

SOMBRILLA

FALL / WINTER 2014 | THE UNIVERSITY OF TEXAS AT SAN ANTONIO

Master Minds

UTSA RESEARCHERS SOLVING
WORLD PROBLEMS



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From leading the charge in cybersecurity advancements to shaping the success of an unlikely inventor, UTSA is home to student and faculty research that's making a world of change.

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Exclusively Online

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RESEARCH IN ACTION:

Alumnus Gary Walters '13 needed an engineering project while he was a UTSA student, and he just happened to have a problem with his prosthetic leg that he wanted to change. Watch him talk about his Eureka moment with *Sombrilla* staff and, in our research cover story on page 14, find out how his idea is coming to life.



FROM THE BRINK:

Archivists from the UTSA Libraries (in our article on page 6) are saving data in their Special Collections—that's been stored away on outdated media—from obscurity as part of a national project that transfers the found information to cloud servers. Watch them talk about the process of uncovering research materials. And learn how to best preserve your own documents and pics for posterity.



ANATOMY OF A ZOMBIE (SHOOT):

To photograph alumnus and acclaimed thriller writer Joe McKinney M.A. '04 for our Community section (page 26), *Sombrilla* staff wanted to see him in context with a familiar subject: a zombie. See a slide show on how the pairing, shot at the historic Carter mansion in downtown San Antonio, came together.



LOVE MY BICYCLE:

Graduate art student and fitness enthusiast Braydon Gold has made, well, an artform out of photographing his beloved fixie in well-positioned spots around the university. You might even have seen his bike and not realized how strategic its stance was. Now, take a look at our photo compilation of Gold's efforts with his muse and fitness sidekick.

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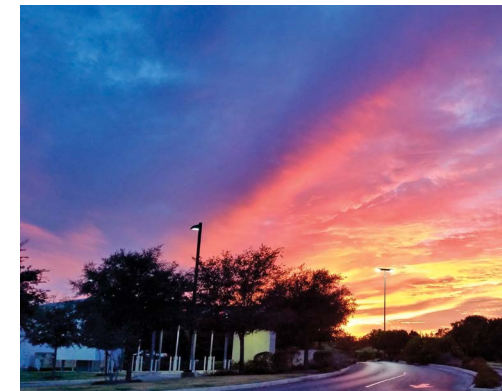
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SHOWING ROADRUNNER PRIDE ON SOCIAL MEDIA

@RowdysWrangler

"I think God is trying to tell us something. #OrangeOut"



@UTSA

"Our @UTSAFTBL team will be in white for tomorrow's game! Show your orange and blue for National #CollegeColorsDay."



@RowdyTalk

"Coming in hot to our Houston tailgate."



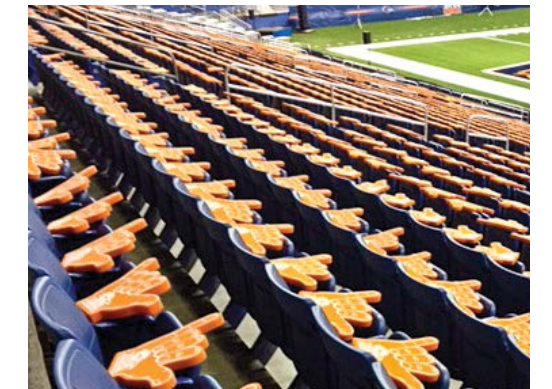
@UTSAGOP

"So happy to see new traditions forming at the Rowdiest university in Texas! #MidnightLight"



@JustJacy86

"And all the #UTSA students, on behalf of the interns and @HEB—you're welcome for the foam fingers. #LetsGetRowdy"



@UTSA

"Hey look! A 'bird's eye' view of the busy *Sombrilla* this cloudy Monday morning."





With the Main Building as a backdrop, the UTSA team sets one of its drones in flight.

PHOTOS: PATRICK RAY DUNN

Drone On!

UTSA RESEARCHERS ARE LEADING THE WAY IN TECHNOLOGY BEHIND UNMANNED AERIAL VEHICLES, INCLUDING USES THAT COULD SAVE LIVES

BY KATHRYN JONES

Amazon.com wants them to deliver books and other goods. Google is testing them to deliver emergency supplies to disaster areas. News organizations plan to use them to gather information. Movie studios envision them taking filmmaking to new heights—literally.

They are drones, the popular name for unmanned aerial vehicles. Already flying military missions, drones are waiting to be cleared for takeoff for commercial use. The Federal Aviation Administration is devising rules for private UAVs in U.S. airspace, and once drones begin operating commercially, the industry could contribute billions of dollars to the U.S. economy and create thousands of jobs over the next decade.

With so much potential, universities, government agencies and companies are busy researching new ways to use UAVs and better ways to operate them. Daniel Pack, Ph.D., the Mary L. Clark Endowed Distinguished Professor and chair of the Department of Electrical and Computer Engineering, and his team at UTSA stand on the forefront of such research into how these machines will fly in the future—even by using human thought to control them.

“There are many, many applications [for our work],” Pack says. Commercial applications often emerge from military technology—the Internet being a prime example. So studying the interaction with the brain and machines could not only help soldiers by freeing them from carrying more equipment on the battlefield but also perhaps one day help people unable to walk control their wheelchairs with thoughts, for example.

If that sounds like something out of a science-fiction movie, consider that Pack, who is also manager of the UTSA Unmanned Systems Laboratory, has been working on the cutting edge of drone research. At his previous employer, the U.S. Air Force Academy, Pack was a founding director of its Center for Unmanned Aircraft Systems Research and director of its Sensor-Based Intelligent Robotics Library. But the opportunity to chair a department and, he says, “being able to play a significant role in the growth of the university” lured him to UTSA.

Since the laboratory’s founding in 2012, Pack and his students have focused on three main areas of drone research: man-machine interfaces, cooperative UAVs and systems of systems (or how smaller components can work together in larger systems). Their work drew the attention of the U.S. Department of Defense, which in August awarded the team a \$300,000 contract to study how humans can

interact with UAVs. Pack says the ultimate goal is to figure out how to use a soldier’s brain signals to navigate small drones for military missions, such as gathering intelligence, performing surveillance and conducting reconnaissance.

Student researchers in the laboratory see their work potentially saving lives and making a difference in society. Undergraduate Jonathan Lwowski has developed a navigation simulator for multiple quadrotor helicopters and a system to detect and avoid obstacles for mobile unmanned ground vehicles. He says such vehicles could take the place of manned helicopters in forest fires, or they could patrol the border rather than having Border Patrol agents risk their lives. Another team member, Rajdeep Dutta, who is pursuing his doctorate, has researched cooperative control, in which “multiple UAVs in a group can be assigned with different sub-jobs in order to accomplish a mission.”

The FAA currently allows unmanned aircraft to fly in national airspace under very controlled conditions. UAVs perform border and port surveillance for the Department of Homeland Security, assist with scientific research and environmental monitoring for NASA and the National Oceanic and Atmospheric Administration, support public safety, help universities conduct research and perform other missions for government agencies. UTSA is part of a consortium of 16 research institutions called the Lone Star Unmanned Aircraft Systems Center of Excellence & Innovation, which won FAA approval to serve as test sites for unmanned aircraft.

Once the FAA allows drones to fly commercially, the Association for Unmanned Vehicle Systems International estimates the UAV industry’s economic impact will be \$82 billion by 2025, with more than 100,000 jobs created nationwide. Texas ranks third in the nation for unmanned systems development, behind California and Washington. The industry association projects direct employment related to unmanned systems to grow from 958 in 2015 to 4,247 in 2025 and total economic impact soaring from \$181 million in 2015 to more than \$800 million in 2025.

Pack says UAVs are well-suited to the “three Ds”: work that is dirty, dangerous or dull to people, such as monitoring pipelines in the oil industry, performing search-and-rescue operations or offering disaster relief. Could we eventually have our own personal drones? “Who knows!” he says. “Maybe UAVs some day can check on your kid next door or your baby and be able to send an image to you directly wherever you may be.” 🦋



Daniel Pack, chair of the Department of Electrical and Computer Engineering and manager of the Unmanned Systems Laboratory

The UAV industry’s economic impact could reach \$82 billion by 2025, with more than 100,000 jobs created nationwide.



UTSA archivist Amy Rushing says there could be unique materials stowed away in Special Collections.



PHOTO: PATRICK RAY DUNN

Rescue Mission

LIBRARY ARCHIVISTS ARE SAVING POTENTIALLY VALUABLE ACADEMIC RESEARCH FROM BEING LOST TO RELIC DATA DEVICES

BY TONY CANTÚ

The dazzling array of available technology today for data storage makes it almost inconceivable that people once relied on formats like floppy disks or CD-ROMs or Zip disks. Even noted professors were among those who once used the near-obsolete technology, and when some of their work is acquired by the UTSA Libraries' Special Collections department for its archives, there is often the odd 3.5-inch disk and the like in the mix. But such essentially unusable material is now fueling a project to retrieve potentially important data—correspondence, early research, drafts of academic papers, email—from the anachronistic devices.

The effort represents the libraries' participation in Jump In, an initiative launched by the Society of American Archivists. Special Collections joins other archives participating in the endeavor nationally and is now taking

initial steps to build an electronic-records program to create an inventory of "born digital" material found on removable media in their collections. The term *born digital* describes any materials that were originally created digitally—papers typed on a computer word processor in the 1980s, for example. Once done, the data would be transferred from outdated formats to a secure server.

Special Collections has inventoried the material—literally boxes and boxes of stuff—from the archives of individuals and organizations as part of their collecting strategies. Special Collections is also the repository for the university, where they preserve archival material transferred to the archives or solicited from prominent faculty. Two recent UTSA sources include Norma Cantú, professor emeritus in the department of English who specializes in Latino literature along with border and

women's studies, and Ellen Riojas Clark, professor emeritus in the bicultural-bilingual studies department.

"We don't really know what's on these digital sources, but it could be material of value to researchers," says Amy Rushing, head of Special Collections. "It could be correspondence with colleagues or famous people in the field, research they were working on, drafted papers, photographs. We're looking for that unique research material."

Particularly thrilling for UTSA archivist Julianna Barrera-Gomez is not just the glimpse into the academic work of professors that the project provides but also the window into the eras marking the professors' coming-of-age. Their early years are harnessed forever within the outdated formats, waiting to be coaxied out with the times' attendant current events, political climate and societal underpinnings, which color the work.

"We're trying to capture the history of UTSA but also those undercurrents," Barrera-Gomez says. To illustrate, she notes Clark's work in the bicultural-bilingual studies department. That program was one of the first after UTSA was founded in 1969—a year also marked by watershed legislation that made it no longer a misdemeanor to use a language other than English in Texas classrooms. Among Cantú's material is insight into the early experiences that helped shape her storied career, also in a time of societal transformation.

The work to extract the material and preserve it is painstaking, a process somewhat akin to a *CSI* scene

but with an archival twist. Using digital forensics and archives software on a dedicated computer called a quarantine station, team members access and process the digital media. Much like a climate-controlled quarantine room Special Collections uses to isolate and debug newly acquired paper archives, the quarantine station isolates and runs virus checks on the newly transferred files so that they don't contaminate existing files. Securing compatible technology to read and scan the material requires hours of scouring through eBay and other Internet sites.

