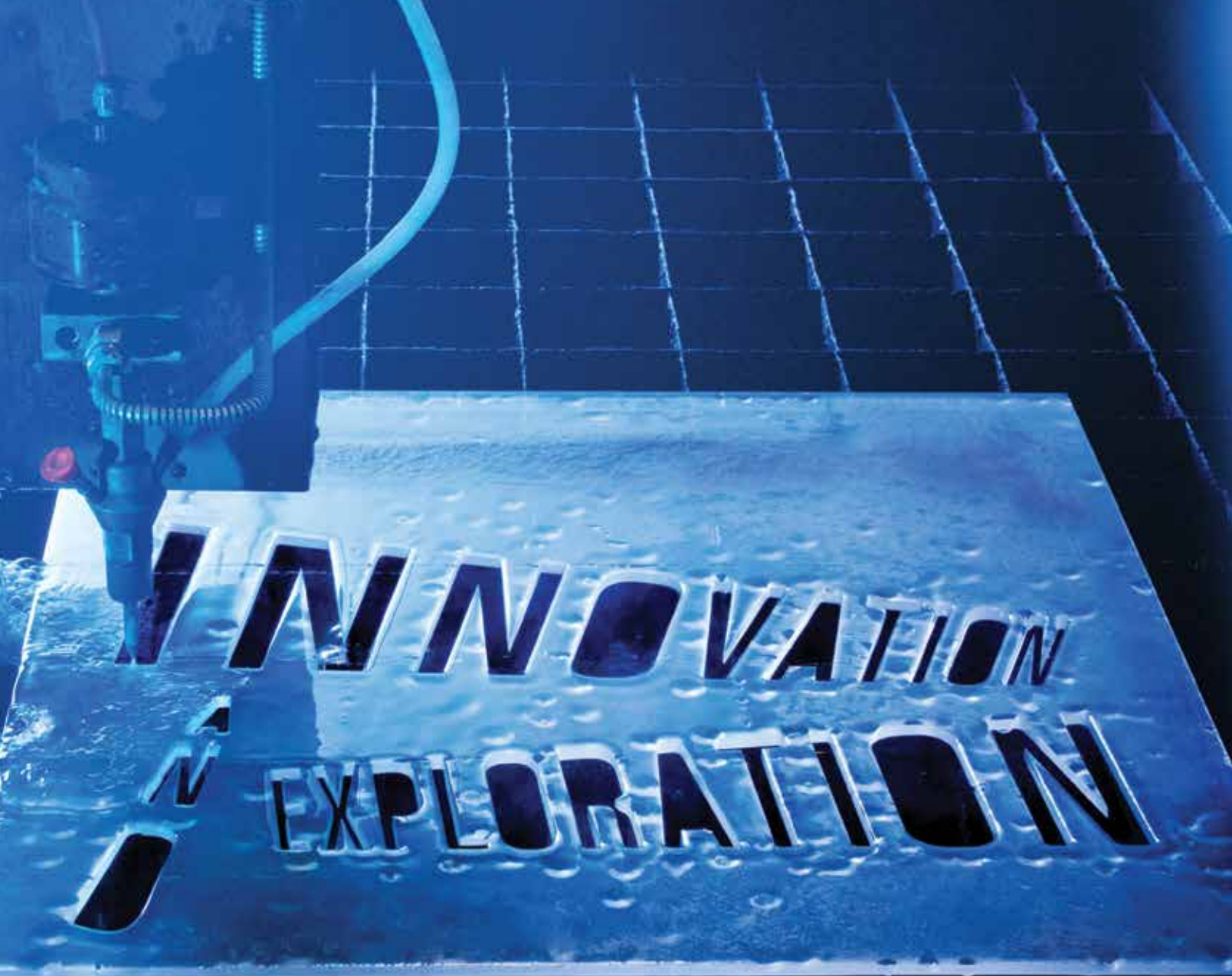


# hillviews

vol. 45 no. 3 | Fall 2014 | MEMBER THE TEXAS STATE UNIVERSITY SYSTEM



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STATE  
UNIVERSITY  
*The rising STAR of Texas*



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**ABOUT:** *Hillviews* is produced by the University Advancement division. We'd love to hear from you. Send us your comments about the articles in this issue, or send story suggestions. Email [Hillviews@txstate.edu](mailto:Hillviews@txstate.edu); fax to (512) 245-3817; or mail to *Hillviews*, Texas State University, 601 University Drive, San Marcos, TX 78666-4613.

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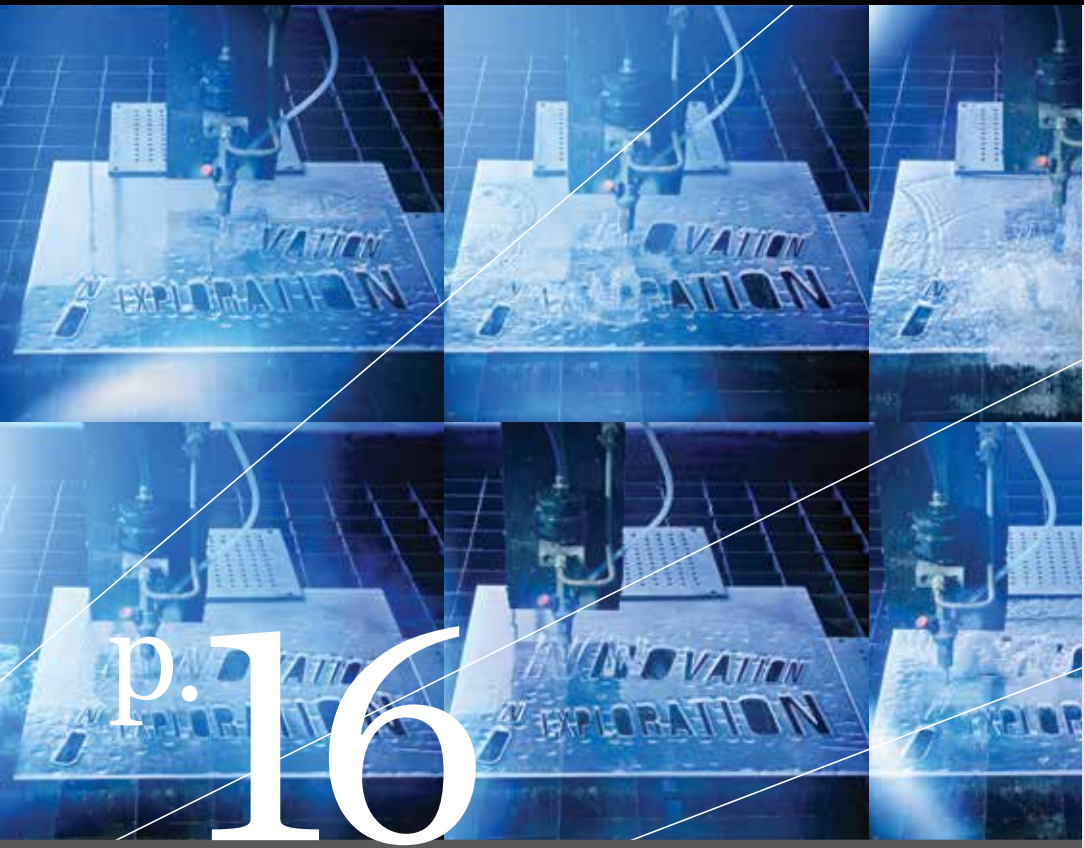
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Innovation and Exploration

Founded in 1899 as a normal school to train teachers, Texas State is charting a new course today to become a national research institution. The university is commanding national attention with professors and students working side by side on cutting-edge research projects. Science and engineering have moved to the forefront.

Big Demand for STEM Graduates



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Dear Friends,

We started off this academic year with news that would make other universities envious: NASA awarded Texas State a \$15 million grant to train math and science teachers and develop new curricula that could be replicated in schools across the country. It was the largest grant in the university's history.

NASA chose Texas State for this grant not only for its outstanding faculty, but because the university's diverse student body fit well with the space agency's goal of reaching more minorities in the science, technology, engineering, and math fields.

I used my annual convocation address to announce our good fortune, but also to illustrate something else about our university – that it has turned a significant corner in its progress and that it is in a position to become a major research university. Over the past several years, Texas State has been enhancing its research activities and in 2012 it became the state's eighth Emerging Research University, a designation reserved for those institutions that have the potential to become National Research Universities, or those which have the most extensive research capabilities.

In today's world – and in Texas in particular – National Research Universities are important because they bring us new knowledge, they are exceptional generators of economic activity, and they provide outstanding learning experiences for students who need advanced skills to be successful in tomorrow's sophisticated workforce. Texas needs more of these research universities because it has fewer of them than other states with large populations.

It's an ambitious plan to become one of these top-tier institutions, but we believe we can achieve that status. I am optimistic about this because of how far this institution has progressed in such a relatively short time. Case in point: Texas State's research expenditures were third-highest among all Emerging Research Universities from fiscal 2009-2013.

Besides the NASA grant, this issue of Hillviews highlights the innovation and exploration taking place across a variety of disciplines at Texas State. Among other projects, our researchers are investigating better ways to diagnose deadly illnesses, promoting energy efficiency in software creations, and using intelligent robots in assembly systems. Also, our graduates are opening doors for more young women in science and engineering. Of course, we highlight other activities of interest to the university community, including a summer camp for children with autism, a special event that honored the five African American women who helped integrate Texas State, and profiles of two Bobcat football players who are making their mark in the NFL.

We are proud of the impact that Texas State is having on our community and our state, and hope that you are, too.

Sincerely,

A handwritten signature in black ink that reads "Denise M. Trauth". The script is elegant and cursive.

Denise M. Trauth

# (wide)views

## Happy campers

Children with autism enjoy summer fun in San Marcos by Jennifer Rodriguez



"Each child is different, even if on the same spectrum. You have to learn as you go. What if a child doesn't want to put on a nametag, do group activities or screams? This provides an opportunity for our students to learn important lessons in real life."

– Ting Liu, Department of Health and Human Performance





It was a normal pregnancy throughout the nine months. So when her baby son made his developmental milestones early, Ashley Simcoe was confident that everything was on track. But by the age of 3, Ryker Simcoe was diagnosed with autism and his mother was, in her own words, “overwhelmed,” “stressed out” and left wondering “Why me?”

She didn’t let the diagnosis keep her down. In the years since, she’s created a special room in her Austin home for Ryker’s therapy, fought to get him enrolled in a school that’s outside her district and searched endlessly for places that can help.

One of those searches led her to the Autism Summer Camp in San Marcos, developed by Dr. Ting Liu, an assistant professor in the Department of Health and Human Performance. Liu joined the Texas State faculty in 2009 following her graduation from The University of Texas at Austin, where she earned her Ph.D. Shortly after joining Texas State, Liu got the idea to start a program for children with autism and began reaching out to the San Marcos school district and the Clinic for Autism Research, Evaluation and Support (CARES) in the College of Education. A year later, the camp was approved.

Liu knows how important social interaction is for children with autism and that there was a desperate need for a place in San Marcos for the children to go for help.

She keeps in touch with special education teachers throughout the school year and the camps help the children with skills they use year-round. The camp started with 15 children in each of its four sessions. This year there were 24 to 26 children per session, with some children attending more than one session.

Simcoe says Ryker loves the summer camp, which offers four one-week sessions in July. Depending on availability, some campers attend more than one week. It was Ryker’s fourth time to attend; the camp and his counselor are two things Ryker will talk about throughout the year.

“He doesn’t say much, so when he talks about the camp, it’s a pretty significant thing,” says Simcoe. “And we’re lucky because our counselor has become part of our lives. I trust her with my son.”

