Today, I have an unbelievable group of friends and am involved in several student organizations, including a sorority. You never know where you'll end up, but I'm glad I ended up here as a Fightin' Texas Aggie. As the old saying goes, "From the outside looking in, you can't understand it. And from the inside looking out, you can't explain it." ◎

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ABOUT THE AUTHOR

*Born into a military family, Tiarra Drisker '25 likes to say she is from a little bit of everywhere. A communication major, she is a member of Alpha Epsilon Phi and is involved with the Carter G. Woodson Black Awareness Committee. In her free time, she crochets, reads science fiction and watches Abbott Elementary.*

*By* BAILEY PAYNE '19

PHOTOGRAPHY BY CASE RHOME

# The Right Gift for You

## Directed giving through the Texas A&M Foundation allows you to customize your impact on others and create a unique Aggie legacy.

The Texas A&M Foundation raises and manages gifts of all types and sizes for Texas A&M University but specializes in helping former students and philanthropic partners change lives through directed giving. With a directed gift, you choose exactly what your money supports on campus.

Making a directed gift can be as simple as visiting our website and donating to one of our hundreds of online giving accounts. However, to create a larger impact through a permanent endowment or a planned gift that takes effect after your lifetime, there's an easy process we can walk you through.

### 1. Start the conversation.

Email **info@txamfoundation.com**, call us at 979.845.8161 or visit our website at **txamfoundation.com**. There, you'll find a contact form to connect you with one of more than 80 development officers (DOs)—passionate professionals dedicated to helping you navigate the giving process.

### 2. Create a vision.

Your DO will ask you questions to help narrow down the campus area you want to impact and how. In the same way that newspaper journalists cover one or more "beats," DOs manage fundraising for different Texas A&M colleges and schools and will offer in-depth knowledge to find the perfect gift opportunity for you. You can support scholarships, faculty and research, student activities and traditions, or college programs.

## Star Student Support

Scholarship endowments are among the most popular directed gifts the Foundation receives. These endowments allow customization options for but not limited to:

- Student major
- GPA requirement
- Student hometown or region
- Student classification (class year, graduate status)
- Involvement in an organization at Texas A&M or in high school
- Intention to pursue a particular profession
- Name of your endowment (after donor, a loved one or an organization)

### 3. Decide on a giving method.

Once you've decided what you want your gift to support, it's time to elect how you'll fund it. You don't need to give in cash or all at once; there are plenty of other options to make a difference in a way that is financially beneficial for you. For example, you could also give real estate or stocks. And planned gifts, or gifts that take effect after your lifetime, could offer tax advantages and even provide steady payment streams for you or your loved ones.

### 4. Document your wishes.

When you're ready to finalize your gift, your DO will give you a gift agreement, a document that lays out your gift's details and binds the Foundation to your intentions. This stage is also where you can tailor-make your gift, including its name, payment timeline and—in the case of a scholarship gift—specific details outlining the type of student(s) you want to support.

### 5. Celebrate your impact!

After you've signed your gift agreement, it's time to watch your generosity go to work. Depending on your giving method and timeline, you may get to meet your gift recipients and visit campus for updates about your impact. If you gave through a planned gift, enjoy peace of mind knowing that you've created a unique Aggie legacy to benefit future generations.◎

*Watch, learn, give with the*

# Giving Academy

**Have more questions about the giving process?** Scan the QR code to check out our Giving Academy, a short video series with informative courses on why people give to Texas A&M, what the giving process looks like and how endowments enable donors to make a generational impact. Whether you're a first-time donor, longtime partner or are simply curious about philanthropy's role in sustaining Aggieland, the Giving Academy will help you learn how you can make a difference in just minutes at a time.

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## Arts and Grafts

Assistant professor of biology and TIRR Foundation fellow Dr. Jennifer Dulin '05 has spent the last 15 years researching potential treatments for devastating spinal cord injuries. "These injuries are terrible events for anyone who experiences them," she said. "They can cause lifelong paralysis, pain and various organ dysfunctions. And there are basically no treatment options." However, with funding from the Craig H. Neilsen Foundation, the Paralyzed Veterans of America Research Foundation and the National Institutes of Health, Dulin's laboratory is testing the viability of a potentially life-changing approach.

In a 2022 study, she and her team took neural progenitor cells (NPCs) from mouse embryos and transplanted them into mature mice with spinal cord injuries. NPCs are comparable to stem cells, generating neurons and other cells that can improve motor function. This image is a cross-section of an injured mouse's spinal cord with the grafted NPCs dyed a bright green to track their proliferation through the damaged tissue. The study demonstrated that female mice rejected transplants from male donors, which could affect future human clinical trials.

"The idea is that one day, we could take cells from a paralyzed patient's skin, 'reprogram' them into NPCs or neural stem cells in a petri dish, and then use them to restore voluntary motor function," Dulin explained. More research is needed before the treatment becomes viable for humans, but each study brings her team one step closer to understanding the depths of the nervous system. "I see neuroscience as biology's final frontier. We've learned a lot about the heart and other major organs, but we've only seen the tip of the iceberg regarding the brain. This is a truly exciting time for the field."