Despite the degree of difficulty, the work is equal parts hands-on exploration and labor of love, according to Barrera-Gomez. "That's what I really love about getting these collections," she says. "We're being proactive and identifying faculty whose papers we would like to acquire for the archives so that we can collaborate with them now to identify any born-digital work that could be on this fragile media and plan how we will acquire and preserve it."



Amy Rushing and Julianna Barrera-Gomez sort through a stack of CD-ROMs, which are just part of the outdated media to be found in Special Collections.

PHOTO: PATRICK RAY DUNN

Eyeing Ocular Injuries

Blasting pig eyes with shock waves to simulate the kind of force a soldier might experience from an improvised explosive device has helped UTSA researchers learn more about protecting soldiers from eye injuries.



PHOTO: TIM LUUKKONEN

Researchers study eye injuries by exposing a pig's eye to a controlled shock wave that mimics an IED blast.

The experiments on the postmortem pig eyes have been held for the past two years in a basement laboratory at Fort Sam Houston.

The research reveals that an IED shock wave alone—even in the absence of shrapnel or other particles—could cause significant damage to the optic nerve, in turn causing partial or total blindness.

Prior to the discovery, vision impairment resulting from IED blasts had been associated with traumatic brain injuries and not damage to the optic nerve.

UTSA biomedical engineering assistant professor Matthew Reilly, distinguished senior lecturer in geological sciences Walter Gray and biomedical engineering adjunct professor William E. Sponsel, M.D., in collaboration with researchers at the U.S. Army Institute of Surgical Research at Joint Base San Antonio—Fort Sam Houston and the UT Health Science Center at San Antonio are conducting the studies.

Reilly has several family members and friends who were injured when serving in the military.

"I wasn't in the military, but I would like those who serve our country to be better protected in the field or give them better diagnostics when they are injured," he says. "I want to make sure their quality of life is as high as possible after they have been deployed. I am just trying to give back."



"I want to make sure their quality of life is as high as possible after they have been deployed. I am just trying to give back."

—MATTHEW REILLY



PHOTO: MARK MCCLENDON

Initiative Will Expand Research Faculty and Graduate Program

As part of a four-year, \$40 million program, UTSA will recruit 60 new top-tier researchers to advance the university's research capabilities and strengthen San Antonio's standing in the competitive global economy. News of the plan came during President Ricardo Romo's State of the University address in September.

The program, known as the GoldStar Initiative, will build on areas critical to Tier One designation for UTSA. In its first year it will recruit experts in strategic research areas such as advanced materials, open-cloud computing and cybersecurity, big data, biomedicine and social and educational transformation as well as sustainable communities.

"I consider these hires to be some of the most crucial in our history," Romo says. "If San Antonio is to remain a leader in a global economy, it must have the high caliber of research that we conduct at UTSA."

Initially, the university will rely on institutional resources to support the hiring of the additional researchers, 15 each year over four years. It also will pursue funding from the UT System Science and Technology Acquisition and Retention Program to recruit several of the researchers and new gifts from donors to directly support the work.

As part of the GoldStar Initiative, the university intends to increase its annual research

expenditures from the current level of approximately \$50 million to \$75 million in the next five years, then soon after to \$100 million—a Tier One threshold for research spending.

As new researchers come to UTSA, the university will recruit additional graduate students to assist them. The university will expand both its master's and doctoral degree programs over the next three years, with a goal of increasing the number of master's students to 4,500 from 3,300 and the number of Ph.D. students to 900 from the current 750. UTSA also will develop at least six new doctoral programs over the same period.

Additionally, with community support, the university will create a significant number of new endowed fellowships to support graduate students. It also will increase the number of faculty endowments to 80 from its current 61.

The recruitment of GoldStar Initiative researchers will be in addition to the hiring of top-tier faculty that takes place on a regular basis at UTSA to support academic excellence. "We will recruit even more of the best and brightest researchers to UTSA to drive innovation and develop technology," Romo says. "We will hire a combination of well-established researchers and young researchers with great promise. They will light a passion for discovery and innovation in our students and help us build for the future."

First Lady's First Visit to UTSA

To kick off her Reach Higher initiative, first lady Michelle Obama spoke to more than 2,000 college-bound students who gathered in UTSA's Convocation Center as part of Destination College: Fourth Annual College Signing Day.

Donning a T-shirt from her Princeton University alma mater, Obama entered the gymnasium to a roar of cheers. She encouraged the students to commit to not only starting college but also finishing.

"Because just getting into college isn't the ultimate goal," she told the crowd. "You have got to stay focused once you get there, and you've got to get that degree or that certificate. And you've got to be thinking every step of the way, what comes next?"

PHOTO: PATRICK RAY DUNN



Michelle Obama addresses an audience of high schoolers at UTSA as part of Destination College: Fourth Annual College Signing Day.



Rowdy's Final Roost

The six-foot-tall, 1,000-pound iron roadrunner statue—brought to campus following a \$25,000 fundraising campaign—has found its permanent home. Rowdy is now standing outside the Multidisciplinary Studies building.

Artist R.G. Box spent 1,000 hours working on UTSA's giant roadrunner. He crafted the 11-foot-long piece in his 2,700-degree forge, including its 1,000 hand-sculpted feathers.

U.S. Army Salutes President Romo

UTSA President Ricardo Romo received the U.S. Department of the Army's Outstanding Civilian Service Award in September. The honor, the third highest that a private civilian can receive from the Army, recognizes the broad range of services and support that UTSA provides to military members and their families.

There are nearly 3,000 service members, veterans and their family members that UTSA serves. The university also certifies more people with military educational benefits than any other Texas four-year university.



PHOTOS COURTESY UTSA LIBRARIES

Library Restoration Complete

A five-year renovation of the John Peace Library, one of UTSA's first buildings, has brought a new gleam to many parts of the aging structure.

The process began in 2009 with the goal of updating the library to reflect the digital age, including GroupSpot, a state-of-the-art digital classroom and study space.

There's also a new faculty center, a 125 percent increase in the number of study seats throughout the library and a total of 347 additional computers.



CLOCKWISE FROM TOP LEFT: The John Peace Library's Faculty Center provides an atmosphere for professors to confer.

>The GroupSpot is a state-of-the-art digital classroom and study space.
>The main foyer of the newly remodeled library includes the catalog resource center and the information and checkout desks.

Erlinda's Wish

PROGRAM PROVIDES COMPUTER CLASSES TO HOUSEKEEPING STAFF

On a Wednesday afternoon in late September a line of UTSA housekeeping and janitorial staff formed at a computer lab in the UTSA Office of Teacher Education Services. They were ready for the first computer class of the semester. Erlinda Castillo, the woman who started it all, was among them.

A couple of years ago Castillo approached Ilna Colemere, the senior program coordinator in the office, and asked her for help. "They said we were to do time sheets in computers instead of a card swipe," recalls Castillo, who has worked at UTSA for nearly 30 years, about that first meeting. "We were nervous because a lot of the housekeeping staff didn't know computers. So I talked to her; I

said, 'Will you help us?'"

Colemere says it was a team effort to get the training coordinated. The first class started in 2012. Staff members participating in the training began calling it Erlinda's Wish.

"She was very hungry to learn, and because we are in the business of education, we knew it was important to educate everyone in our midst," Colemere says.

The classes have grown from just one student to more than 80. At the end of each year UTSA has a ceremony to celebrate their achievements—many going from not knowing how to turn on a computer to communicating via email.

Since they began, the classes have expanded to include English-as-a-second-language skills. The housekeeping staff is allowed one



PHOTOS: PATRICK RAY DUNN

Colemere instructs the UTSA staff during a computer literacy class.

hour a week to attend the classes taught by College of Education and Human Development faculty and staff.

Earlier this year Colemere won the Extra Mile Award at the UTSA University Excellence Awards ceremony for her work on the program.



PHOTO: MARK MCCLONDON



World Beat

AS UTSA'S DIRECTOR OF BANDS, RON ELLIS HAS EXPERIENCE THAT IS HELPING TO ELEVATE THE PROFILE OF THE MARCHING BAND ON A GLOBAL SCALE

BY JIM BEAL JR.

“Half of me was a bundle of nerves; half of me was very excited,” says director of bands Ron Ellis, with a laugh, recalling his and the UTSA marching band’s trip to Normandy, France, earlier this year to perform during ceremonies commemorating the 70th anniversary of D-Day. “It was a great honor to be chosen and a privilege having students who were so committed.”

Making music in a large venue in front of thousands of people is no stretch for the band, called the Spirit of San Antonio. At 250 strong this year, its fourth, SOSA regularly works Roadrunner football games in the Alamodome, a massive space that’s been the performance home for the Rolling Stones, Carlos Santana, Paul McCartney, and KISS as well as the Ringling Bros. and Barnum & Bailey Circus.

Ellis is no stranger himself to working on a grand scale, either. Now in his fifth year as UTSA’s director of bands, he has led music-making aggregations from Florida to France. In addition to his UTSA role, he has been a music director at Disney World in Orlando, Fla., since 1996, and has also plied his trade at Disneyland Paris.

But when SOSA was tapped to perform in June to mark the 70th anniversary of the beginning of the Allied invasion of Germany-occupied France and the start of the liberation of Europe from the Nazis, he knew it was one of the band’s most important gigs. “We were honored,” he says, “to represent the United States, the university, the state of Texas and San Antonio on the world stage.”

How did the appointment come about? “There’s a committee of America-based military veterans who was to choose bands to perform for ceremonies at Pearl Harbor and Normandy,” Ellis says. “They usually have military bands augmented by high school bands. Because of the sequester [with the federal budget, though], this year they were denied military bands.”

So the selection committee turned to college bands, and after viewing performance tapes, it singled out UTSA. Ellis’ Disney experience, which includes directing the Toy Soldiers during the annual ABC-TV Christmas specials, certainly worked in favor of the UTSA troupe. “Some of the members of the committee are former musicians,” he says. “Some knew me when I was at [the University of Central Florida] from 1996 to 2009, and some of them were musicians at Disney World. So they knew my work.”

After SOSA was chosen to participate in the D-Day commemoration, Ellis and about 50 of the student musicians who were to make the trip had to go into overdrive, learning the music to be performed—including the national anthems of multiple countries played the exact way they’re played by military bands and raising money to fund the trip.

For SOSA head drum major and baritone saxophonist John Wynkoop IV, a 21-year-old senior kinesiology major, the opportunity to perform during the D-Day ceremonies was special. “It was a shock to be chosen,” he says. “We’re such a young program, and we were the only university band chosen.” But there were more personal revelations also: “My paternal grandmother is French. My grandfather was in the Air Force. He and my grandmother met in Paris. My father was born in France. So I have French blood in me. And we were performing for D-Day veterans and their families—and they know all the songs. When we played on Omaha Beach, you could feel the emotion.”

Although some of the students admit to being a bit nervous, they knew they couldn’t let their emotions hamper their performances. “It was definitely overwhelming,” says Esmeralda Valdez, a 21-year-old senior biology major who plays piccolo in the band. “We were face-to-face with the audiences the whole time, including a lot of veterans and their family members, so we got to see [the impact of] what we were doing. It was emotional, and it was touching. We got so many compliments from so many veterans.”

Wynkoop adds, “We had a 50-man band, and we sounded like 300! The band sounded amazing. We practiced for three or four days straight, 12 hours a day. We represented the USA in a very professional manner.”

Although Ellis has his Disneyland Paris experience, he didn’t take this trip to France lightly. “I have never been more proud of a group of students,” he says. “This is an exciting time for us. Everybody wants the band to perform. The band is a rock star. The demand is outpacing supply out here with academics and athletics.”