Autism has a wide spectrum of symptoms. Simcoe says Ryker has “classic autism, if I had to label him. He’s very obviously smart. He can communicate when he has to – it’s like talking with a 2-year-old.” She also points out that autism is not a behavioral problem and children can’t control what they feel they need to do.

#### Challenges and blessings

An autism diagnosis comes with various challenges common for most families. Simcoe says it can be hard to try new things or go to new places because you can’t predict the outcome. It also comes with blessings.

“It’s amazing to see someone so pure at heart who doesn’t know how to judge or be racist. He doesn’t care how you dress, what you look like, how much money you have, he just knows how people treat him,” says Simcoe. “It’s definitely helped put things in perspective and helped me try to be a better person.”

Ryker, now 8, is in the third grade in a program for children with autism. “We’ve got to keep him busy because autism doesn’t have a break,” says Simcoe. “It’s not like he can relax all day and just chill.” That’s why finding the Autism Summer Camp was amazing.

“Kids regress so much in summer,” says Liu. “Some parents find it’s hard to send their kid to regular camp where counselors may not have the training for disruptive and problematic behaviors – biting, hitting, screaming and tantrums.”

Liu believes that there are two things that make the program successful. “The first is that every child has a counselor to work with. Some kids need two counselors. This helps the kids learn a lot of skills such as language, social, writing and motor skills,” she says. “Another thing, we accept children across the autism spectrum. No child is turned away because of the severity of his/her disorder.”

The camp has the extra advantage of teaching undergraduate and graduate students who are camp counselors how to

work with the children. University student counselors get the opportunity to earn internship hours, course credit or volunteer hours.

“Each child is different, even if on the same spectrum,” says Liu. “You have to learn as you go. What if a child doesn’t want to put on a nametag, do group activities or screams? This provides an opportunity for our students to learn important lessons in real life.”

“We don’t need to advertise now,” says Liu. “Other than San Marcos, some people come from San Antonio, Austin, Buda and Kyle. We’re focusing on the areas that kids really need help on. Kids with autism like routine.” Activities include hip hop dance, yoga, swimming, arts and crafts, drawing, blocks, Legos and group activities to get the kids socializing. It’s the same routine every morning. On Monday and Wednesday, there’s more gym time with dance, yoga, scooters, bikes, trampolines and other equipment, and on Tuesday and Thursday, there’s swimming. The camp costs \$110 per camper per session, but additional funds are required. Funding has come from organizations such as the San Marcos Lions Club, donations and internal research funds.

“A growing body of literature suggests that children with autism – regardless of age – experience positive effects following bouts of exercise. So, we want our campers to be active. Many kids don’t get invited to do sports; some are stationary. We know physical

activity participation may also have an impact in moderating the symptomology of autism,” says Liu. “Children really have a good time and our counselors like the camp activities, too.”

#### Improvements made

Liu says the camp is important because this population is so underserved. “During the school year, kids go to life skills classes and general P.E. Many children with autism have problems with lights, noise and whistles,” says Liu. “It’s too much – noise, light, heat – so they don’t engage or get active.”

Liu can point to some improvements she has seen in the campers: a child who can now go to the bathroom unattended; and a 9-year-old who learned to read a book created just for him. She says that many parents report their children improve their attention spans. These stories are gratifying for the counselors and Liu.

Liu says the best part of the camp is the children. “I really love the 12 to 15 children that always come back,” she says. “They keep coming back and I see them grow every year.” She also loves the parents and both she and the counselors work hard to communicate with each family. They find out the goal for the day from the parents in the morning and share what the child did that day and what they need to improve in the afternoon.

Liu says she didn’t know this was going to be her passion in life. “I thank my advisor. She created the Autism Program at UT Austin.

When I was studying that’s how I got to know this population during my doctorate. My area is in motor development. I always liked to work with children. When I got the job at Texas State, I knew this was my passion.”

Liu appreciates the trust that parents put in her and her team. In turn, parents such as Simcoe appreciate how well the team works with them.

“Dr. Liu is amazing. I know it takes a lot to do something like this – for kids who have autism or not – organizing, finding counselors,” says Simcoe. “It’s pretty intense stuff plus a roomful of kids with autism. Not everyone can do this job and the (counselors) she finds are awesome.”

Simcoe also appreciates that Liu didn’t want Ryker medicated at camp by explaining: “We want him to be who he is here at camp.”

“I see these people for four weeks each year,” says Simcoe. “It’s like they’re your summer family – they are very open and communicative, even sending pictures during the day. It’s like dropping him with family. I don’t feel like I have to worry about my child – not just safety.

“I know he’s not going to get picked on and that the counselors are unconditionally loving toward these children. This camp has a one-to-one ratio of counselors to campers. I know they need money and people,” she says. “If I won the lottery, I would give them 50 million bucks to do it.”

## Research, counselors help camp succeed

Aside from the enrichment that children benefit from at the autism camp, there is much useful data collected that can help researchers.

On Fridays of camp weeks, Dr. Ting Liu conducts research on children who want to participate. “We do assessments because I’d like to think there are many unanswered questions for this population. With our research, we can help parents, physicians, therapists and other professionals to better design early intervention programs for children with autism,” says Liu. She has written a number of papers from the research she’s conducted.

Counselor Lyndsay Davis has taught children with special needs for five years and served as one of the camp’s counselor for two. Davis likes that the camp is so active. “It’s very structured and involved. If a child chooses not to do anything, that’s their choice, but there’s always something to do,” Davis says. “I wish there were more camps like it, and we had more money to make it bigger.”

Sandra Venegas, another camp counselor, has worked as a counselor at other camps including one for children with visual impairments. She appreciates this camp for its opportunity to work one-on-one. Although the best part for her is the challenge of getting the “kids to feel at peace in their different activities,” it’s not always smooth sailing. “At times the kids can be strong-willed and not want to transition. Basically they do not comply and may have a breakdown,” says Venegas. “Students are able to cool down with quiet or enjoyable stimulation.”







## Bobcat Build

4,300 volunteers work to cover city

The mission of Bobcat Build is to create a Texas State tradition of pride through a day of service projects. This is the 12th year of Bobcat Build. At 8 a.m. on March 29 thousands of students gather for the kickoff before heading out across the city to do jobs big and small for the community.



1 Members of Phi Iota Alpha do general cleaning, including windows, at the LBJ Museum. 2 At a house on Barbara Street, 20 members of Latinas Unidas scrap the old paint before applying a new coat, while music booms from a portable radio. 3 At the Hays County Food Bank volunteers cleaned and sanitized the shelves and canned goods for distribution. Operations manager Albert Garcia says having the volunteers allows them to check the expiration dates on canned goods. 4 A student representing the Student Learning Assistance Center (SLAC) adds a fresh coat of paint to an old house on Barbara Street. 5 Landscaping work included jobs at the San Marcos Nature Center and The Meadows Center for Water and the Environment. 6 The LBJ Museum had planned a day of painting, but no paint meant volunteers would be cleaning. 7 Everyone came dressed to work – but first they danced to the DJ. 8 The 2014 Bobcat Build saw a 79 percent increase in volunteers over the previous year. 9 Before leaving the parking lot volunteers were given equipment they would need for the day's job.



Texas State sets enrollment record for 17th consecutive year

Texas State University has announced the most diverse student body in the school's history, part of a record-setting enrollment of 36,790 for the 2014 fall semester. This is an increase from the enrollment of 35,568 for the 2013 fall semester. It marks the 17th consecutive year Texas State has set a new record for total enrollment. Undergraduate enrollment also reached a new record of 32,215, an increase of 1,210 students. This was driven in large part by a record incoming freshman class of 5,365, a nearly 4 percent increase from 2013.

36,790

Number of students enrolled in fall 2014

5,365

Number of incoming freshman in fall 2014

4th LARGEST university in Texas



Winning design

Texas State students Mabel Sirup (left) and Andrea Weissenbuehler shared the winning design for new storm drain covers in a contest sponsored by Texas State and the City of San Marcos. A salamander and the words 'Remember your friends in the water' in the center was designed by Weissenbuehler, and a decorative border of fish, waves and turtles was created by Sirup. The two were presented with bronze medallions of their design at the Texas State foundry. The contest, which had 64 entries, was part of a joint education effort to comply with the Environmental Protection Agency's Clean Water Act.

Dementia and Aging Studies newest major for graduate program

Texas State will offer a master of science degree with a major in Dementia and Aging Studies beginning in fall 2015. According to the National Institute on Aging, an estimated 5 million Americans over the age of 65 have Alzheimer's disease. The program will be comprised entirely of online courses, a decision Andrea Golato, dean of the Graduate College, said was designed to accommodate part-time students. According to enrollment projections, part-time students are estimated to make up 40 percent of the total program enrollment.



Career victory

Texas State Head Coach Ty Harrington earned his 500th NCAA Division I career victory with a 2-0 shutout on April 23 over the Baylor Bears. In his 15th season with Texas State, Harrington is the winningest coach in school history.

Lady Bird opera to premiere 2016

The National Endowment for the Arts has awarded Texas State University's Samuel Mungo a research grant toward production of an opera based on the life of Lady Bird Johnson. The opera, tentatively titled *Lady Bird*, is scheduled for its world premiere at Texas State in spring 2016. The composer is renowned opera composer Henry Mollicone, who wrote Texas State Opera's 2013 world premiere, *Children of the Sun*, based on the story of the Virgin of Guadalupe. The libretto will be written by Sheldon Harnick, Pulitzer Prize winner and author of *Fiddler on the Roof*. For more information, contact Mungo at (512) 245-3046 or via email at sm58@txstate.edu.



Jones Dining Hall to get facelift

Jones Dining Hall will close in December for extensive renovations both inside and out with completion set for August 2016. The total cost of the renovation is expected to be about \$20 million. Some of the current vendors will be relocated during construction; others will be added to Jones when construction is complete. Jones has been a campus staple since the 1960s.

Bobcats, Roadrunners to begin 8-year series in 2017

The Texas State Bobcats will once again meet the UTSA Roadrunners on the gridiron beginning in 2017. Texas State Athletic Director Larry Teis and UTSA Athletic Director Lynn Hickey announced that the two schools would meet at Bobcat Stadium on Sept. 23, 2017, and in the Alamodome on Sept. 22, 2018. Texas State and UTSA will play again beginning in 2020 when the two teams start a six-year home-and-home series on Sept. 12, 2020 at Bobcat Stadium. The two schools also will meet on Texas State's home field on Sept. 10, 2022 and Sept. 7, 2024. Texas State and UTSA will return to the Alamodome on Sept. 11, 2021, and play there on Sept. 9, 2023 and Sept. 6, 2025.

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# 2014-2015 Common Experience

*Exploring Democracy's Promise: From segregation to integration*

“‘WE THE PEOPLE,’ IT IS A VERY ELOQUENT BEGINNING. BUT WHEN THE CONSTITUTION OF THE UNITED STATES WAS COMPLETED ON THE 17TH OF SEPTEMBER 1787, I WAS NOT INCLUDED IN THE ‘WE THE PEOPLE.’ I FELT FOR MANY YEARS THAT SOMEHOW GEORGE WASHINGTON AND ALEXANDER HAMILTON JUST LEFT ME OUT BY MISTAKE.”

– U.S. REP. BARBARA JORDAN

This year’s Common Experience is inspired by the 50th anniversary of the integration of Texas State when in January 1963 U.S. District Judge Ben H. Rice ruled the university could not deny admission to an African-American student based solely on race. Immediately following the ruling, 18-year-old Dana Jean Smith, a graduate of Anderson High School in Austin, registered at Texas State University. The registrar personally assisted Smith along with four other African-American students – Georgia Hoodye, Gloria Odoms, Mabeleen Washington and Helen Jackson.