Ellis sees the burgeoning reputations of UTSA and SOSA, coupled with his experience, as a big plus. “People talk about six degrees of separation,” he says. “In the music business, there’s one degree of separation. You have to have a good reputation. There’s always work for good people. The students out here are really open to doing good work. There’s a high level of desire, work ethic and talent at UTSA. A high percentage of the members of the marching band play in other UTSA music ensembles. There’s a place for all of them to thrive. Our goal is to lead the students to the next level.”



PHOTO COURTESY: SOSA

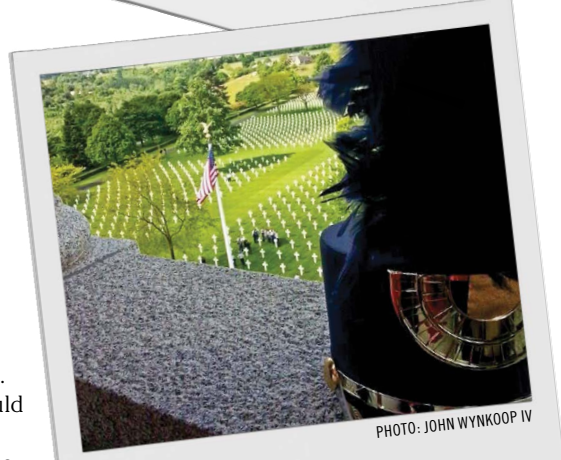


PHOTO: JOHN WYNKOOP IV



PHOTO COURTESY: SOSA

FROM TOP: A band member is interviewed by a San Antonio reporter on the eve of the France trip.
 > Overlooking the cemetery of fallen soldiers in Normandy.
 > SOSA performs at San Antonio's Fiesta Flambeau.

SPORTS BRIEFS

UTSA ATHLETICS SAW A RECORD YEAR FOR FUNDRAISING DURING THE 2013–2014 FISCAL YEAR WITH DONATIONS FROM MORE THAN 2,100 DONORS TOPPING \$4 MILLION. THE PREVIOUS RECORD WAS \$2.8 MILLION.

MEN'S CROSS-COUNTRY

Mike Medrano captured the third individual title of his career at the Alamo City Opener on Aug. 29. The senior from Mission, Texas, covered the Live Oak City Park 6,000-meter loop in 19:04.8 to easily outdistance runner-up James Leonard of Texas State by nearly eight seconds.

WOMEN'S CROSS-COUNTRY

Stephanie Wangui was named Conference USA Athlete of the Week after racing to the first individual title of her career at the Alamo City Opener. The senior from Leander, Texas, covered the

4,000-meter trail in 14:46.95 to top the field of Division I runners and lead the Roadrunners at the season-opening meet.

FOOTBALL

UTSA opened its fourth season of play and first as a full-fledged member of the Football Bowl Subdivision with a dominating 27–7 victory at Houston on Aug. 29. Playing in front of a national TV audience on ESPNU, the Roadrunners spoiled the debut of the Cougars' new stadium by scoring the first 27 points of the contest while the defense forced eight three-and-outs in UH's first nine possessions.

SOCCER

Now in its ninth season of play, UTSA opened the fall campaign with a win over Houston Baptist on Aug. 22 before a victory at Sam Houston State on Aug. 24. The 2–0 start was the first for the program since 2010. Under the guidance of interim head coach Greg Sheen, the Roadrunners defeated I-35 rival Texas State on Sept. 14 in overtime for a 4–2–1 start to the season, which is the best in program history.

MEN'S TENNIS

Tomas Stillman captured the Rice Fall Invitational singles crown in September in Houston. The senior from Harlingen, Texas, swept through the 64-man bracket with six victories, including a 3–6, 7–6 (6), 11–9 upset of number 2 seed Tony Lupieri of Baylor in the semifinals. The 2014 Conference USA Newcomer of the Year claimed the title with a 6–4, 6–3 decision against Rice's David Warren.

WOMEN'S TENNIS

Miriam Rosell Canudas won the singles title, Jacobea Junger captured the consolation crown and the pair advanced to the doubles championship match to lead UTSA at the season-opening Marco & Co. Catering Islanders Open in September. Rosell Canudas cruised through the singles draw by winning all four of her matches in straight sets, while Junger bounced back from her opening-round loss in the main draw with four victories, all of which came in two

stanzas. The duo nearly made it a clean sweep but was unable to win the doubles final.

VOLLEYBALL

The Roadrunners registered victories against Texas A&M and Baylor during the nonconference portion of the season. UTSA downed the Aggies in five games (28–26, 25–16, 16–25, 23–25, 15–12) on Aug. 30 in College Station to mark the program's first-ever win against A&M. On Sept. 20 the defending Conference USA champions dropped Baylor in four (25–22, 25–18, 18–25, 25–9) for their first triumph against the Bears since 1990.



Volleyball player Jessica Waldrup helps take down the Baylor Bears at the UTSA Convocation Center.

ON TEAM LOYALTIES...

Growing up in a town about 25 miles north of Seattle, Makela has been a long-time Seahawks fan. And now in San Antonio, she has adopted the Spurs to her fan roster as well. Too bad that when each won its big game, Makela missed the celebrations. "I was so upset when the Seahawks won the Super Bowl and I missed all that back home. And then when the Spurs won the championship I was in Washington. I was like, 'Oh, man, I'm always in the wrong place at the wrong time.'"

ON GOALKEEPING...

"I've been playing since I was so young, it's just what I know. Goalkeeping has become second nature. I don't have to overthink things in goal."

ON ALAMO CITY VERSUS SEATTLE...

Makela lists living by a large body of water, clouds and rain plus the cooler weather as a few of the things she misses from back home. "It's kind of a struggle coming in [to the season] because summers in Washington are, like, 75 degrees, and then I come here and die in the heat. Last year I came just in time for preseason, but this time I came on Aug. 1 to try and get acclimated." But, she adds, Tex-Mex food and Fiesta are highlights of living in S.A.

SPOTLIGHT Emma Makela

Sophomore goalkeeper Emma "Bubba" Makela, a Mukilteo, Wash., native, has been guarding the net since she was 5 years old.

BY MICHELLE MONDO

ON HER NICKNAME...

Makela has her father to thank for the moniker "Bubba," which has followed her throughout her soccer career. He had given her the "big boy" nickname when she first started playing at the age of 5. As her reputation and prominence rose, the nickname went with her. "When I was passing out résumés I had to put Emma and in quotes put Bubba because so many people knew me by that name."

ON PLANS AFTER UTSA...

Makela is an education major and thought she wanted to be a teacher like her mom. But now, she's looking closer at becoming a pilot, thanks to her father, who is employed by Boeing.

ON PLAYING THROUGH PAIN...

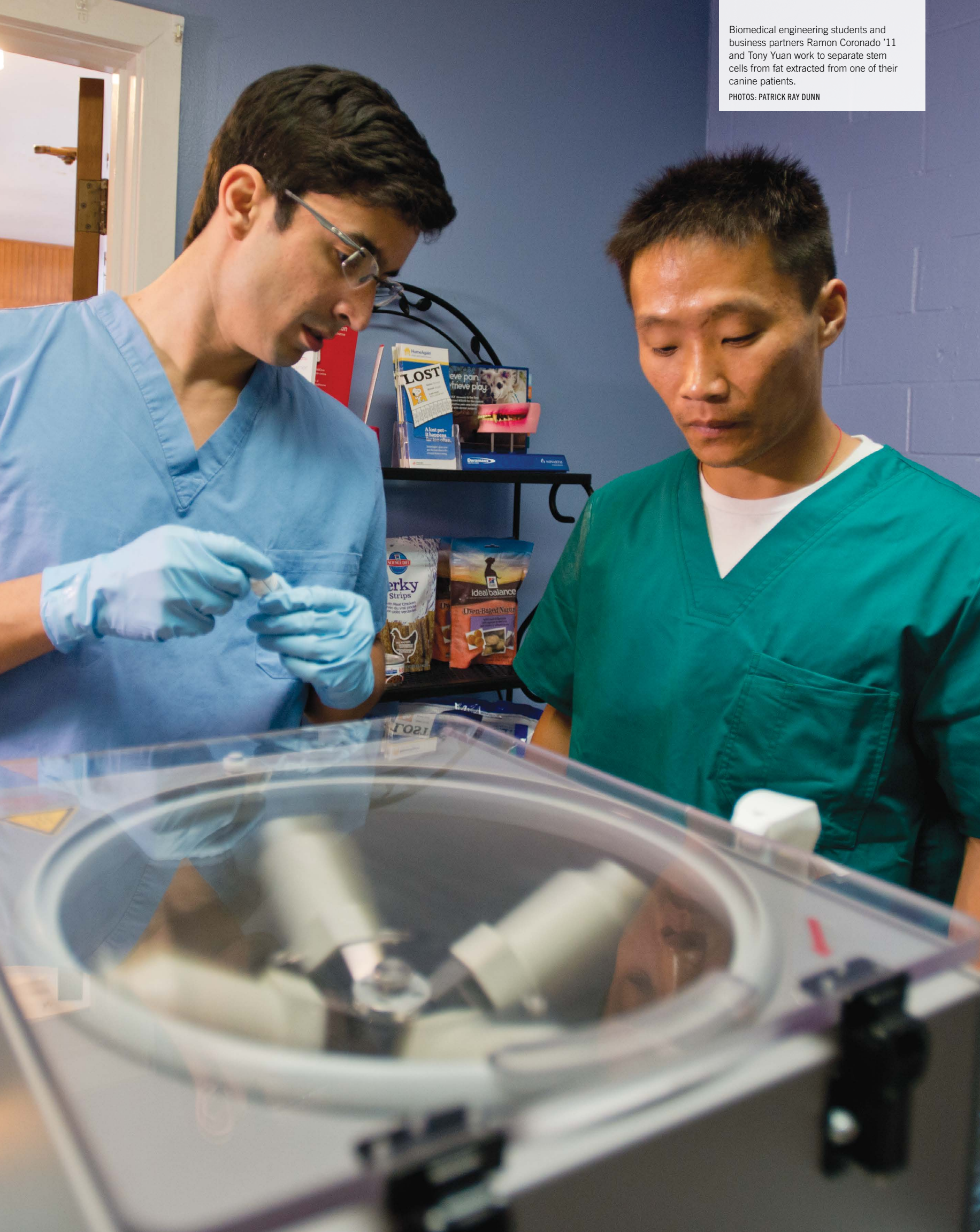
Without realizing it, Makela had been playing three sports with a broken back as a teenager. "It hurt but I just kept playing, and one time at soccer practice I fell down and couldn't get back up. It was apparently broken for a good two months." After that, she says, her mother made her choose: basketball, volleyball or soccer. The choice was clear: "I couldn't imagine my life without soccer."



PHOTO: PATRICK RAY DUNN

Mike Medrano captures the third individual title of his cross-country career.

PHOTOS: JEFF HUEHN, UTSA ATHLETICS



Biomedical engineering students and business partners Ramon Coronado '11 and Tony Yuan work to separate stem cells from fat extracted from one of their canine patients.