The Common Experience explores the trials of segregation and the impact of integration, raising the question of how we internalize change in this 50-year celebration of the integration of Texas State. A closer exploration of desegregation reveals a long and difficult struggle to achieve one of modern democracy’s great promises, equal access to a quality education. Specifically, we use this 50-year anniversary of the desegregation of our institution as an opportunity to examine issues related to equal access to higher education and the role of laws, litigation and civil rights movements in helping students obtain higher education. There is also a connection this year to the 2008-2009 Common Experience, *Civic Responsibility and the Legacy of LBJ*,

celebrating our most famous alumnus, Lyndon Baines Johnson. Bringing LBJ into the conversation emphasizes the role he played in making these changes happen and helps build pride in Texas State and its graduates.

In 2014-2015 Americans will celebrate the 50th anniversary of many of LBJ’s programs aimed at eliminating poverty and racial injustice. These Great Society initiatives included the Civil Rights Act, the Voting Rights Act, the Head Start Program, the War on Poverty, Medicare and Medicaid, and the Higher Education Act, signed by President Johnson on the Texas State campus.

As we celebrate integration at Texas State and the promise of democracy, we encourage a cross-disciplinary conversation about differences and experiences of the many who are marginalized, ignored or forgotten. In addition, we can explore what it means to make a college education accessible to everyone.

*This article was excerpted from the Texas State Common Experience proposal written by committee members Ronald Brown, Diann McCabe, Joanne Smith, Dwight Watson, Miriam Williams and Pam Wuestenberg.*

## A short history on long road to integration By Julie Cooper

It was quite a different time and place in mid-20th century Texas. Although the civil rights movement was sweeping the country, many public colleges and universities, Texas State included, were slow to integrate.

In February 1946 Herman Marion Sweatt was denied admission to The University of Texas Law School; he met all eligibility requirements for admission except for his race. His lawsuit, *Sweatt v. Painter*, would eventually change the course of graduate education and the state’s interpretation of “separate but equal” facilities. The U.S. Supreme Court later ruled in *Sweatt*’s favor, and he and other black law students gained admission in 1950-51.

In 1954, the Supreme Court ruled in *Brown v. Board of Education* that separate public schools for black and white children were unconstitutional; and the doctrine was extended in 1956 to state-supported colleges and universities.

The University of North Texas admitted black students to the freshman class in 1956, but they were not allowed to live on campus. The University of Texas System Board of Regents announced all qualified applicants would be admitted to UT Austin by September 1956. But in that same year, Texas Gov. Allan Shivers led the fight against integration when he ordered state police to prevent the court-ordered desegregation of Mansfield High School in Tarrant County.

In 1962 Dana Jean Smith, an 18-year-old black woman, applied for admission to what was then called Southwest Texas State College. A graduate of Austin’s Anderson High School, Smith was academically qualified to enroll in the college. President John G. Flowers, in a letter dated June 22, 1962, said Smith’s application was rejected because of the whites-only provision in the

charter establishing the college. He also informed her that only an act of the state Legislature or a court order would make it possible for Smith and other black students to be admitted.

Daniel Smith, Dana’s father, retained lawyer J. Phillip Crawford who filed a lawsuit in August 1962 in U.S. District Court in Austin. A class action suit was initiated on behalf of all qualified black students; defendants of the lawsuit included Flowers, Registrar Clem Jones and (what was then called) the Board of Regents, State Teachers Colleges of Texas.

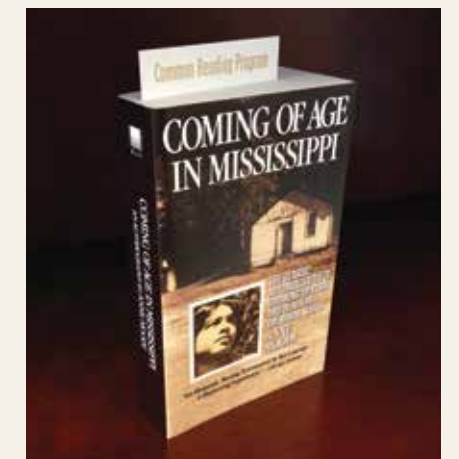
On Feb. 4, 1963 U.S. District Judge Ben H. Rice Jr. signed the court order that ended segregation at the university. By 3:15 p.m. that day, Smith and three other black women from San Marcos – Georgia Faye Hoodye, Gloria Odoms and Mabeleen Washington – registered for classes. The following day, Helen Jackson, a sophomore transfer from Huston-Tillotson College, also enrolled.

Mary Flowers Faucet, daughter of President Flowers, recalls how her father wanted other black students to attend at the same time as Smith. “I know he was checking around various schools,” Faucet says. “Father was a great man to be concerned about doing the right thing. He wanted to make her arrival as easy as possible.” After the five were enrolled, she says Flowers kept a watchful eye on the five women. “It was a small school at that time (and) father knew everybody by name. He was interested and he loved that school.”

Archival accounts from the *University Star* indicate that integration at Texas State was accomplished without the protests and violence that marked the situations at schools in other Southern states. A *Star* article noted that residence halls remained segregated and all five women lived with their families, not on campus.

## ‘Coming of Age in Mississippi’

Common Reading book for 2014-15



Lending authenticity to the Common Experience conversation, *Coming of Age in Mississippi* (1968) by Anne Moody helps students understand the political, social, emotional and psychological forces in effect during the time our university admitted the first African-American students in 1963.

Moody crossed paths with the leading civil rights leaders of her time, and included the famous sit-in at the Woolworth’s lunch counter in Jackson, Miss. Being young, black, poor and female in a white society, Moody’s depiction of her story gives readers a broad perspective into the complexities of race relations in the South during the 1960s.

Moody’s story portrays a pivotal moment in our nation’s history. Students have connected her experiences with their own as they enter Texas State University.



They made history as the first African Americans to attend Texas State. And a little more than 50 years later, they made history again when the five women reunited on campus for the first time to take part in a discussion on their experiences and how they helped shape integration at Texas State.

The five – Georgia Hoodye Cheatham, Helen Jackson Franks, Gloria Odoms Powell, Dana Jean Smith and Mabeleen Washington Wozniak – were honored during a special tribute on May 1 at the LBJ Student Center.

The women enrolled at Texas State in 1963, following a changing tide of sentiment that led to the integration of many public schools and universities across the country. Still, resistance lingered – and posed challenges at times.

Despite that, all five women summed up their experiences with integration at Texas State as mostly positive, and they all pointed out several instances where they encountered strong support during their years pursuing higher education.

Dr. Sherri Benn, assistant vice president for Student Affairs and director of Student Diversity & Inclusion, offered an oral presentation that described the social climate at the time, noting that each of the women demonstrated strong character by being the first African Americans to attend the university. Cheryl Lee, from Student Support Services, sang Strength, Courage and Wisdom; and the Texas State student-led Gospel Expressions choir performed Can't Give up Now. Moderators Curtis Hadley, president of the Black Student Alliance, and Dr. Sandra Mayo, associate professor of the Department of Theatre and Dance, directed questions that sparked dialogue among the honorees. Dr. Joanne Smith, vice president of Student Affairs, presented the honorees with Texas State Trailblazer awards at the close of the evening.

The event was also an opportunity to introduce Texas State's Common Experience theme for 2014-15: "Exploring Democracy's Promise: From Segregation to Integration."



*The following questions and responses are select excerpts taken from the conversation with the five women:*

**Why did you enroll at Texas State University?**

"I wanted to go to college really, really bad," Wozniak says. "My dad told me he wouldn't pay for college out of town." The college sent her a "nice letter saying 'No.' We had met all the requirements, but 'we were of the Negro race.'"

Smith, who went to high school in Austin, recalls that her counselor had been her father's high school coach and he went to Texas State. "I went home and told my parents 'I am going to Texas State.'"

For several, it was "close to home." Franks said her father owned a business in San Marcos and it was "much easier to be home and eat home-cooked meals."

**Where did you find support either on or off campus while you were attending Texas State?**

It was family and the black community that gave the most support, the five agree. "The whole city embraced us," Smith says.

But there were individuals too – Powell credits her high school librarian who paid for some of her text books. Smith praises Dean of Students Martin Juel for his support and called him "our on-campus daddy." She also recalls that President John Flowers "always knew how we were doing academically. He knew people's names and faces."

Franks says her grandmother was her biggest supporter. Powell remembers a saying her mother used: "You're no better

than anybody else, but there's nobody any better than you." Cheatham says her mother, who finished eighth grade, pushed her to succeed saying "you must get an education."

**Can you please share some memories about your adjustment during the first weeks or months after you arrived on campus?**

"We couldn't eat in the cafeteria, but that was OK with me," says Franks, noting that, despite a court ruling that allowed them to attend the university, it did not extend to campus dining. "My grandmother would cook for me and my dad would bring it (to campus)."

Wozniak says her adjustment problems were reflected in her grades. In high school she was an A/B student but says her grades in college slipped. "Whatever it was, I overcame it later," she says. "I had a dream of being a nurse." She married and left Texas State after one semester, but eventually graduated at the top of her class in pursuing her associate's and bachelor's degrees.

**What advice can you offer current students who are facing adversity?**

"Hang in there," Cheatham says. "Trust yourself, don't let anything stop you."

"When you go to class, go to learn not socialize," Powell says.

"Remember, your worst day is only 24 hours long," Smith says.

*Where are they now?*

**Georgia Hoodye Cheatham**

- Attended Nixon-Clay Business College
- Works for Gary Job Corps
- Lives in San Marcos

**Helen Jackson Franks**

- Graduated from Huston-Tillotson University in 1968
- Taught Language Arts at San Marcos High School, retired in 2008
- Lives in San Marcos

**Gloria Odoms Powell**

- Transferred to Texas Southern University
- Worked 25 years for Dow Chemical, retired in 2007 from Wells Fargo
- Lives in Houston

**Dana Jean Smith**

- Graduated in 1967 from Texas State
- Taught in SMCISD and has been a substitute teacher for many years
- Lives in San Marcos

**Mabeleen Washington Wozniak**

- Received bachelor's degree in nursing from the University of the Incarnate Word and master's degree in business from California State University, Long Beach
- Retired to Florida



1963 | *A poem by Tamara Johnson*

1963.  
Do you know the struggle of wanting equality in your education?  
Have you felt the pain of being ousted because of the law of segregation?  
That was the norm for minorities not too long ago  
See fifty years ago, Southwest Texas went against that norm  
Decided that people like me too served greater opportunities  
And that this campus needed to transform  
Transform into what it has become today  
This world isn't perfect but it's far from then  
The five black women who first integrated this establishment  
Are the sole reason as to why I can look to someone across color lines,  
In these halls and consider them kin  
I can only wish for the same amount of bravery those women had back then.

1963.  
I hope to one day live amongst beings  
Who all consume the same strength as Dana Jean Smith had that day  
To be able to swallow the fears and tears,  
And be the first in line to be in the change of this institution  
Later joined by four more African-American women  
Who too wanted to be the execution of our future inclusion  
These women have helped birth pride into existence  
To travel around the laws resistance with persistence  
To gain a higher education despite skin difference  
The Avengers are spectacular but these women are my heroes

1963.  
February  
Will not be forgotten  
The beginning of making accessing a quality education  
Everyone's common experience  
The racial injustice that used to take place has faded  
Today's equality improvements are a product of what  
These five women did alongside what Lyndon B. Johnson also created  
Just imagine where we'll be fifty years from now  
Imagine being marginalized unheard of  
Imagine opportunities for all being endless  
No matter what identity, no matter social class

1963.  
Fifty years ago, marked the start of something extraordinary  
And today we thank our equality heroes and leaders  
Venture out to build embracement, to be today's seekers  
Lets' again transform to evolve into what we strive to be  
Do it for Lyndon B. Johnson. Do if for the five brave women.  
Do it for 1963.