PHOTOS: PATRICK RAY DUNN

CRADLE OF KNOWLEDGE

From leading the charge in cybersecurity advancements to shaping the success of an unlikely inventor, UTSA is home to student and faculty research that's making a world of change

BY MICHELLE MONDO

Ramon Coronado '11 stood in the exam room doorway at the Animal Hospital of San Antonio waiting for word that the patient—a purebred Belgian Malinois named Vader—would soon be ready. Only Coronado's quick glances across the hall, his eyes landing on a closed door that shielded another exam room, belied his relaxed demeanor. "Timing is very important," he says about the upcoming procedure.

His business partner and fellow UTSA Ph.D. biomedical engineering student, Tony Yuan, was close by, checking to make sure the centrifuge and sterilization hood on the exam table were ready.

The two were at the clinic not as students but as owners of their new business, Mobile Stem Care, which provides stem-cell therapy services to veterinary clinics. And on that afternoon, all they needed to go to work was for Vader to go to sleep.

Applying expertise with entrepreneurship is just one way UTSA strives to enhance programs, stay competitive, and recruit faculty and students who will help the university reach Tier One status, says Vice President for Research Mauli Agrawal. "What differentiates us from anyone else is looking at what the person does with the knowledge, how creative the mind is," he says. "And that goes across all disciplines—whether an engineer, scientist, musician or historian. Can they do critical thinking? Can they innovate? Because I think both are needed—well-rounded students with a lot of knowledge who are also creative thinkers."

With an overarching objective to be a nationally recognized research university with global impact, complacency is not an option. Building on the current strategic plan that laid out ways to grow five areas of research by 2016, the goal for the next 10 years is to strengthen programs where the university already excels, like cybersecurity and cloud technology, integrative biomedicine, materials science, and social and educational transformation. "We want to concentrate in certain areas and hire in clusters," Agrawal says. "So it's the same subject but

people are looking at it from all angles, different perspectives, through different lenses. Collectively, we become the true expert nationally in that area."

Through the GoldStar Initiative, the university is committing \$40 million to hire 60 research-focused faculty members over the next four years [see related story on page 8]. UTSA also wants to expand collaborations with other universities and research institutions in the public and private sectors and to develop partnerships around the globe, says Agrawal, who holds the Peter T. Flawn Professorship in Biomedical Engineering. "There's always going to be a local relevance tied to it, but the problems addressed through research are no longer limited to just one region," he says. "They are global problems. Whether it's energy or water or disease, it's not just our problem; it's everyone's problem."

Cybersecurity Priorities

Bexar County Commissioner Kevin Wolff leaned back in his office chair and put his hands behind his head. "It's interesting now that I think about it," he says. "I can't remember a meeting—either AACOG or county—when anyone asked about cybersecurity, not even just a presentation to say 'Here's what we're doing.'"

Wolff, who is also chairman of the Alamo Area Council of Governments, which facilitates training among the 13-county membership, says that doesn't mean government leaders haven't thought or talked about it. Even so, more resources would be welcome.

That is a void the UTSA Center for Infrastructure Assurance and Security hopes to fill, according to Gregory B. White, director of CIAS. "How do you organize a cybersecurity program?" he says. "How do you respond to cyber incidents? How do they relate to normal first responders? What are the threats?"

This past spring the CIAS was awarded \$800,000 from the federal government to create the National Cybersecurity Preparedness Consortium, which will help communities prepare for, detect and respond to cyber attacks in a consistent manner. Like first responders get training on natural disaster preparedness and response from the Federal Emergency Management Agency, the consortium would provide cyber disaster preparedness and response. "There are a lot of communities that do not have the funds to hire a full-time person," White says. "Those communities really need an entity they can turn to in order to get some help." >>>



Terrill Isbell waits by his dog, Vader, while technicians anesthetize him for his stem-cell procedure.

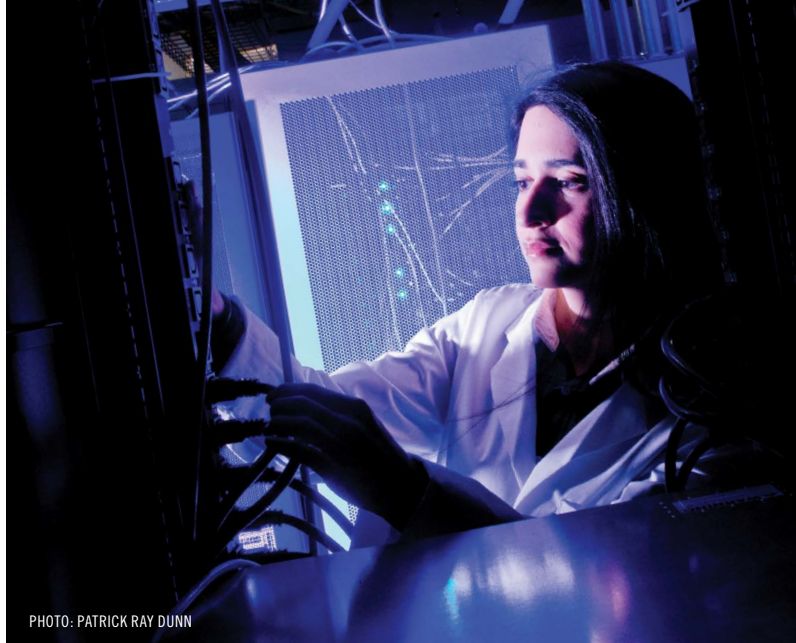


PHOTO: PATRICK RAY DUNN

Research assistant and Ph.D. student Afsaneh Rahbar in UTSA's secure cloud-computing data center.

“Some of the best salaries in the country are in IT in San Antonio, and the best of those are in cybersecurity.”

—CHRIS COOK

UTSA is also poised to provide cybersecurity training for the future workforce—starting as young as elementary school. By the end of this year Los Angeles and possibly San Antonio students in grades K-12 could be learning about cyber safety via a program the CIAS created in conjunction with CyberPatriot, an Air Force Association program that created to get students interested in cybersecurity or other STEM disciplines. The CIAS-produced software is the first for elementary schools. It teaches children about online safety and awareness as well as cyber etiquette.

Students also express a greater interest in STEM fields—science, technology, engineering and math—because of the program, says Chris Cook, volunteer liaison for San Antonio's CyberPatriot programs. “Some of the best salaries in the country are in IT in San Antonio, and the best of those are in cybersecurity,” he says. “We've got the number 2 best cybersecurity workforce in San Antonio. So that's what we are building on.”

Programs at UTSA also continue to build to meet educational demand. The university has been named the number 1 school for cybersecurity education and, as one of 44 universities nationwide, a National Center of Academic Excellence in Information Assurance and Cyber Defense.

Deep Space Collaboration

George Clark '14 has always had a love for travel. Now, he is a space explorer without ever leaving the Earth. As part of UTSA's Ph.D. program in physics in collaboration with Southwest Research Institute, or SwRI, Clark worked on the Cassini and Juno projects, which included data collection from Saturn and Jupiter, respectively.

“Looking at data, I feel I have a relationship with planets in this system no one else knows about, except maybe a couple hundred people in the world,” says Clark, who now works at the NASA flight center in Washington, D.C. “The data we get back is telling us something about a system we haven't previously explored.”

One of the largest, independent nonprofit applied research institutes in the country, SwRI has been collaborating with UTSA since the university's inception. That relationship made the creation and approval process for the physics Ph.D. program quicker than usual, says David McComas, assistant vice president of the Space Science and Engineering Division at SwRI. Meetings started in 2003 and students were admitted in 2005, he says. Since then, the program has trained students who have secured some of the highest postdoctorate positions available anywhere.

While building graduate programs may not be as easy as the partnership between SwRI and UTSA, university leaders want to grow the numbers of faculty researchers and Ph.D. students. More than 40 new faculty members were hired for the current fiscal year. In this year's State of the University address, President Ricardo Romo emphasized the university's commitment to expand master's and doctoral programs. The goal is to increase the number of students as well as develop at least six new doctoral programs over the next three years.

For Clark, the collaboration with SwRI prepared him for his job at NASA more than even he realized: “I would say that the stuff we do is pretty innovative. We're building new instruments, going to new places, going into parts unknown. We don't know what we may learn.”

Wrangling a Killer

It has been called consumption, the king of diseases and white plague. Throughout history and today, tuberculosis is one of the world's most deadly diseases, even though it is curable. It is second only to HIV as the greatest killer worldwide due to a single infectious agent, according to the World Health Organization.

South African medical microbiology Ph.D. student Nontuthuko Maningi has seen the devastation in her home country, where multidrug-resistant strains of TB appear to be growing despite scientific and medical gains globally in treating the disease. “I was interested in doing my Ph.D. research on tuberculosis because it is really a problem in Africa, especially in our country,” she said during a phone interview from the University of Pretoria, located about an hour's drive from Johannesburg. “It's personal.”

In South Africa, 80 percent of the country's young adults are already infected with TB. And while the disease hasn't been a problem in the U.S. for years, exposures like the one this past summer at an El Paso hospital underscore that it hasn't disappeared.

Maningi's Ph.D. focuses on comparing TB strains from today to samples taken throughout South Africa from a drug survey 20 years ago to see what changes, if any, have occurred. She says she never thought a grant would enable her to spend nearly five months at UTSA learning cutting-edge technologies to identify strains of tuberculosis. She worked with biology professor James Chambers and Luke Daum '07 to learn new coding methods that identify the genes of drug-resistant strains. This helps them diagnose earlier, which means quicker treatment.

Talk of the grant to bring a student from the University of Pretoria to UTSA began with Daum and Gerald W. Fisher, a physician and renowned expert in infectious diseases. Daum is now chief scientific officer for Longhorn Vaccines and Diagnostics, a biotech company Fisher started in San Antonio.

Chambers says there could be further cooperation and collaboration with the team at the University of Pretoria.

“I'm now assisting other postgraduate students with the sequencing, especially the bioinformatics,” Maningi says. “I presented some of the work I did at UTSA at the Fourth South African Tuberculosis Conference, and there was a very good response because no one had done what I did at UTSA.”

Maningi laughs when asked if she's the equivalent of a research rock star but says she's been getting requests



South African Medical microbiology student Nontuthuko Maningi and Luke Daum '07 work to identify the genes of drug-resistant strains of tuberculosis.

for meetings since her return. She hopes she can come back to San Antonio and UTSA, maybe to do a talk with Chambers. Until then, she's continuing on the path that has surprised even her. Growing up in a poor, rural village in the KwaZulu-Natal province, more than 430 miles away from Pretoria, Maningi says she was an unlikely scholar. There was no running tap water or electricity, she says. “You rely on candles to study. You go with a 20-liter bucket to the river to fetch water; no one thinks about education.”

The Veteran Inventor

U.S. Army Sgt. Gary Walters '13 was in the gunner's seat in a Bradley Fighting Vehicle when an IED blast launched the 40-ton transport into the air. He was one of four critically wounded; two of his fellow soldiers died.

Two years after the Louisiana native survived the Jan. 10, 2005, bomb blast in Iraq, Walters was at San Antonio Military Medical Center trying on his new prosthetic. It was fitted perfectly to his lower right leg. After 30 minutes of wear he thought he had a problem. The area where his skin met the lining of the cup was hot. Actually, it was very hot. He asked the doctor about a cooling system and learned there wasn't one. He would have to take it off, dump out the sweat and put it back on. If he left it on, his skin could deteriorate, resulting in blisters, rash, skin ulcers and infections.

“I said, ‘Well, that sucks,’” he recalls. “That is not a good solution.”