*[Editor's note: the above poem was recited by Texas State student Tamara Johnson to commemorate the integration of the university in 1963 during the 50th anniversary celebration of the occasion.]*





**WHO:** University Federal Credit Union. Over 250 university, association and employers in Central Texas and Galveston.

**WHAT:** \$1.15 million over five years

- \$500,000 for athletics
- \$650,000 for scholarships and campus program support:
  - \$375,000 to support campus programs and clubs
  - \$275,000 Scholarships for students

**WHERE:** “UFCU was created by university professors back in 1936. Our mission has always been to serve the higher education community in Central Texas. We are very excited to now serve the Texas State University community,” says Rhonda Summerbell, senior manager of University Relations at UFCU.

“Our vision of a higher education community made strong through shared values and high impact relationships lives on through our new partnership with Texas State University. Texas State and UFCU share many common values. We hope our support helps strengthen and enhance many of the wonderful and very beneficial programs at Texas State.”

“Both the short- and long-term is to help grow programs that benefit faculty, staff, and students and be a true partner to the university. Another goal is to support financial literacy, especially for students and other young adults, as they make decisions that will affect them for many years to come,” she says.

“With support of the right programs, UFCU can help create momentum for growth in many areas. As much of our donation will go to student scholarships, we are directly supporting the capacity of Texas State departments to grow and serve students,” Summerbell says, adding, “UFCU currently employs many former and current students of Texas State University!”



**WHO:** Donated by Nitronex, LLC, a subsidiary of M/A-COM Technology Solutions Inc. The equipment benefits students in Physics, Electrical Engineering, and Materials Science, Engineering and Commercialization.

The equipment is referred to as a “GaN MOCVD Epitaxial Reactor.” This stands

for Gallium Nitride (GaN), which is the material system that the equipment is designed to produce, or “grow,” via layer-by-layer of specific atoms called “Epitaxy.” MOCVD stands for Metalorganic Chemical Vapor Deposition which describes the chemical nature of the sources of the atoms and the growth process. And, finally, reactor further signifies the reactive nature of the gases that leads to the construction of the process that happens inside the tool. “Students will be working on current applied science problems and doing it on state-of-the-art equipment,” says Dr. Edwin Pinter, associate professor of Physics. “The science that we do here is focused on applied science/research.”

**WHAT:** State-of-the-art equipment valued at approximately \$1.3 million that is used in the production of advanced electronic components such as wireless transmitters/receivers and LEDs. -The MOCVD epitaxial reactor uniquely designed for gallium nitride deposition, a semiconductor with a broad range of high-impact properties.

**WHERE:** The epitaxial reactor will be set up as a research service center in the university’s Roy F. Mitte Building and will be accessible to the Texas State community as well as to external collaborators.



**WHO:** Brian Mikiten is the owner of Security Control Systems Inc. “We build prisons for a living,” he says. “We believe in targeting funds where they can help people. It was a good thing to do.”

A formal proposal titled “Enriching Research and Education of Students by New Additive Manufacturing Technology” was presented to donors Brian and Joan Mikiten of San Antonio.

Brian Mikiten says it would have been easy for him to buy a 3-D printer for his son, but by giving to the university “these printers will be used by hundreds of kids.”

The Mikitens are Bobcat parents. Benjamin Mikiten graduated in 2013, and Daniel Mikiten is a sophomore in the engineering program. For this donation there was a complete facility tour and equipment demonstration, an overview of the technology presentation, and a group meeting between the donors and engineering faculty including Dr. Stan McClellan, Dr. Bahram Asiabanpour and Dr. Harold Stern.

**WHAT:** Donation – Two 3-D printers valued at \$43,750 for the Ingram School of Engineering.

- Dimension uPrint Plus SE: an extrusion based 3-D printer capable of fabricating functional parts using ABS plastic.
  - Solidscape 3Z Studio 3-D Printer capable of fabricating very accurate wax models with the accuracy of 0.0010 inch/inch and surface finish of 32 micro-inches.
- WHERE:** The 3-D printers, housed in the Roy F. Mitte will be used in:
- Improving undergraduate and graduate student education (for the current and new courses)
  - Adding research infrastructure and new capability
  - Serving community and outreach to K-12 students (including daily visitors and summer camps).



**WHO:** Wells Fargo & Co.

**WHAT:** \$100,000 grant - Wells Fargo Foundation Clean Technology & Innovation grant to STAR Park. “We want to participate in lots of aspects of the university,” Mark Masten, regional area president Wells Fargo. “Any part of the partnership is an investment in the future. Some may see it as a business deal, but in reality it is designed to foster community.” Wells Fargo and Texas State have enjoyed a 10-year+ partnership.

“The STAR Park focus on green technology and innovation fits well with what Wells Fargo embraces,” Masten says.

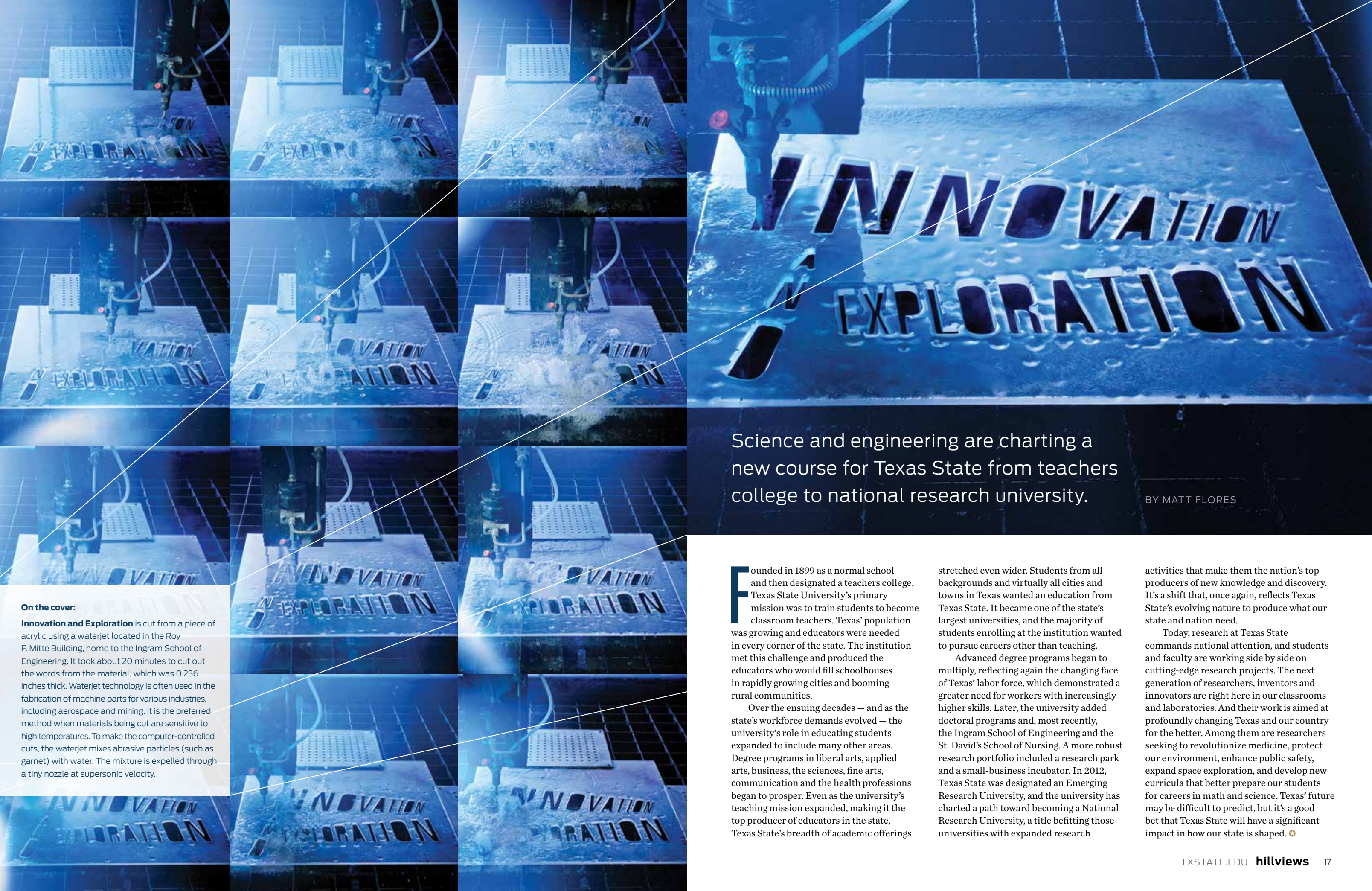
Also:

- \$140,000 in donations (2013) including athletics and Distinguished Alumni Gala; and
- Scholarship program under review for 2014-2015

**WHERE:**

- ATMs on campus
- BobcatCard
- Wells Fargo branch at LBJ Student Center.





**On the cover:**  
**Innovation and Exploration** is cut from a piece of acrylic using a waterjet located in the Roy F. Mitte Building, home to the Ingram School of Engineering. It took about 20 minutes to cut out the words from the material, which was 0.236 inches thick. Waterjet technology is often used in the fabrication of machine parts for various industries, including aerospace and mining. It is the preferred method when materials being cut are sensitive to high temperatures. To make the computer-controlled cuts, the waterjet mixes abrasive particles (such as garnet) with water. The mixture is expelled through a tiny nozzle at supersonic velocity.

Science and engineering are charting a new course for Texas State from teachers college to national research university.

BY MATT FLORES

Founded in 1899 as a normal school and then designated a teachers college, Texas State University’s primary mission was to train students to become classroom teachers. Texas’ population was growing and educators were needed in every corner of the state. The institution met this challenge and produced the educators who would fill schoolhouses in rapidly growing cities and booming rural communities.

Over the ensuing decades — and as the state’s workforce demands evolved — the university’s role in educating students expanded to include many other areas. Degree programs in liberal arts, applied arts, business, the sciences, fine arts, communication and the health professions began to prosper. Even as the university’s teaching mission expanded, making it the top producer of educators in the state, Texas State’s breadth of academic offerings

stretched even wider. Students from all backgrounds and virtually all cities and towns in Texas wanted an education from Texas State. It became one of the state’s largest universities, and the majority of students enrolling at the institution wanted to pursue careers other than teaching.

Advanced degree programs began to multiply, reflecting again the changing face of Texas’ labor force, which demonstrated a greater need for workers with increasingly higher skills. Later, the university added doctoral programs and, most recently, the Ingram School of Engineering and the St. David’s School of Nursing. A more robust research portfolio included a research park and a small-business incubator. In 2012, Texas State was designated an Emerging Research University, and the university has charted a path toward becoming a National Research University, a title befitting those universities with expanded research

activities that make them the nation’s top producers of new knowledge and discovery. It’s a shift that, once again, reflects Texas State’s evolving nature to produce what our state and nation need.

Today, research at Texas State commands national attention, and students and faculty are working side by side on cutting-edge research projects. The next generation of researchers, inventors and innovators are right here in our classrooms and laboratories. And their work is aimed at profoundly changing Texas and our country for the better. Among them are researchers seeking to revolutionize medicine, protect our environment, enhance public safety, expand space exploration, and develop new curricula that better prepare our students for careers in math and science. Texas’ future may be difficult to predict, but it’s a good bet that Texas State will have a significant impact in how our state is shaped. 🌟



Cesar Rivera  
Masters Fine Arts  
SioTeX CCO

Lisa Taylor  
Masters Business Administration  
SioTeX VP Sales & Marketing

Ash Kotwal  
Ph.D. in Materials Science  
SioTeX VP of Manufacturing

Haoran Chen  
first Ph.D. in Materials Science  
SioTeX CTO

Marcus Goss  
Ph.D. in Materials Science  
SioTeX COO

# Unique MSEC PROGRAM

## WINNING NOTICE

BY DAN R. GODDARD

Cross disciplines come together to help science, engineering students master skills for business

Texas State University is recognized as an emerging research university, but making research discoveries available for mainstream use is earning awards and accolades for a new Ph.D. program that mixes Materials Science, Engineering and Commercialization (MSEC). The cross-disciplinary program is the only one of its kind in Texas and is designed to teach science and engineering students how to capitalize on their original findings by mastering entrepreneurship and business skills.

"I expect this program to generate two or more start-up companies a year," says Dr. Gary W. Beall, an associate dean and professor in the Department of Chemistry and Biochemistry. "Texas State is unique in that we are extremely interdisciplinary. Most universities are highly 'siloe,' meaning there's not much communication among the different departments or specializations. The other advantage Texas State has is that we are oriented toward the practical application of research. Applied research tends to be looked down upon

by research one (R1) universities where fundamental research is the focus, but we want our students to learn how to translate their discoveries into a real business."

Last spring, the American Chemical Society Division of Polymeric Materials presented the Science and Engineering 2014 Award for Cooperative Research in Polymer Science and Engineering to Beall and Texas State colleague Dr. Clois Powell, who is associate director for the Center for Nanophase Research. Along with Dr. Emmanuel Giannelis of Cornell University,

they were recognized for their pioneering, collaborative research from 1993 to 2005 on polymer-clay nanocomposites while Beall worked at Nanocor and Powell at Southern Clay Products.

### Environmentally friendly

They are credited with laying the foundation for the polymer nanocomposite industry, which has led to the development of more environmentally friendly materials used in everything from thinner plastic food packaging to lower weight auto parts for improved energy efficiency. Currently at

Texas State, student and faculty researchers are using nanotechnology to develop materials to be used in the next generation of electronics, medicines, plastics, sensors and renewable energy.

"The great thing about the MSEC program is that it's a program and not a department," Powell says. "All of the science departments – biology, chemistry, biochemistry, physics, computer science, mathematics and engineering along with the business school and fine arts – contribute to the program. We not only want our students to have excellent research skills; we want them to have the skill set to be successful on the job and to know how to develop business plans that will make their research marketable."

Travis Cantu, a graduate student in the MSEC program, also was honored in March at the American Chemical Society national meeting in Dallas for his research focusing on the creation of synthesized chemical polymers capable of conducting photo-thermal energy that can be used to target and destroy cancer tumors using concentrated bursts of heat and light.

"I considered other universities, but their emphasis purely on research was too one-sided for me," Cantu says. "I liked the Texas State MSEC program because it was multidisciplinary and gave me the opportunity to work with other people in areas that were outside my comfort zone. My background is in materials development so bioengineering was new to me. My feeling is that if you're doing research but don't know how to apply it and market it, then you are just wasting your time."

### SioTeX formed

One new company, SioTeX, already has been formed by Texas State students to market one of the first new products to emerge from the MSEC program, Eco-Sil. Made from organic rice hulls, Eco-Sil is designed to be used as an alternative to fumed silica, a toxic material commonly used as a thickening agent in paints, plastics and tires.

Haoran Chen, who earned the first MSEC Ph.D. from Texas State, led an interdisciplinary team at the 14th annual Rice University Business Plan Competition in Houston last spring made up of two MSEC students, Marcus Goss and Ash Kotwal, along with master of business administration student Lisa Taylor and

master of fine arts student Cesar Rivera. It marked the first time Texas State competed and the team placed fourth overall, winning the \$125,000 Texas Halo Fund Investment Prize, which the team is using to launch SioTeX. In June the SioTeX team won the grand prize (\$10,000) at the 2014 American Chemical Society Green Chemistry Institute Business Plan Competition in Bethesda, Md.

"Eco-Sil is made from rice hulls, which are considered bio waste, but the process is much simpler and about 70 percent cheaper than the conventional method for making fumed silica," Chen says. "Every year, millions of tons of rice hulls are discarded, but our technology has already won an EPA award for its ability to reduce rice hull landfilling and field burning. I think we have an excellent product with similar density and viscosity to the fumed silica, but I'm happy to be on a team with people who have the know-how to create a business plan and make the product a reality."

In fact, Taylor says she plans to devote herself full time to the start-up for SioTeX. "At first, it sounded a little bizarre to me when Dr. Beall sent me an email asking if I wanted to work on the business plan," Taylor says. "But we put together a strong team, including an art student (Rivera) who helped us put together a professional-looking presentation for the Rice competition. Winning the Halo Prize gave us a lot of confidence. Now I'm excited to be working on a project that takes research directly from the laboratory and turns it into a real-world business." 🌱

George Steinke  
MSEC Entrepreneur  
in Residence  
SioTeX CEO



Photograph courtesy of Patrick Gosnell



# FIRST PH.D.

GRADUATE OF MSEC PROGRAM

*has big plans*

By Julie Cooper

It could be that the rice husk, traditionally considered a waste by-product of the popular grain, may be among this generation's engineering marvels. Turns out that the grain's outermost layer, also called a hull, has several applications in the industrial and ecological arenas.

And Haoran Chen, Texas State's first-ever Ph.D. in Materials Science,

by a materials engineer to perform better than it would without a little help from humans. Chen's dissertation is titled "Biogenic Silica Nanoparticles Derived from Rice Husk Biomass and their Applications." The United States is the world's second-leading rice exporter and Texas is one of six rice producing states. Although the rice husk historically has been



In the last 30 years, nearly everything we use is made of a material that has been modified or designed by a materials engineer to perform better than it would without a little help from humans.

Engineering, and Commercialization (MSEC), is hoping to capitalize on the rice husk's many uses. Chen, an international student from China who graduated from the program last December, is in pretty select company. He became the first to graduate from the Texas State doctoral program, which is the only one of its kind in the state.

The Texas State University System Board of Regents approved the program in November 2011 and coursework began in spring 2012. Today, Texas State has the only MSEC doctoral program in the state. Chen was the first of 24 enrolled so far to complete the program, with seven students in the original cohort. The second MSEC Ph.D. candidate, Tyler Nash, graduated in May.

Adding nanotechnology to materials science and engineering has re-invigorated this scientific field. In the last 30 years, nearly everything we use is made of a material that has been modified or designed

viewed as a waste product, Chen says the silicon byproduct has many applications, including coatings, tires, cosmetics and water treatment.

"We developed a process to develop high-quality silicon from this. It is better than sand," he explains. Originally from Linying, Henan Province, Chen came to the U.S. in 2005. He and his wife, Lijuan Jia, have enjoyed life in campus housing and especially the river. The couple has gone tubing twice and Chen says that he particularly likes to swim in the river, something he cannot do in China because of the pollutants.

Chen transferred to Texas State from a doctoral program at the University of New Hampshire. He received his bachelor's degree in China and master's degree from Eastern Michigan University. Chen says he was very excited to find the MSEC program at Texas State, specifically because of the

built-in commercialization component. While other universities have tried to build similar programs, he says they have not been as successful.

"This program has drawn quite a bit of attention," Chen says. When he wasn't spending hours in the lab, Chen says he particularly liked the industry people who came each week to speak to his classes, sharing their experiences and talking about what they had to overcome.

The Texas State program is designed to produce doctoral level scientists who will contribute to the research and development of materials to be used in the next generation of electronics, medicines, plastics, sensors and renewable energy. The curriculum combines commercialization with science and engineering to develop scientist who have an understanding of intellectual property law, business planning and competency in transforming innovations from the laboratory to the marketplace.

Dr. Thomas Myers, associate dean of the College of Science and Engineering, placed the hood on Chen at his commencement ceremony. "It was clearly a moving moment for me to be part of this," Myers says. "Dr. Chen epitomizes the type of entrepreneurial spirit we hope to produce with the MSEC program." 🍌

INNOVATION & EXPLORATION

# 12 Ph.D. PROGRAMS

Texas State was reclassified as an Emerging Research University by the Texas Higher Education Coordinating Board in 2012. The new MSEC degree program aligns with several goals set out by Gov. Rick Perry who called upon the state to strengthen university commercialization offices; ensure successful partnerships between private entities and the university; stimulate the development of technology incubators; increase science, technology, engineering and math education efforts.

AQUATIC RESOURCES

CRIMINAL JUSTICE

DEVELOPMENTAL EDUCATION (PH.D.)

DEVELOPMENTAL EDUCATION (ED. D)

EDUCATION — ADULT, PROFESSIONAL AND COMMUNITY

EDUCATION — SCHOOL IMPROVEMENT

ENVIRONMENTAL GEOGRAPHY

GEOGRAPHIC EDUCATION

GEOGRAPHIC INFORMATION SCIENCE

MATERIALS SCIENCE, ENGINEERING, AND COMMERCIALIZATION

MATHEMATICS EDUCATION

DOCTOR OF PHYSICAL THERAPY



Employers are finding their new hires among our graduates.

big demand for



STEM

GRADUATES

by Dan R. Goddard



On site at CFAN:  
Texas State engineering  
graduates Esmer Trevino (left)  
and Anthony Ahrens (right)  
joined the company in 2012.

Some college majors are not only destined to be among the best-paid professionals, they also have the best job prospects. In 2014, nine out of 10 of the best jobs fell into the science, technology, engineering and mathematics (STEM) category with more than one in four employers expected to create jobs in these fields, according to a recent CareerCast poll.

Graduates of the College of Science and Engineering at Texas State University have special qualities that keep employers coming back year after year to recruit top talent, says Norma Guerra Gaier, director of career services. “They have a good work ethic,” Gaier says. “I hear that over and over again from employers when they talk about our students and graduates. Many have worked their way through school and appreciate the opportunities they have.

“Our smaller classes yield an impressive faculty-to-student ratio and offer students more one-to-one instruction with their professors. Many of our faculty has worked in industry, so they have good contacts and can help our graduates learn about career opportunities,” she says.





## Joining CFAN



San Marcos-based CFAN has hired about 10 engineers from Texas State, says Laura Lucas, human resources manager. A joint venture between two of the world's leading aerospace companies, GE Aviation and SNECMA of France, CFAN manufactures composite fan blades for the GE90 Engine, which powers the Boeing 777, as well as fan blades for the GENx Engines that power the Boeing 787 and Boeing 747-8.

"This is a great group of engineers with a firm grasp of the field's fundamentals," Lucas says. "They are good collaborators with an outstanding work ethic. They are also a good cultural fit for our company, which is really important because they have to be part of a team and they aren't prima donnas. Our hiring fluctuates, but we probably hire four or five engineers a year."

CFAN hired a pair of manufacturing engineers who graduated in 2012 from Texas State after they had been interns. Esmer Trevino, 24, has been working for two years as a product engineer, while Anthony Ahrens, 25, is a facilities planner.

"My classes fit well with what I'm doing now," Trevino says. "I actually use what I learned in my classes every day. Off the top of my head, I can count seven people at CFAN who graduated from Texas State and all are manufacturing engineers. I work on product quality control and use a lot of the math and statistics I studied and some computer-aided design."

Ahrens says he was at a university STEM Job Fair when he overheard a faculty member talking about an opportunity at CFAN, which led to his two-year internship that turned into a full-time job when he graduated in 2012. "I feel like I was trained as well or better than a lot of engineers coming out of bigger schools because we had so much one-on-one with our professors," Ahrens says. "My advice to STEM majors is to take advantage of the professors and facilities at Texas State. I have all the tools I need for my job, including engineering, analysis and 3D computer design. Out of high school, I started out in drafting and design, but decided it was best to get an engineering degree and going to Texas State turned out to be a good choice."