Walters would have a chance to change that when he enrolled at UTSA in 2008. During his senior year, Walters became part of a team of UTSA engineering and business students who did come up with a solution—a thermoelectric device that fits on the socket of the below-the-knee limb to dissipate heat.

Walters joined some of his fellow undergraduates—now-Ph.D. engineering student Jake Montez '13, Austin >>>

“I was interested in doing my Ph.D. research on tuberculosis because it is really a problem in Africa, especially in our country. It's personal.”

—NONTUTHUKO MANINGI

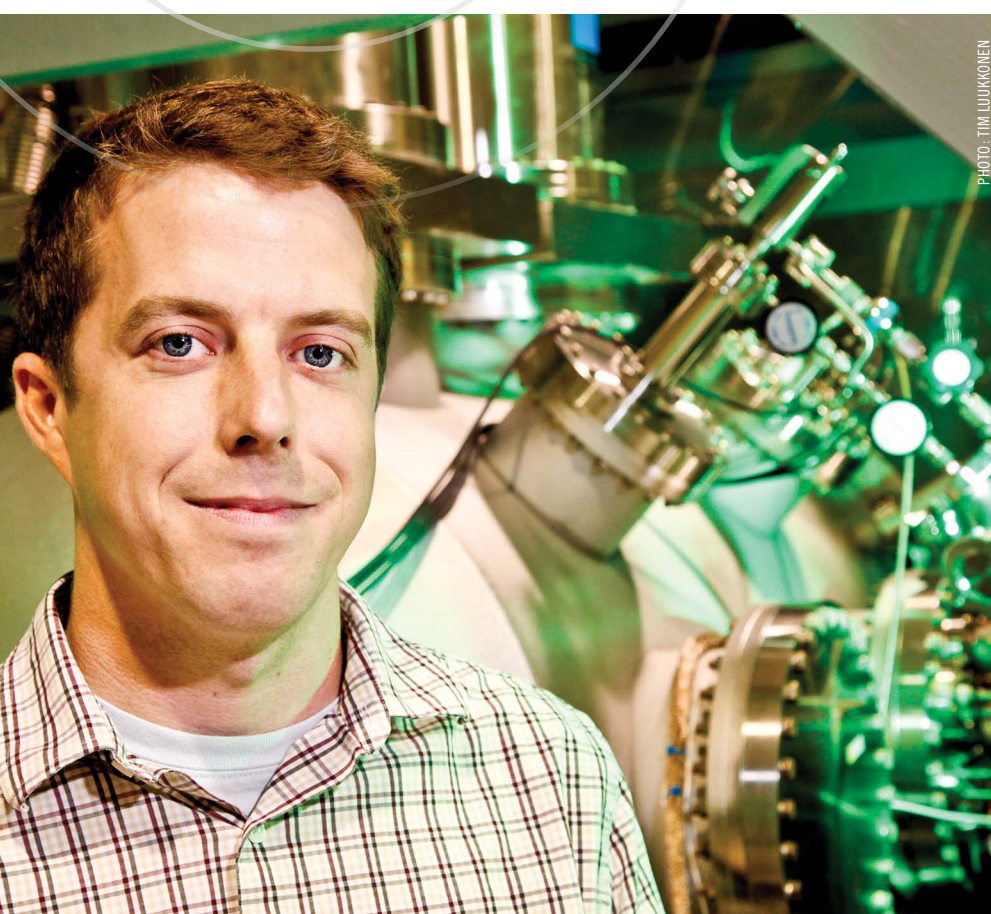


PHOTO: TIM LUUKKONEN

Working on the Cassini project to help retrieve data from Saturn helped land alumnus George Clark a role at NASA.



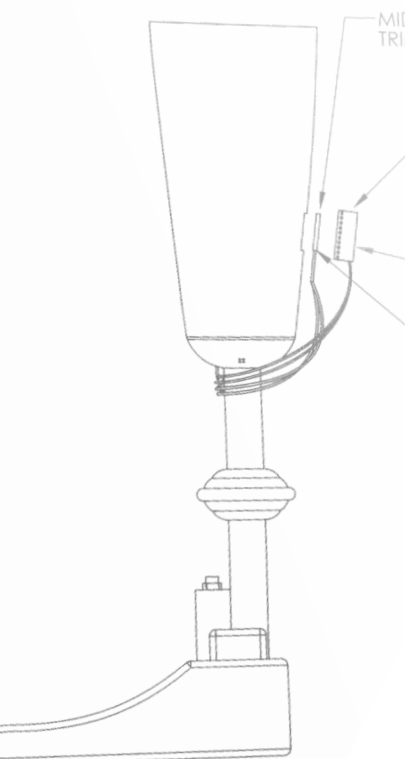
PHOTOS: PATRICK RAY DUNN

Gary Walters '13 (above), Jake Montez '13 (top left) and Austin Darius '13 used the undergraduate engineering project to develop a cooling device for a prosthetic leg, which is now being readied for market.



“Gary was really the inspiration for this [cooling system] project because he was actually experiencing the problem himself.”

—JAKE MONTEZ '13



Darius '13 and Justin Stultz '13—as well as Texas A&M alumnus Sean Baker and team mentor Becky Ariana to create Leto Solutions as a way to market their senior research project. Everyone in the group says they are grateful to have a product they truly believe in and the opportunity to build a company from the ground up.

“Gary was really the inspiration for this project because he was actually experiencing the problem himself,” Montez says.

Although UTSA's senior engineering project is designed to match engineering students and business students for the purpose of coming up with a product that can be marketed, the path wasn't an easy one. “Our mathematics had shown that we should be achieving the temperatures that we were looking for, but, of course, theory and implementation almost never align in the engineering world,” Montez says. “So it's at that point we got our hands dirty and really started digging seriously into the problem.”

Leto Solutions won the biannual \$100,000 Student Technology Venture Competition organized by the UTSA Center for Innovation and Technology Entrepreneurship and was awarded cash and services to help develop the product. They credited the program with bringing the company to fruition. [Learn about CITE in our Web Exclusives in *Sombrilla* online.] “When I was leaving A&M, they were just getting to the point of collaborating on something like that,” Baker says. “And to come here and see that it actually

works—where you can go from a college group to having a product and company in a short time—is very impressive.”

Healing Entrepreneurs

Back at the Animal Hospital of San Antonio, the buzz of a trimmer behind the closed door signaled Vader was finally sedated. “They're shaving his tummy because that's where we can go in to get the fat,” Mobile Stem Care's Coronado says. And the fat is where Coronado and Yuan get the stem cells they believe will treat Vader's asthma.

Fast friends when they met in 2011, Coronado and Yuan came to UTSA from different backgrounds. Coronado is from Venezuela and got his master's degree at UTSA, while Yuan, born in China but raised in Dallas, chose UTSA after getting a master's at Northwestern University and working as a researcher for the military. Both men cite UTSA's military partnerships and biomedical engineering curriculum as the reason they applied to the Ph.D. program.

Leveraging partnerships has helped raise the profile of UTSA and the city as a whole, says Kleberg Distinguished Chair in biology John McCarrey. McCarrey will speak at the 10th annual World Stem Cell Summit in December, held for the first time in San Antonio. [Learn more about the summit and stem cells in *Sombrilla* online.]

“We're not really thought of as being a biotech type of town,” McCarrey says. “But we do have a lot going on.



I think the stem-cell summit coming here is a way to help highlight the activity that's happening in San Antonio in terms of stem-cell research, tissue engineering and regenerative medicine.”

Coronado and Yuan are now earning a name for themselves. They transport their own equipment, do the procedure on site, and use only adult stem cells from an animal's own fat. In a two-hour process the fat tissue will be broken down, the stem cells extracted and then they're reintroduced into the animal's body. For Vader, they used a saline drip.

The doctoral students are hoping for the kind of improvement seen in their first patient, Reese, an 8-year-old

Llewellyn Setter that had trouble walking because of arthritis. A week after the stem-cell treatment she was running and had stopped limping. She's now medication-free.

The science has worked so far for Vader. Two weeks after his treatment he could work longer and recovered in less time, his owner Terrill Isbell says. “In a short time I can definitely see improvement. He definitely feels better.”

With continued good results, the two researchers expect their business to grow. But they both stress that the business isn't about the money. “We're scientists at heart,” Yuan says. “But we wanted to take what we know and apply it to the real world. We love the science. We love researching. And we love animals.”

Ramon Coronado '11 observes Vader with his owner, Terrill Isbell, shortly before the dog undergoes a stem-cell procedure to help relieve his asthma symptoms.

The Tobin Connection

The ties between UTSA's music and performance programs and San Antonio's arts scene are in the spotlight—and will be made even stronger—with the opening of the city's premier performing arts venue

BY MICHELLE MONDO





n opening night, there were exclamations, nods of approval and a lot of wide eyes as people filtered through the lobby and made their way to their seats for the gala at the Tobin Center for the Performing Arts.

The Sept. 4 event showcased the new \$203 million state-of-the-art center as well as three resident companies—San Antonio Symphony, Ballet San Antonio and Opera San Antonio.

UTSA alumna Courtney Barker '05, the ballet's president and executive director, got there early, as is her custom when the company has a performance. "I told the principal dancers to have fun and own it; this is their city and their moment too," she says. Then, she went out to the lobby to mingle with the patrons, take a deep breath and do her best to relax.

Meanwhile, the members of the San Antonio Symphony prepared for a marathon 90-minute set that at times accompanied the ballet and opera but also included a rousing rendition of "American in Paris." The night ended

with a full-house standing ovation and began a new era of performing arts in the Alamo City.

Veteran strings lecturer Allyson Dawkins, the symphony's principal violist, says that first performance was "an exciting adventure." Dawkins started the first year the symphony began and has been teaching at UTSA since 1981. She's just one example of the university's shared connections with the Tobin Center.

UTSA faculty, staff and students have long been woven into the city's performing and creative arts scene. Like Dawkins, professors in the music department are veteran symphony players. About 10 years ago the Tobin Foundation for Theatre Arts donated stage costumes, backdrops and music scores to UTSA from the Metropolitan Opera in New York City. Many of those costumes remain in use today.

With partnerships already formed, faculty and alumni working for the resident companies, and the goal of the College of Liberal and Fine Arts to grow its own performing arts programs, those established relationships will strengthen as new opportunities present themselves. "The long-term ambition is to have a school of performing arts or something similar so that music, opera and dance are all more developed," says Dan Gelo, who holds the Stumberg Distinguished University Chair for the Dean of Liberal and Fine Arts. "One of our focuses is to be a cultural resource for the community."

Dawkins has seen the music program explode since she started teaching and says that, along with the strong orchestra, the music department has a "really fantastic success rate" of training music educators.

Recently, the university created a dance minor that within a couple of years is hoped to become a bachelor of fine arts in dance. And UTSA's Lyric Theater continues to perform musicals and operas throughout the year.



The crowd is abuzz with excitement (left) after the opening night of the Tobin Center for the Performing Arts. > One of the special debut numbers (above), created especially for opening night.

A growing opera presence would be beneficial for both the university and Opera San Antonio, according to leaders of the groups. Opera San Antonio's chairman, Mel Weingart, and UTSA professor and Lyric Theater director William McCrary have known each other for years. The two helped form Opera to Go, an educational program that takes opera to public schools and is supported by the Lyric Theater and Opera Guild. McCrary says Lyric Theater helps students who want to perform and sing as well as those who want to be teachers. "A lot of our students are getting degrees in music education," he says, "and they're going to go on to their jobs and be asked to produce musicals as a music director, or the principal might ask them to actually be in the musical."

As part of increasing the exposure and education for students, the music department, Lyric Theater, Opera Guild and Opera San Antonio are in early talks to form a young artist program. "It would be a program to enable young talent to participate with this opera company," Weingart says.

That is a long-term goal, everyone recognizes, but the educational opportunities have already started. On Sept. 25, eight members of the opera company's *Fantastic Mr. Fox* production, including the resident conductor, Andres Cladera, visited UTSA's recital hall. Without costumes or props, they performed short pieces to the accompaniment of pianist Cheryl Cella-Lindquist. The students then got to ask them questions, the subjects ranging from quelling nerves at an audition to advice for the future. "Get out of >>>



Visit *Sombrilla* online to read our 2005 article on the Tobin Foundation's donation to UTSA of Metropolitan Opera costumes, many still used today.

FROM THE PREVIOUS SPREAD

UTSA has a strong connection with San Antonio's performing arts scene (from left):

- 1 ballet principal dancers Sarah Pautz and Jayson Pescasio with executive director Courtney Mauro Barker, a UTSA alumna;
- 2 symphony principal violist and UTSA lecturer Allyson Dawkins with Mastersingers conductor and UTSA professor John Silantien; symphony oboist and English horn player Jennifer Berg, also a UTSA lecturer;
- 3 UTSA student Myrna Peralez; UTSA Lyric Theater director William McCrary;
- 4 opera and Tobin Foundation chairman Mel Weingart;
- 5 UTSA student Rob Saldana with a dress from the Metropolitan Opera collection donated to the university by the Tobin Foundation.

Music lovers begin to fill the Tobin Center for an acoustical test-run performance.



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PHOTO: PATRICK RAY DUNN



PHOTO COURTESY SAN ANTONIO SYMPHONY

CLOCKWISE FROM LEFT: Opera San Antonio conductor Andres Cladera speaking to UTSA music students during a recent private presentation by the opera society.
> UTSA lecturer and San Antonio Symphony English horn player Jennifer Berg (above right) is with second trumpet Lauren Eberhart before their Tobin debut performance.
> Ballet San Antonio dancers, Jayson Pescasio and Sarah Pautz, rehearse.

your school bubble” was just one piece of advice from tenor Edwin Vega.

And during the preparation for Renée Fleming’s Tobin show, vocal students got to sit in on a dress rehearsal, says Jennifer Berg. In her second year as lecturer in the music department, Berg has been with the symphony since 2012. A San Antonio native, she returned after studying at Indiana University and New England Conservatory. Berg isn’t sure what the opening of the Tobin could mean for students but says, “The symphony has worked with UTSA vocal students in the past.... It might afford UTSA students the chance to perform on its stage when we collaborate with them in the future.”

Aaron Zimmerman, the Tobin’s senior director of programming and marketing, says based on his experience working at large venues in Chicago; New York City; Washington, D.C.; and Miami, entertainment availability is “massively important” to the 18-to-25 demographic. “There isn’t a college student that doesn’t mention music or dance or performing arts as some sort of driving force and release in their life. Very soon they’ll be having to decide what’s next and ‘If I’m going to be stuck behind a desk, where am I going to go to enjoy myself?’ and a lot of people say the performing arts.” Plus, he adds, the current fans could become loyal patrons in the future.

Zimmerman says the Tobin Center is currently working on education programs for public schools and, as it gets established, would definitely want to work with local higher education in some fashion.

Not everyone needs to be on the stage. There’s also the lure of the city’s low cost of living and a creative industry that is already present and provides jobs for those interested in working with arts without being an artist. In 2011, San Antonio’s creative industry generated \$4.6 billion in economic activity, employing 29,852 workers who earned wages totaling \$1.1 billion, according to a 2011 report from the SABER Institute at St. Mary’s University. Public relations specialists are included on that list.

Barker, the director of the ballet, came back to San Antonio after dancing in New York. She graduated with a bachelor’s degree in communication and credited the public relations savvy she learned at UTSA along with her personal knowledge of ballet as a combination that makes for her dream job.

UTSA professor John Silantien, the conductor of the San Antonio Mastersingers says just the presence of a new center—especially one with such a variety of entertainment—is a benefit. Like Dawkins, he’s been with the university for more than 30 years and the Mastersingers nearly that long as well. He points to other cities that had increased enthusiasm in the arts after a new center opened. “I think any artistic or cultural growth for the city is good for us. When there’s a new concert hall, there’s just a big improvement for visibility in the arts. I think it’s an inevitable and gradual progression for the city.”

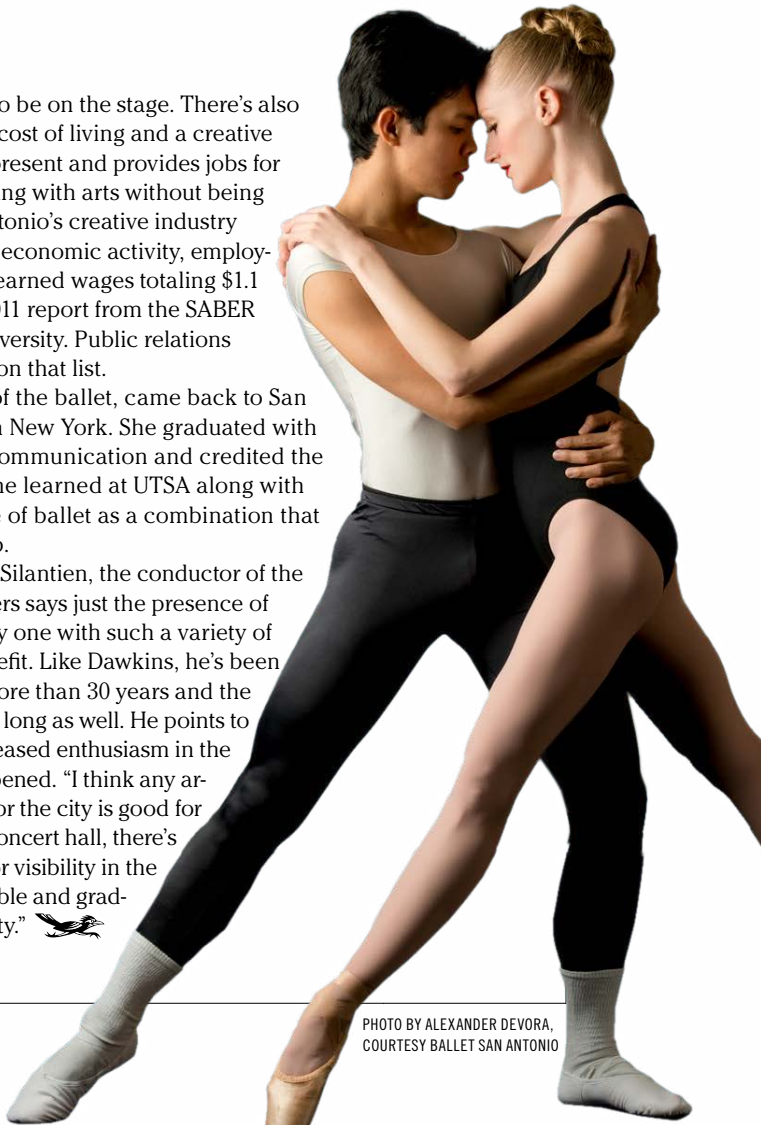


PHOTO BY ALEXANDER DEVORA, COURTESY BALLET SAN ANTONIO

Rise from the Dead

FAMED FOR HIS ZOMBIE NOVELS, ALUMNUS JOE MCKINNEY HAS GARNERED A SECOND BRAM STOKER AWARD FOR HORROR WRITING

BY MICHELLE MONDO

Joe McKinney M.A. '04 describes one of his most recent novels as a mirror of his own 1983 summer. "Well, everything but the werewolf," he says.

"And the scene with the alligator," he quickly adds. OK, so there was no werewolf on a murderous rampage, and McKinney didn't shoot an alligator in the head over and over again after a dare from his friend.

"Definitely not," he laughs. It was the summer that Hurricane Alicia tore through the Gulf Coast, leaving a trail of devastation, including in Clear Lake, where McKinney grew up. The storm was so severe that the National Weather Service retired the name.

Against this backdrop, McKinney's *Dog Days* follows a 15-year-old boy as he navigates a rocky summer filled with peer pressure, some bad decisions and the aforementioned alligator and werewolf. The book earned the author and San Antonio police sergeant his second Bram Stoker Award from the Horror Writers Association.

But sadly, for McKinney's die-hard fans, *Dog Days* has none of the trademark zombies that his writing is known for.

The book is just one example of how McKinney has continued to expand his repertoire of horror subjects since the 2006 publication of his first novel, *Dead City*, which was released two years after he graduated with a master's in English literature.

McKinney actually started working on the zombie tale as a UTSA graduate student. He credits the English literature program with giving him the confidence and knowledge to really take charge of his writing. The passion for the written word from professors like Jeanne Reesman was contagious, he says.

Reesman, the university's Jack and Laura Richmond Endowed Fellow in American Literature, wasn't surprised when she saw her former student's name on a book cover. "I remember Joe being one of the most talented writers I have ever taught in 30 years," she says. "I wasn't a bit surprised later on to see his success in writing novels."

McKinney, however, was surprised and still marvels that he has published more than 30 works

since the release of *Dead City*. "I still didn't think of myself as a writer," he says. "I figured it would just be that book, and that would be it."

But his publishing company asked for more and the Dead World Series was born. The five-book compilation became McKinney's most well-known work. A book in that series, *Flesh Eaters*, earned McKinney his first Bram Stoker Award.

Throughout the years, McKinney has often collaborated with other writers and editors, so he was a perfect fit for JournalStone's Double Down series, which pairs an acclaimed writer to mentor a novel-writing newcomer. The two separate works are published in one bound book. McKinney worked with Sanford Allen '12, another UTSA graduate, to complete the third installment of the Double Down series. From this project, *Dog Days* and Allen's *Deadly Passage* were born. The December 2013 release marked Allen's first published novel.

"I was thrilled to be paired with Joe McKinney," says Allen, who earned his master's in communication. "Joe has been a great friend and mentor to me over the past few years and offered sage guidance as I completed final edits. Writing a first novel is a daunting process, especially given the short turnaround time provided by our publisher, but Joe was beyond generous with his time and gave me plenty of encouragement along the way. It thrills me to see someone achieve his level of success and still find time to share his wisdom with emerging authors."

Both authors are featured in a short story compilation released this fall; McKinney also published *Dead World Resurrection: The Collected Zombie Short Stories of Joe McKinney* and *Plague of the Dead*, the first in his newest zombie series.

Zombies, he says, are a way for us to work through fears and anxieties. They are also an excellent source of stress to test his characters', well, character. At a book signing in August, McKinney discussed his favorite characters with a boy in the audience: "I like the villains. The ones who think they're right, anyway. I love the moral ambiguity. I think it's more fun to watch a villain try to be a good guy than to watch a good guy try to be a good guy." 🦋

PHOTOS: PATRICK RAY DUNN

Zombies, McKinney says, are a way for us to work through our fears and anxieties.