Texas State will offer a new master of science in engineering beginning fall 2015 through the Ingram School of Engineering within the College of Science and Engineering.

The program, designed with input and support from such major industry figures as Texas Instruments, Samsung, Tokyo Electron and Dell, will produce master's-level graduates to meet an expected 11 percent national increase in the demand for engineers in the near term.

Texas alone is projected to need more than 6,000 new engineers a year to meet demand. Most of the new employment growth is due to increasing demand for engineers in areas that require advanced degrees, such as research and development and design and consulting services.



## Jobs in IT



Kris Koehler, IT technical director at USAA, says Texas State is a "hidden gem." The 1982 Texas State graduate says the San Antonio-based insurance giant has hired almost 40 Texas State STEM grads since 2011. "We hire mostly IT computer science engineers and some electrical engineers," Koehler says. "We look for people who will be a good fit for our company, but we also want them to be able to learn and to be creative thinkers. We like people who ask a lot of questions because that means they want to understand. Texas State graduates are some of our most successful and high-performing IT people."

James Hunter, 32, a USAA software developer and integrator, graduated in 2012 after working his way through school. He says the Texas State alumni at USAA meet for lunch every other week. "I wanted to work for a big IT shop and we're doing things with mobile applications and software that no one

thought possible five or 10 years ago," Hunter says. "I like that I get to do a little bit of everything and to work with different people on various projects. I had a full-time, non-IT job while I was going to school, but if I had to do it over, I think I would have tried to get an internship and spent more time taking advantage of all Texas State has to offer."

At the Spring 2014 Texas State STEM Job & Internship Fair, potential employers included Apple Inc., Cobb Information Systems, CMC Steel Texas, CPS Energy, FBI, General Motors, Halliburton, HEB Grocery Co., Home Depot, the National Security Agency, RockWater Energy

Solutions, Samsung Austin Semiconductor, Schlumberger, Southwest Research Institute, Texas Department of Transportation and Zodiac Aerospace.

**"We like people who ask a lot of questions because that means they want to understand. Texas State graduates are some of our most successful and high-performing IT people."**

**— Kris Koehler**  
IT technical director at USAA,

Sam Cobb, who graduated with a computer information systems degree from Texas State in 1985, says his Austin-based company, Cobb Information

Systems Inc., specializes in custom software design. "When I graduated, Texas State was one of the few places where you could get a CIS degree," Cobb says. "I was able to work my way up from a junior developer at Info Now to a senior analyst before forming my own company in 1995. I'm always looking for good software developers from Texas State."



## Shale Boom



April Olsen, Halliburton's southeast university affairs recruiter, says the world's leading supplier of technology, integrated project management and information solutions for the oil and gas industry employs about 76,000 people worldwide. She had about 100 positions to fill. The 'shale revolution' is creating so many jobs in the energy industry that employers are having a hard time finding qualified people," Olsen says. "That's why we have a training program that lasts from 12 to 18 months so people can get hands-on experience working in the oil field. Once people finish training, they can branch out into all kinds of opportunities. We've had people go from blue-collar jobs to supervisor in a year and a half. We like coming to the Texas State STEM fairs because we usually find good people here."

Sarah Cooper Truchard, manager of training and development at Houston-based Rockwater Energy Solutions, says her company started with 1,500 employees three years ago and now has 3,000. Rockwater, which provides water management and chemical technologies for modern hydraulic fracturing, had 37 positions open in the United States and Canada.

"We sometimes have to scramble to come up with enough people when a new well comes in," Truchard says. "We don't expect the shale revolution to slow down anytime soon so we are always on the lookout for new talent. We hire some computer specialists for our IT in Houston, but we also need chemists and biochemists. We've hired some from Texas State and they are among our best recruits. I think networking with alumni is a good way for an undergraduate to get their foot in the door."

Wes Agnew, who graduated from Texas State with a chemistry degree in 1984, spent 21 years working for major European chemical companies in Germany and Belgium before joining Rockwater in 2009. Now living in Midland, he is Rockwater's director of manufacturing, completion chemicals and stimulation products.

"The shale boom is creating a lot of opportunities for STEM graduates," Agnew says. "We've hired some young people from Texas State, and we like them because they come to work ready to work and willing to listen. Our hires from Texas State have turned out to be some of our best employees."

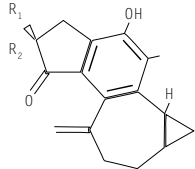
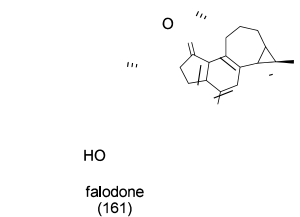
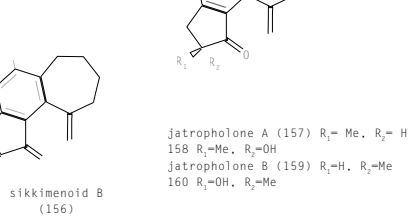
Lyndsey Epley, a production chemist who graduated from Texas State in 2012 with a biochemistry degree, won one of Rockwater's top honors, a President's Circle Award, after only one year on the job. "We had to consolidate an Odessa production and specialty chemical blend facility into the Midland completions chemicals facility," Epley says. "Since the Odessa facility had belonged to another company, it meant decoding chemical formulations and creating new blending procedures. It was an exciting challenge, but I felt well prepared."

Agnew says he assigned Epley to the consolidation project even though others in the company said it would be impossible. "But she's young, talented and no one told her it was impossible," Agnew says. "So she made it possible. As a result of her diligent approach, the Odessa consolidation of 138 products into Midland was accomplished one full quarter ahead of schedule and no batches were off spec in the Midland plant. She's someone Texas State should be proud of." 🌟

**"We've hired some young people from Texas State, and we like them because they come to work ready to work and willing to listen. Our hires from Texas State have turned out to be some of our best employees."**

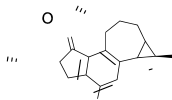
**— Wes Agnew**  
Rockwater Energy Solutions





“  
When a person is malnourished,  
immune compromised, or suffering from  
chronic illness, the consequences can  
become very serious. This is especially  
true in malnourished children.

Shannon Weigum, Ph.D.,  
ASSISTANT PROFESSOR OF BIOLOGY



# TARGETING A KILLER

Simple test may diagnose deadly global illness

By Cindy Tumiel

Here is a glimpse into the future of global public health: a credit-card sized piece of paper, dunked into a liquid sample in a Third World health clinic that quickly tells a doctor or nurse whether a malnourished child with diarrhea is infected with a virus, a bacteria, or a parasitic protozoan.

Gastrointestinal ailments may sound like a small matter in the industrialized world, but in millions of remote villages in undeveloped nations, food and water-borne illnesses are potentially deadly matters. Worldwide, diarrheal diseases are among the top 10 causes of death; according to the World Health Organization, and they are the second biggest killer of children under the age of three.

Rapid diagnosis can mean fast, appropriate treatment. This is the quest of Shannon Weigum, Ph.D., an assistant professor of biology at Texas State University. Her laboratory is merging principles of biochemistry and materials science in the development of a miniature, highly portable, rapid-detection tool for diarrheal illnesses that could someday make a major impact on global health.

“In healthy people, diarrheal illnesses often resolve themselves without treatment,” says Weigum, an interdisciplinary researcher. “When a person is malnourished, immune compromised, or suffering from chronic illness, the consequences can become very serious. This is especially true in malnourished children.”

Weigum’s first diagnostic targets are noroviruses, a type of virus that causes more than half of the food-borne illnesses in the United States. Noroviruses have been in the news in the last few years for

sickening hundreds of cruise ship passengers. Health data show that noroviruses are the most common cause of diarrhea in adults and the second most common cause in children.

To be practical for remote clinics in undeveloped areas, though, laboratory tools have to be inexpensive as well as highly portable. Poor countries lack medical infrastructure and skilled personnel to operate the sophisticated diagnostic tools found in large urban medical centers.

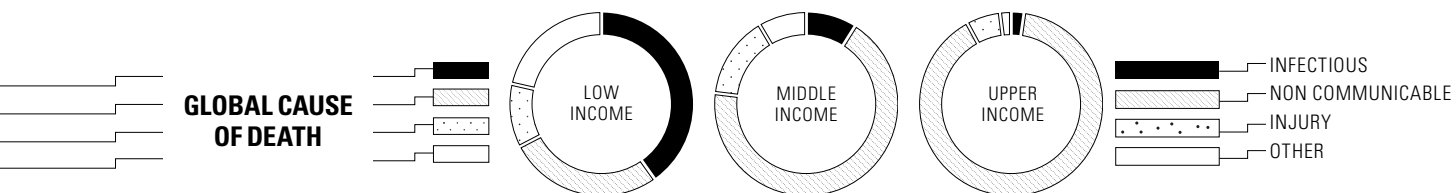
The team at Texas State is working on a two-step process that utilizes technology from the emerging fields of nanotechnology and microfluidics. The first step uses specialized magnetic nanoparticles that can be coated with antibodies to attract a pathogen [an agent that causes disease]. In the lab, the nanoparticles are added to a test tube with the biological sample, and then magnetic energy is applied to separate the infectious material away from the rest of the sample.

The second step involves use of a special patterned piece of paper that has been treated with a chemical that Weigum’s lab developed to attract norovirus organisms. When the lab sample is added, the clinic worker can determine by the colors and patterns it makes whether a patient is infected with a norovirus.

“If someone is infected with a norovirus, then obviously, treating them with an antibiotic is not going to help,” says Weigum. While antibiotics work against bacterial infections, they don’t do any good against viral infections.

jatropholone A (157) R<sub>1</sub>= Me, R<sub>2</sub>= H  
158 R<sub>1</sub>=Me, R<sub>2</sub>=OH  
jatropholone B (159) R<sub>1</sub>=H, R<sub>2</sub>=Me  
160 R<sub>1</sub>=OH, R<sub>2</sub>=Me





## Noroviruses are just the first phase of the project.

Weigum also is working on making the paper tool sensitive to *Cryptosporidium* and *Giardia*, protozoan parasites that also cause diarrheal illness. She envisions developing the tool so it can even detect bacteria such as *Salmonella*, *Campylobacter* and other food or water-borne bugs. “The idea here is to use the technology as a platform that can detect different infectious agents,” Weigum says.

Her solution is taking shape with the help of a Career Development grant from the Western Regional Center for Excellence in Biodefense and Emerging Infectious Disease Research, which is centered at The University of Texas Medical Branch in Galveston. The center is supported by an 11-year, \$105 million grant from the National Institutes of Health and is drawing researchers from five states together in the search for newer, faster ways to detect emerging infections, including agents that could potentially be deployed as terrorist weapons. The WREC’s Career Development program supports scientists at the early stages of their careers that have promising ideas for improved detection or treatments for potential bioterrorism threats.

Weigum began her science career as a high school teacher in San Antonio, and then returned to the classroom as a student to pursue advanced degrees at The University of Texas in Austin. After earning master’s and doctorate degrees in biochemistry, she moved to a postdoctoral fellowship in bioengineering at Rice University, where her love of biology began to merge with materials science and opened the door to cutting-edge engineering innovations in developing diagnostics. Now at Texas State, her diverse training is taking shape in the development of an innovative tool with

tremendous potential impact, says David Walker, M.D., executive director of the WREC.