PHOTO: LEANNE MUELLER



The Unlikely Editor

BRIAN SWEANY M.A. '02

Texas Monthly's new editor in chief, Brian Sweany, never planned on becoming a journalist. He saw himself as an English professor teaching Milton: "It seemed to me, Milton was overlooked." And if not for the advice of UTSA professor Linda Woodson, he may have missed out on the job that changed the course of his career. During his first year at the university, Woodson encouraged

Sweany to apply for an internship at *Texas Monthly*. A full-time job offer as a copy editor followed. Now, 20 years later, as he manages his new role at the magazine's helm, Sweany is also finishing up his first book, *The Kingdom of the Saddle*, a biography of famed Texas cattle rancher Charles Goodnight. The book is scheduled to be published by Penguin in the spring.

How did UTSA's English literature program affect you?

I learned to take my writing seriously at UTSA. That is where I learned to write well and in my own style. Later in the program, my papers for classes became a much more casual magazine style, a style that was more enjoyable to read. That was well-received by my professors.

How did you decide on UTSA?

The university was very good about responding to my application right away, and I won a scholarship. Funding graduate school was going to be very tricky. I'd borrowed most of what I needed for undergraduate school [at the University of North Texas], and I didn't want to take on too much more debt. It was an unexpected choice—and one that worked out very well.

Were you already in a career or did you go straight to earn your master's after undergraduate school?

[Laughs] I was on the 100-year plan. I enrolled in 1995 and finally graduated in spring 2002. We're talking about a master's degree! It was very important for me to get the degree. It took me a long time to finish [because of taking the role at *Texas Monthly*] and pass the comprehensives, but I did it. I was always incredibly proud of that.

I really struggled with it, though—whether I should take the internship. I went back to Dr. Woodson to discuss if the position

at *Texas Monthly* was a good career move. She encouraged me to go for it, even if it meant putting my studies on hold. I worked full time and finished my degree with night classes. I started my master's program as an intern [with the magazine] and by the time I got the degree I was an editor. Everyone at the magazine was enormously supportive of it.

What advice do you have for student journalists?

It's almost so simple as to not be true. It's very simple: Writers write. It is absolutely true and has been very true in my experience.

Do you have a favorite interview?

It's tough to say without sounding like I'm hedging my bets. One of my favorite days, I reported a story on [San Antonio Spurs legend] David Robinson and I came down to Trinity University, where the team was practicing. The idea for the story was that I was driving around with him. He invited me to get in his car. He drove an Avalanche; I wasn't expecting that. And when he turned on the car, I smiled because he had NPR on. But then I recently did an interview with Rick Perry, and I had never been in the governor's private office before. I've had the chance to talk to athletes and writers and businessmen and politicians and average Texans.

Last question. Best journalism movie?

I've got to say *All the President's Men*. 🐉

Roadrunners in Love

A CAMPUS CONNECTION THAT ENDURES



Walking with her husband while visiting the UTSA campus this past summer, Sonia M. Moncayo Marroquin '00 looked on as Armando Marroquin '98 and their three boys held hands, forming a chain. Then she snapped a picture. It was the first time the couple had walked around the university with their sons,

showing them different parts of each other's past. She couldn't help but think about how everything worked out.

"It was actually a very surreal experience," she says. "I thought, *I can't believe this is happening*—just because of how everything was falling into place."

Sonia, then pre-med, and Armando, then a business major, struck up only a friendship when they met in 1998 through a friend. But they only struck up a friendship. "It wasn't love at first sight," he says, with his wife adding a laugh.

Both were in the Greek system, but Sonia admired how active her future husband was in student and university life, something completely different from her.

The two were part of a circle of friends who kept in touch after graduation, even as they all moved around the state. He went on to law school in Houston, and in 2000 she transferred moved to Lubbock to attend Texas Tech to finish her master's in occupational therapy.

A couple years went by and the two grew closer, beginning to date in 2002. Within months she was diagnosed with an operable brain tumor, and the fact that he helped her through the ordeal made their bond stronger, she says.

Now married with three boys, ages 4 to 8, they are busier than ever. Both are self-employed. And once again, Armando is getting involved with university life. He's heading up the new McAllen chapter of the UTSA Alumni Association.

He says he hopes their sons leave home for the college experience, but if it's not UTSA, they'll understand.

"But they have a Rowdy stuffed animal," Sonia adds. "Go 'Runners!" 🐉



PHOTOS: PATRICK RAY DUNN

Bridging a Web Gap

DAVID STINEMETZE '06

When David Stinemetze was asked to blog at his former programmer job, he considered using a fake domain name.

"I didn't want to stick with the boring Example.com or whatever it usually is," he says. "I decided to create something completely random, and that was WidgetsandBurritos.com."

Ultimately, he registered the domain name because he liked the way it sounded. A few years later when Stinemetze saw there was a gap in the San Antonio online market that needed to be filled, he decided to break out on his own. And he realized he already had a name for his business. Launched in 2011, Widgets and Burritos offers programming and development efforts to agencies to make their Web products more robust. He doesn't help to design a website, he says, or to create Web advertising.

"I'm strictly a programmer. I love code; I understand code," he says. "And I have a lot of partnerships with design companies, PR firms and ad agencies if they need to outsource programming."

His love of all things code started when he was in middle school and continued into high school. When it was time to focus on a career Stinemetze turned to his hobby and applied to the UTSA computer science program as an undergraduate.

Although his business is mostly a one-man show and keeps him busy, he recently hired a UTSA graduate to work for him as an intern.

Stinemetze's advice to those thinking of opening a business is to go for it. "It might be scary," he says, "but I got some advice from a friend and it pushed me over that cliff, and I'm grateful. Don't let the fear of failure keep you from trying." 🐉





UTSA's Top Gun

ANTHONY ROCK '82

When U.S. Air Force Lt. Gen. Anthony Rock finishes his assignment as the senior military leader in Islamabad, Pakistan, he wouldn't mind returning to UTSA to flip the coin at a football game.

"It would be great to be invited back and represent the [Department of Defense] at one of the games," Rock said during a Skype interview from the U.S. embassy in Islamabad. "The Roadrunners need to know they are now famous in Islamabad, Pakistan, because they were on television here" when they played Arizona in their first home game on Sept. 4.

Rock has spent more than three decades in the military, beginning his pilot training at Laughlin Air Force Base in Del Rio, Texas, in 1983 after graduating with a bachelor's degree in history. He flew missions out of Saudi Arabia during the start of the 1990 Iraq war, after Saddam Hussein invaded

Kuwait. And 20 years later, in 2010, as part of Operation New Dawn—a change of name from Operation Iraqi Freedom—Rock headed overseas again to help train members of the new Iraqi air force.

He was even featured in a reality show called *American Fighter Pilot*.

His latest assignment, in Pakistan, began after he received his third star during a hometown promotion ceremony at Randolph Air Force Base in May that drew about 100 friends and family, including his longtime wife, Kim, a Uvalde native. Of his 18 previous assignments throughout his career, the promotion was the San Antonio native's first in his hometown.

Building on the years the U.S. has been working at the embassy in Pakistan, Rock says the goal of his 18-month assignment is to continue working to make the diplomatic re-

lationship stable for a long period of time. He and his staff also are charged with making sure lines of communication and support are open for forces in Afghanistan and Iraq.

"Over the 67 years of Pakistani independence, the U.S. and Pakistan relations have been high crests and low troughs," he explains. "Our primary job is to try and dampen out those huge changes in the relationship—the incredibly high crests and very deep troughs."

The time away from his wife and three children, the oldest of whom is now 30, has been tough, but technological advances have helped. During his first deployment in 1990–1991, he used to write letters home every day, and the family could count on a phone call about every week or 10 days. "My wife would mail me children's books, and I would mail a recording of me reading the book. My kids would read the book and listen to the tape. Now we have Skype. I can talk to Kim 24/7."

Rock says he fell into his military career much the way he did his history major. His father, who was in the military, settled the family in a northeast San Antonio neighborhood in 1965 and soon kept moving farther into the outskirts of the city until they landed in Hollywood Park.

He lived in a studio apartment at the only complex nearby and thought the fledgling UTSA would be a good way to get started. He started in business but realized that wasn't for him, so he opted for history because "I was always told you should study what you love." In the end, he says, the education he received helped him become a better critical thinker. The professors that made the biggest impact on him were "the ones who challenged you not just to read and regurgitate but to read, think deeply about what you read, to form opinions and be able to defend those opinions." —Michelle Mondo



Then-Brig. Gen. Anthony Rock (far right) accompanies U.S. Navy Adm. Mike Mullen, chairman of the Joint Chiefs of Staff, to address media onboard en route to Kabul, Afghanistan in April 2011.

PHOTO COURTESY OF PETTY OFFICER 1ST CLASS CHAD J. MCNEELY, DOD

WEB EXTRA

Visit *Sombrilla* online to read a Q&A that reveals how the lieutenant general got his call sign, "Heater," and what he really thinks of his reality-TV debut. He also talks about the military's role in Iraq, advice for soldiers returning from duty and what he's learned about leadership.

CLASS NOTES

1975

\\ **PATRICK T. MULVA**, M.B.A., retired in September from his position as vice president and controller at ExxonMobil after more than 38 years with the company. Mulva joined the refinery in 1976 as a financial analyst when it was still Exxon Co. USA and had not joined with Mobil. He held many financial positions within the company and was elected to its executive board as vice president in 2004. Mulva is also on the UTSA College of Business Advisory Council.

\\ **JOSE N. URANGA**, M.A. in environmental studies, has published the last of the Buena Vista trilogy books, *The Buena Vista America*. The book highlights the Hispanic experience in the U.S. southwest from 1912 to the present. Altogether, the three books present vignettes of events and issues affecting Hispanics in the southwest from 1849 to the present. While the books are classified as fiction, most of the described events are based on fact.

1982

\\ **ROXANNE AUSTIN**, B.B.A. in accounting, has been named the interim nonexecutive board chairwoman of Target. Austin had a hands-on role advising Target's interim CEO during the search to find a new leader for the company.

1983

\\ **DENISE MAYFIELD**, M.S. in biology, has joined the Austin office of Hush Blackwell as the newest addition to the firm's Healthcare, Life Sciences & Pharmaceuticals team. Mayfield will advise U.S.- and foreign-based pharmaceutical companies, research organizations, biotechnology companies and other organizations in the health care arena in the development and protection of intellectual property assets, including biotechnology licensing, product clearance, regulatory compliance and technology transfer.

1987

\\ **MICHAEL MAGUSIAK**, M.B.A., retired in June from his

position as president and CEO of CEC Entertainment, parent company of Chuck E. Cheese. He worked for CEC for 27 years, joining them upon graduation from UTSA. In June 1994 he was named president and in 1996 he was elected to the company's board of directors.

1989

\\ **SIDNEY E. "GENE" EDWARDS**, M.B.A., retired in April from his position as executive vice president and chief development officer of Valero Energy Corp. He worked for Valero for 32 years, starting as an analyst in planning and economics. Following his retirement, Edwards was appointed to the Green Plains Inc., board of directors in June.

1992

\\ **JON GARY HERRERA**, B.A. in political science, will serve as Rey Feo LXVII during San Antonio's Fiesta celebration, after raising more than \$200,000 for college scholarships for area students. Herrera has also recently been hired as president and CEO of Allied Advertising.

1993

\\ **KEVIN M. KELLEY**, B.S. in kinesiology, published *Up Down and All Around*, a children's book about Christianity, in April. Along with being an author, Kelley works as a personal trainer in the Dallas/Fort Worth area.