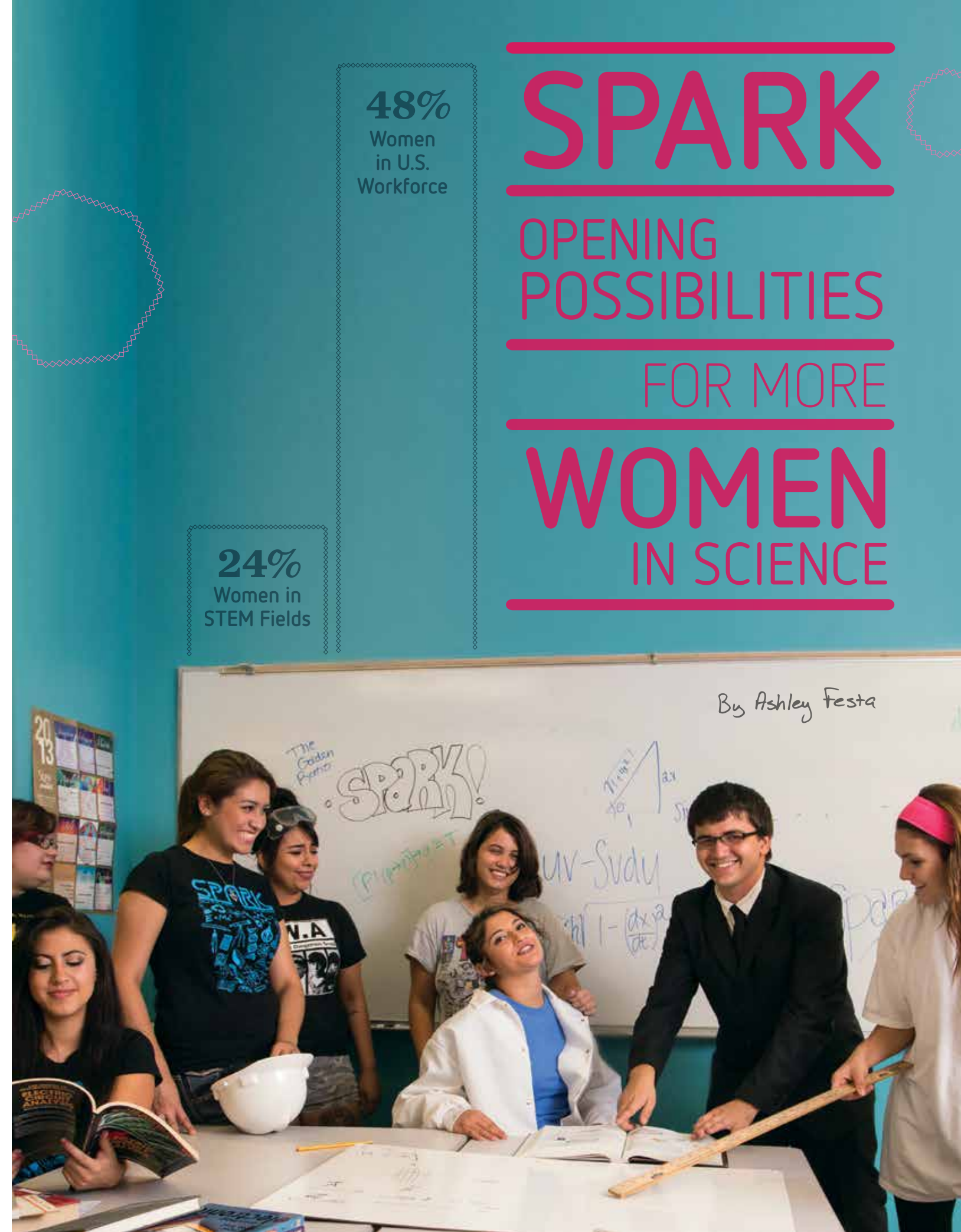
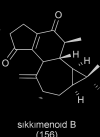
“Dr. Shannon Weigum embodies the perfect example of a talented young scientist who made the transition from a postdoctoral fellow to an assistant professor by successfully competing for research funding while meeting her teaching obligations,” says Walker, the chairman of pathology at UTMB.

“In addition to the development of a new platform for detection of clinically-relevant noroviruses that could improve diagnosis and monitoring of diarrheal illness, Weigum’s project establishes an important collaboration among The University of Texas Medical Branch, Texas State University and Baylor College of Medicine,” Walker adds. “Her paper-based microfluidic assay is being developed for use in resource-poor countries, and should lead to better diagnosis of diarrheal diseases that are often deadly in young children.”

It is not hard to imagine the illnesses and potential deaths that could result from terrorists’ release of infectious agents into the food supply, whether in food processing plants, community water supplies or even sprayed across a food buffet. But food- and water-borne illnesses also are a real world problem that public health providers face every day in restaurants, hospitals, daycare centers and even luxury cruise ships. Those arenas provide potential markets that could make her diagnostic tool a commercially viable product.

Weigum says her diagnostic tool is a few years away from the market. “We need more funding to refine and expand the platform, then maybe a commercial partner to collaborate in the manufacturing and distribution,” she says. ☺

“If someone is infected with a norovirus, then obviously, treating them with an antibiotic is not going to help,” says Weigum. While antibiotics work against bacterial infections, they don’t do any good against viral infections.



**48%**  
Women  
in U.S.  
Workforce

# SPARK

## OPENING POSSIBILITIES

### FOR MORE

# WOMEN IN SCIENCE

**24%**  
Women in  
STEM Fields

By Ashley Festa



Engineering jobs are as varied as the imagination, and Texas State University is opening up the possibilities for its young women. While women represent only a fraction of the STEM (science, technology, engineering and mathematics) workforce, the federal government aims to encourage college women to pursue these fields. Taking a cue from the government, the College of Science and Engineering has developed a program called SPARK that seeks to pique its female students' interests in computer science and engineering.

"In the last 10 years, growth in STEM jobs has grown 80 percent faster than other jobs," says Susan Romanella, co-principal investigator of the SPARK Scholars Program. "Women comprise 48 percent of the total U.S. workforce, yet remain significantly underrepresented in the science and engineering workforce. We are attempting to increase the talent pool by increasing the number of women in these fields, particularly in engineering and computer science. It's of national and economic importance."

Texas State received a four-year, \$600,000 grant from the National Science Foundation (NSF) through the organization's SPARK program; the leadership team includes Dr. Clara Novoa (Ingram School of Engineering), Susan Romanella (College of Science and Engineering), Dr. Anne Ngu (Department of Computer Science) and Dr. Reiko Graham (Department of Psychology). The grant funds the program's activities and provides participating students a \$10,000 annual renewable scholarship for the duration of the grant. To remain eligible, SPARK students must meet academic, financial and program requirements each semester.

Eighteen students were accepted into SPARK's first cohort, which is now in its second year. SPARK's goal is to retain and support this group of students through graduation. The program supports participants by pairing students with faculty and peer mentors, study groups and STEM tutors. Hands-on learning experiences – such as spatial visualization training and a recent three-day robotics camp – are built into the program to enhance the students' skills. The students lived in a dedicated learning community on campus (year one), co-enroll in classes, participate in academic enrichment and group social activities and spend time building bonds of friendship and community with one another.

Novoa, the advisor for the student chapter of the Society of Women Engineers at Texas State, notes the importance of male advocacy in supporting female achievement in STEM. "We are pleased to also have three male students in SPARK. Closing the gender gap in STEM cannot be achieved without support from our male colleagues," she says.

Throughout the program, SPARK students make industry visits to learn about paths they can follow within their field. "We try to get their feet wet as early as possible so they can see how broad the possibilities are for using these degrees," Romanella says. One such visit, a spring tour of the Circuit of The Americas (COTA), revealed engineering jobs in which human lives are at stake. COTA is a multi-purpose facility and racetrack in Austin built to host prominent racing events, such as the Formula 1 U.S. Grand Prix.

"It was really cool because they got to show us how they built it," says Claire Barbosa, a junior studying industrial engineering. "People had to think about what they were doing, just about the track itself. They had to make sure there wouldn't be any potholes and to make sure the dirt wouldn't crack. That was amazing to me because they can't afford a pothole in a racetrack. That could kill someone."

Tokyo Electron America, a corporate partner for the SPARK program, made the tour possible by enlisting COTA's support for a day's visit to discuss STEM. The global semiconductor manufacturer also offers job-shadowing days to show students other types of engineering jobs.

"They're not just doing coffee and taking notes for a day," says James Mulhall, installation & planning manager for Tokyo Electron. "These students have been able to

meet with a representative from each part of our corporation, including a corporate executive. It's a one-on-one coaching session."

With a tremendous push in tech-focused companies to diversify its workforce, Tokyo Electron hopes its partnership with SPARK will help draw more women into the engineering and computer science fields. Mulhall admits he has personal reasons, too. As someone who grew up in a single-parent, socio-economically challenged home, Mulhall relates to SPARK students and wants to send them a strong message of encouragement: "Women can own their destiny." And he shows them how that's possible.

"For success in life, it's always best to have mentors, to see someone who had the same path you have, the same tough childhood," Mulhall says. "You relate better."

To help build that same support and solidarity among participants, SPARK students live in a residential learning community, where they become like family, says Eunice Solis, a sophomore majoring in engineering technology. "As a kid, your family pushes you," Solis says. "They remind you when homework is due or it's time for that practice. It's been a lot like that here. We take care of ourselves, but we also help each other."

Barbosa agreed. "What helped me most was all the support and motivation I get from this program," she says. "(It's) living in a community where people actually care about their work and want to succeed in life. It helps a lot for people to want to go places and do things and be the best they can be." 🌟

## Oh, the places you will go!

SPARK offers early exposure to numerous and varied jobs available to students who graduate with engineering or computer science degrees, says Susan Romanella, who helps lead the SPARK leadership team. James Mulhall, of Tokyo Electron, asked the SPARK students he mentors to explore opportunities in the field of engineering that aren't at the mechanical level.

Students have already seen the potential.

"SPARK changed my perspective about what I can do with an engineering degree," says Eunice Solis, an engineering technology major. "I used to think it was just working in factories." Now, she hopes to work in the aerospace industry, perhaps with airplane engines. But she's not going to make a final decision just yet. "I want to take these four years to see what other doors open for me."

"I want to create or invent," adds Claire Barbosa, an industrial engineering major. "I want to go further than just a job with my career. I want to be able to help people all around me." She's keeping her options open for now, considering jobs at Tokyo Electron, Samsung or NASA. She notes that a friend has an internship at Boeing this summer. "I've also heard you can work at a theme park," she says, "and I secretly want to do that."

Mulhall is using connections at Tokyo Electron and the Austin business community to provide networking opportunities for SPARK students. "STEM fields are ripe for individuals with bright minds, strong work ethic and passion," he says.

"So why not women?"



# PARTNERS IN SPACE

Texas State, Jacobs Engineering collaborate on work for NASA

BY JAYME BLASCHKE

Soon, Texas State University will be adding “space exploration” and “mission to Mars” to its repertoire of collaborative activities.

The university last spring entered into a multi-million dollar contract with Jacobs Engineering to collaborate on advanced engineering and science work for NASA. The \$5 million contract will run through April 2018, but options could increase the contract’s value to \$9 million and extend it through 2022.

“The ability for Texas State University students to work with Jacobs Engineering on NASA JSC (Johnson Space Center) projects provides a unique learning environment,” says Bill Covington, associate vice president for research and federal relations. “It also affords Texas State faculty the opportunity to be engaged in cutting-edge, applied research. Texas State is looking forward to developing a long lasting, mutually beneficial working relationship with Jacobs Engineering.”

Jacobs is the prime contractor to NASA and the Johnson Space Center on the “JSC Engineering, Technology and Science (JETS)” contract. JETS is a \$1.9 billion, nine-year contract between Jacobs and NASA for engineering services related to the JSC mission. Texas State and Jacobs

will work together to develop task orders and statements of work related to specific research and development needs required under the JETS prime contract.