1995

\\ **ROGER DAVIS**, B.B.A. in accounting, has been named T-system's new president and chief executive officer. Davis was formerly a managing director at Assenture.

1996

\\ **HUGO PEREZ**, B.S. in electrical engineering, costarred in the feature film *50 to 1*, which tells the story of racehorse Mine That Bird, the winner of the 2009 Kentucky Derby. Perez, a U.S. Marine Corps veteran, has appeared in a variety of films since he began acting in 2001, including working with Robert De Niro on the set of Robert Rodriguez's

Machete. In *50 to 1*, Perez plays one of the horse's trainers.

2000

\\ **RYAN LAMM**, B.S. in electrical engineering, M.S. '05 in management of technology, has been promoted to director of the communications and embedded systems department in the automation and data systems division at Southwest Research Institute. In this position he will oversee almost 60 staff members conducting research and development in advanced instrumentation, smart energy, tactical and communications networks, and unmanned systems.

\\ **ALEX SAN MARTIN**, B.A. in communication, has been appointed as the Southern administrative coordinator with the California Democratic Party Chicano Latino Caucus. He is also running for a seat on the Los Angeles City Council.

2001

\\ **BELINDA GARZA**, B.B.A. in management, has been named vice president of government relations and public engagement for Univision. Garza is based in Washington, D.C. She manages political relations with Congress and in key state capitols, and works to extend the company's presence with nontraditional stakeholders, such as business and trade associations, think tanks, and a range of federal and state agencies.

2003

\\ **DANIEL STEVE VILLARREAL**, M.A. in education, has launched a website about language learning aimed at a lay audience: www.americanolderbrother.com. American Older Brother also offers a free newsletter and has a Facebook page.

2006

\\ **JIMMY KUEHNLE**, M.F.A., has been chosen to include his artwork in the exhibit *State of the Art: Discovering American Art Now* at the Crystal Bridges Museum of American Art in Bentonville, Ark. Kuehnle, who is known for working with inflatable sculpture, is showing a piece called *Amphibious Inflatable Suit in Captivity*. Once fully inflated, the piece is about 60 feet long, 20 feet high and

Providing an Escape

OLIVIA JAMANDRE '07

As a Fulbright scholar in Finland, Olivia Jamandre was not only studying the works of the country's most famous classical composer but also using her time to help at-risk youths in Helsinki.

Jamandre, a pianist, taught private half-hour lessons at a center called Tyttöjen Talo, which provides services for girls in need. "They come to find friendship, counseling for pregnancy, rape, abuse or domestic violence issues," she says. "Or even if they have relocated—from abroad or from other parts of Finland—and are looking to connect with other girls in their area."

The lessons were just one aspect of a busy and educational academic year for Jamandre, who was a Fulbright-CIMO grantee for 2013–2014. The grant was funded in cooperation with the Center for International Mobility of the Finnish Ministry of Education. She was awarded the grant to study folk music's influence on composer Jean Sibelius' piano works. Jamandre recognizes that many Americans may know little about Finnish music, history or culture, and says she would put herself in that same category. Sibelius' late 19th-century and early 20th-century music is credited with inspiring national pride, especially the popular composition *Finlandia*, written as a covert protest to increasing Russian censorship.

As a dual citizen of Switzerland and the United States, Jamandre has been doing research at the Sibelius Academy, part of the University of the Arts Helsinki, that led her to question her own ideas about nationalism. "Being a dual citizen, I will always feel like my heart is on two continents," she says in a video about the Fulbright program.

Jamandre returned to the U.S. this past summer and is now pursuing a doctorate at the University of Kansas. She credits award-winning piano professor Kasandra Keeling as her main reason for attending UTSA for her bachelor's degree in music with a concentration in piano. "Dr. Keeling was an excellent musical guide to me and a wonderful teacher," she says. "Her dedication and investment in her students is inspiring."

Jamandre took that same dedication to the girls she taught in Helsinki, adding that the one-on-one lessons provided somewhat of an escape. "It seemed," she says, "they were able to forget whatever was on their minds at the time—and for that half-hour just focus on something creative and intellectually stimulating."



PHOTOS: COURTESY OF OLIVIA JAMANDRE

While studying as a Fulbright scholar in Finland, UTSA alumna Olivia Jamandre '07 gave lessons in piano to at-risk young girls.

WEB EXTRA Watch a video of Jamandre talking about her time as a Fulbright scholar by visiting *Sombrilla* online.

25 feet wide. Kuehnle is one of two alumni chosen to be in the exhibit, which features more than 200 works by 102 artists from across the nation. **CHRIS SAUTER** M.F.A. '96 was also chosen for the exhibit. Kuehnle, who is an assistant professor at the Cleveland Institute of Art, will also have an exhibit at the Red Arrow Contemporary gallery in Dallas that will run from Dec. 13 to Jan. 24.

|| **ALFRED VITELA III**, B.S. in mechanical engineering, has been named an associate

at TLC Engineering for Architecture, the company announced in August. Vitela is a senior mechanical engineer in the firm's Texas Operating Group in Dallas and San Antonio.

|| **MARIO VAZQUEZ**, B.A. in political science, has received the La Prensa Foundation Education Award for his outstanding contributions to education in San Antonio. The award was presented in April at the 2014 Diamond Awards

Gala. Vazquez is the associate vice president for institutional advancement at Texas A&M San Antonio. He is a former president and CEO of KLRN.

2007 || **MARY ELISE FERRER**, M.A. in history, has been named the service coordinator for student life and civic engagement at San Antonio College. She's tasked with helping students get involved in volunteering opportunities.

2008 || **KRISTI CORBITT**, M.A. in education, has been named Fort Bend Independent School District's director of elementary curriculum. Also, Corbett was recognized in 2013 as one of 20 members of the LEAD (Leadership, Excellence, Accountability and Development) Principals' Academy IV graduating class. The graduates hold positions as associate principals,

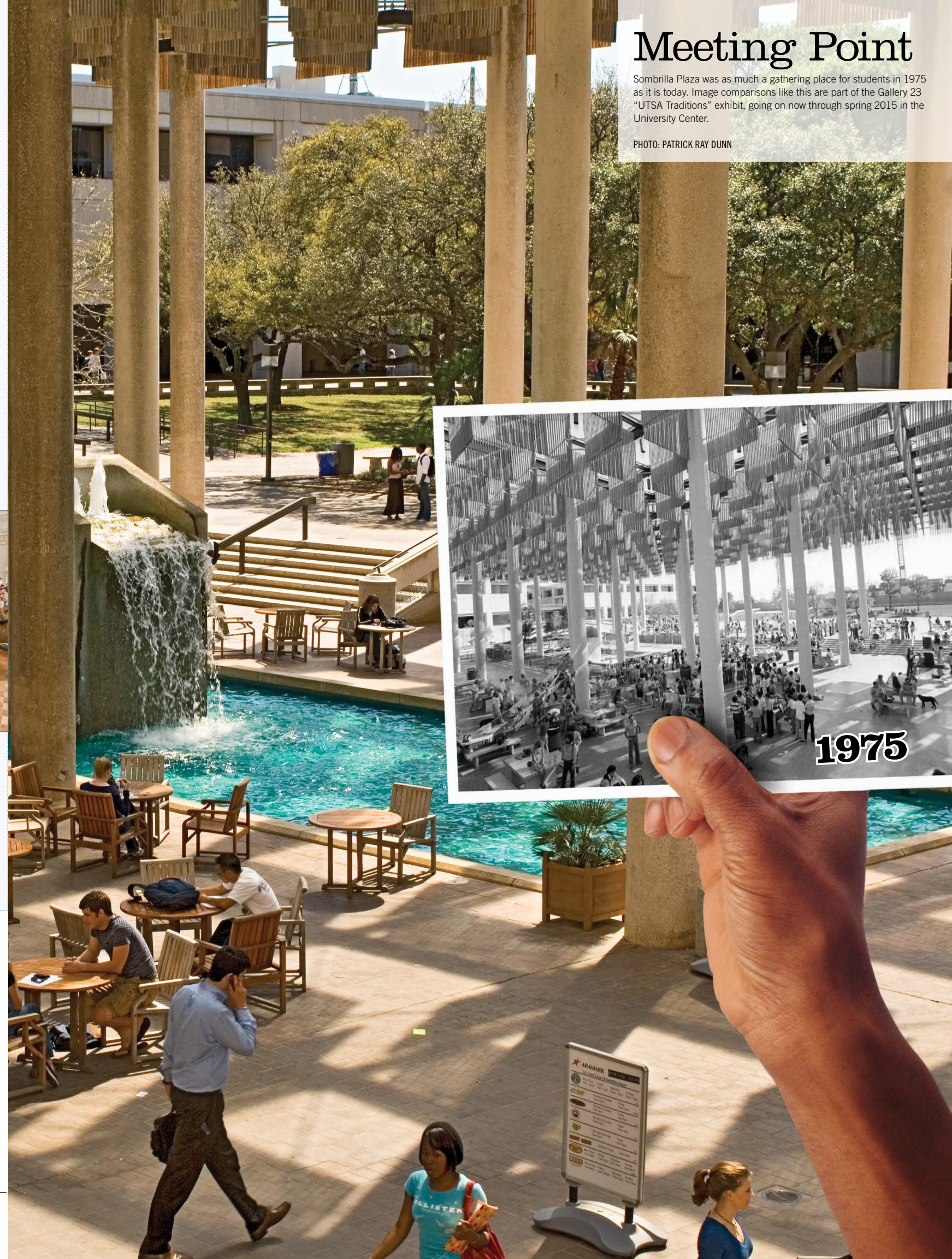
assistant principals or deans of instruction at various FBISD campuses and are eligible for future principal positions in the district.

2014 || **PEDRO LUIS MOJICA JR.**, B.S. in mechanical engineering, interned this summer for the International Motor Sports Association. It is the fourth consecutive summer he has been invited to work at NASCAR.

Meeting Point

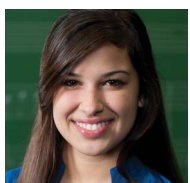
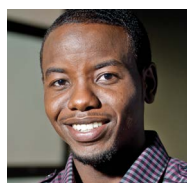
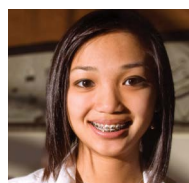
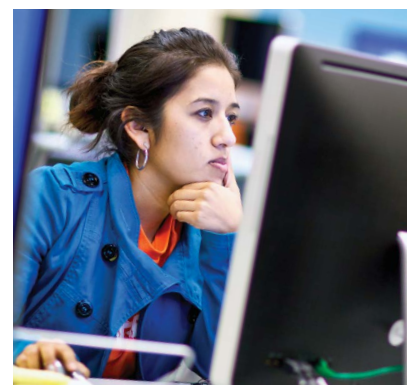
Sombrilla Plaza was as much a gathering place for students in 1975 as it is today. Image comparisons like this are part of the Gallery 23 "UTSA Traditions" exhibit, going on now through spring 2015 in the University Center.

PHOTO: PATRICK RAY DUNN





100,000 Ways We're Changing the World



UTSA is changing the world with every graduate, and we've done it 100,000 times. Our alumni are business and civic leaders, scientists, teachers and artists who are shaping the future. Our faculty researchers are making discoveries that address complex global challenges. Our outreach programs are strengthening the community and society. UTSA is San Antonio's top-tier university—just ask any of our 100,000 graduates.