“Texas State is proud to partner with Jacobs Engineering Group Inc., and NASA’s JSC for a variety of projects, including ones in support of the International Space Station and manned missions to Mars,” says Gene Bourgeois, provost and vice president for academic affairs.

As part of the relationship, Jacobs will provide the funding for Texas State to employ a full-time engineering staff on-site in Houston. The university has initiated discussions with Jacobs Engineering about establishing a presence on the Texas State campus or in STAR Park, as well as the potential for funding and other commercialization activities with startup companies in STAR Park.

“The Ingram School of Engineering is very excited to work with Jacobs Engineering in support of the JETS contract for NASA’s Johnson Space Center,” says Stan McClellan, director of the Ingram School of Engineering.

The technological capabilities found in the Roy F. Mitte Building on campus, which houses the Ingram School of Engineering

as well as the Department of Physics and the Materials Science, Engineering and Commercialization Program, will enable Texas State to support ongoing, design-specific development activities for NASA under the contract. The presence of advanced manufacturing facilities, including high-precision machining, rapid prototyping and composite structures labs as well as semiconductor manufacturing, metallurgy and foundry capabilities, were a major attraction for Jacobs.

The JETS contract also requires Jacobs to participate in an array of education and other projects, which will potentially involve various departments across campus. In particular, Jacobs has expressed strong interest in projects related to water, which could tap into the expertise of The Meadows Center for Water and the Environment.

“This long-term relationship between Texas State University and Jacobs Engineering will produce tremendous opportunities for students and faculty from all areas of the Texas State community to participate in interesting, useful and far-reaching projects,” adds McClellan. 🌟

“Texas State is proud to partner with Jacobs Engineering Group Inc., and NASA’s JSC for a variety of projects, including ones in support of the International Space Station and manned missions to Mars.”

— Gene Bourgeois  
provost and vice president academic affairs

## \$15 MILLION NASA GRANT FOR TEACHER EDUCATION

The relationship between Texas State and NASA isn’t just about space exploration.

In August, NASA awarded the university a \$15 million grant for training teachers in the science, technology, engineering and math (STEM) fields. The grant, the largest ever for the university, will be distributed over five years and will focus on professional development for teachers at the K-12 and university level. It also will be used to help develop college students who have chosen to pursue teaching in the STEM fields.

Funds will be used to hire education specialists who will work with NASA scientists and engineers to develop content and lesson plans that could be used in the classroom and replicated for use across the country. The project, which will involve faculty from Texas State’s College of Education and College of Science and Engineering, is expected to reach more than 400,000 educators throughout the United States.

“This opportunity will allow us to understand and leverage NASA technical innovations as contexts for teaching and learning and to carry out important research in STEM educator professional development,” says Araceli Martinez Ortiz, director of the LBJ Institute for STEM Education and Research at Texas State.

NASA awarded the grant to Texas State over competitors after soliciting proposals from minority-serving institutions that promote innovative methods for teacher training in the STEM disciplines.



# INTELLIGENT ROBOTICS

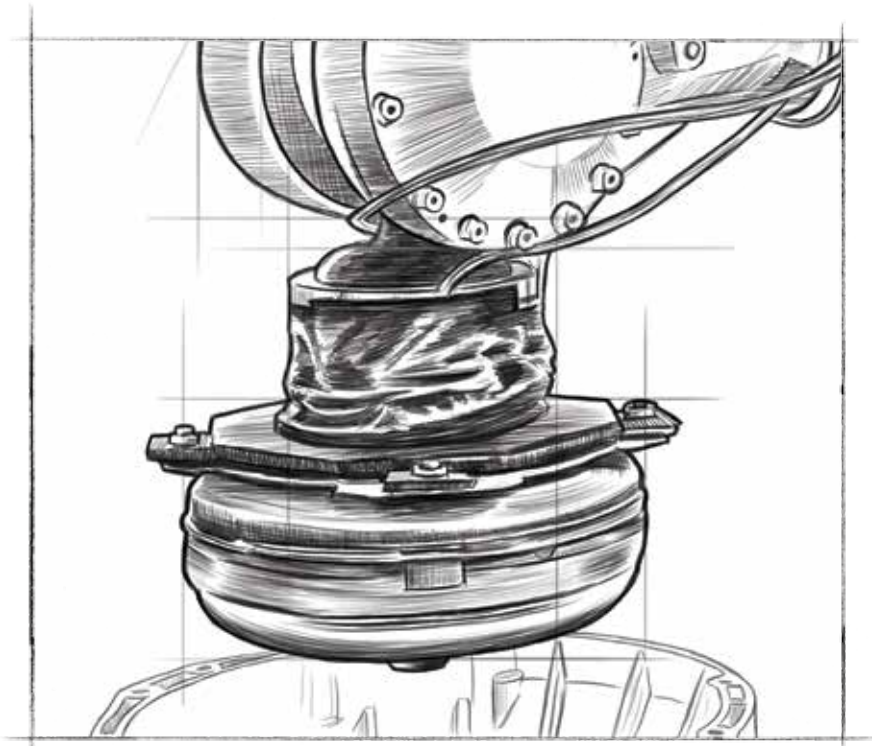
Engineering partners  
with corporations to  
fine tune technology

By Tony Cantú

From the Ingram School of Engineering hallways, a nondescript row of heavy doors belie the varied research being done that encompasses all aspects of the degree discipline: manufacturing, industrial and electrical. But upon entering Lab RFM1250, all abstraction is made real as one gets a close-up look into the world of robotics.



# Hand of steel



The assembly of a sealed steel container of fluid designed to drive a rotor is the type of work that is best left to robots. Only a robot hand is impervious to the pain of a horrific mishap that might result from even the slightest assembly miscalculation.

Heping “Fred” Chen is hard at work at the lab during a recent visit, monitoring the learned behavior of an intelligent robotic assembly system he is helping to perfect on behalf of the Ford Motor Co. In the center of the room there is a unit of an automobile assembly plant, putting together a part using an impressive intelligent industrial robot.

“For the intelligent robotic assembly system, we use a torque converter assembly process as an example,” Chen says. In a car, the torque converter is situated between the engine and transmission; the purpose in an automatic transmission vehicle is the same as the clutch in a manual transmission. “There is a torque converter installed on the robot end effector with a force/torque sensor. The transmission housing is mounted on the floor.”

The end effector is the device connected at the end of the robot arm where a human hand would otherwise be; that space between it and the point of pressure, is one of those places where you wouldn’t want a human hand to ever be caught. The assembly of a sealed steel container of fluid designed to drive a rotor is the type of work that is best left to robots. Only a robot hand is impervious to the pain that might result from even the slightest assembly miscalculation. And with each pounding of the torque converter, the system is learning in exquisitely minute detail the necessary rhythms of its assembly work toward a

goal of seamlessness. Reaching this exact equilibrium is the focus of Chen’s work.

While its applications reflect a 21st century range of technology and industry, the idea of robotics is not a new concept. The earliest known reference of such automation appears in the *Liezi*, a Daoist text attributed to philosopher Lie Yukou in the fifth century. The passage in the Chinese text describes an earlier encounter between King Mu of Zhou (1023-957 BC) and a mechanical engineer named Yan Shi, who presented the royal with a human-shaped figure of his mechanical work.

It was also in China where Chen developed his initial interest in the field, earning a bachelor of engineering, control system engineering, at the Harbin Institute of Technology in 1989. He later earned a master’s degree in engineering, electrical and electronic engineering, at Nanyang Technological University in Singapore in 1999 and a Ph.D. in electrical and computer engineering from Michigan State University in 2004. Today Chen is an assistant professor in the Ingram School of Engineering.

“I just did tests at Ford Motor Co. for the intelligent robotic assembly system and it was very successful,” Chen says a few weeks after the initial trials of the torque converter assembly unit. “The technology we developed can greatly reduce the system optimization time.”

Tucked away in a corner of his lab is another robotic unit called a dynamic wafer handling system that more vividly illustrates the precision required of semiconductor manufacturing. The

wafers in this example are parts used within the workings of cell phones. Research for this assembly was being conducted for Lam Research Corp., a provider of equipment and services for semiconductor manufacturing intent on helping chipmakers build efficient electronic devices. The robotic unit the company loaned for the research also is put through the rigors of transferring wafers toward the goal of precision and accuracy.

“A wafer handling robot is installed in the center of the wafer processing stations,” Chen notes, in conducting an impromptu demonstration. The robotic implement takes a delicate wafer component and places it onto a series of processing stations in the circular configuration learning the exact steps each time toward a goal of accuracy.

“There was a problem for wafer handling accuracy, about 200 micrometers,” Chen says in describing the tiny units of measurement required of the robotic handling. “This could damage the wafer because it could collide with other objects. We improved the accuracy to 50 micrometers and Lam Research Corp. used the technology in their semiconductor manufacturing system.”

For corporations, the benefits of Chen’s work are readily apparent. But students gain from related classes as well, preparing them for work straight out of college in the growing field of robotics. “Students can use these systems to do projects for some courses,” Chen says. “They also learn how to program the industrial robots, and get hands-on

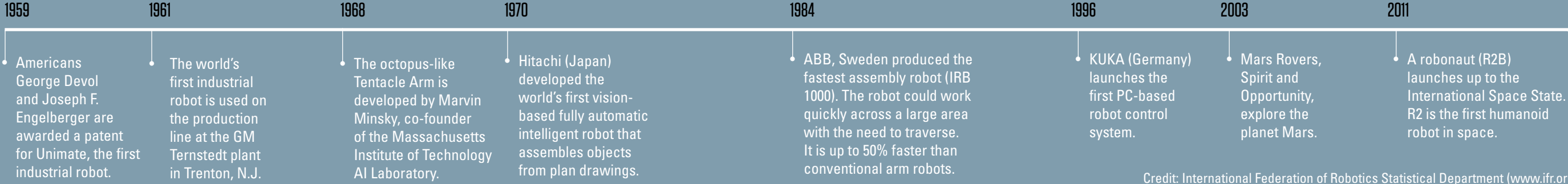
experience. I have several students who found jobs related to robotics after they graduated.”

For many, engineering is a rewarding career path offering many options or specialized discipline-specific study. Programs offered at Texas State have long provided hands-on experience of the type described by Chen. His fascination with the discipline continues unabated, as evidenced by the range of his research interests: Industrial robotics, which includes intelligent or “smart” robots as well as the humanlike variety; autonomous industrial robots on a mobile platform; embedded control system or advanced robot control; nano-robotics, including nanomanipulation and automatic nanomanufacturing of nanosensors; and sensor fusion in industrial applications.

From that first introduction to automata in ancient China, it would take until the 20th century to coin the term “robotics,” first used by author Isaac Asimov in a 1941 short story. Reportedly, Asimov had no idea he had just coined a term. But even the fertile mind of Asimov might have been hard pressed to enumerate the various applications on which robotics are dependent. Chen is exploring uncharted areas as well, currently at work on both an intelligent welding robotic system and an underwater robotic system.

In the field of robotics, it always seems to be a brave new world as new applications are being developed. From within the bowels of his lab, Chen is at the forefront of that world. 🤖

## A BRIEF HISTORY OF MODERN ROBOTICS



Credit: International Federation of Robotics Statistical Department ([www.ifr.org](http://www.ifr.org)).



# MATH + SCIENCE GRADUATES = TEACHERS

FILLING A NEED IN THE CLASSROOM

BY LAURA HEINAUER

Karlyn Cotlow always thought she wanted to be a nurse. But along the way, she found that in addition to loving science and wanting to help people, she also had a deep passion for education.

Before the Texas State University senior ever graduated in May, she had a job as a permanent substitute teaching biology in the district where she did her student teaching. “I wanted to find a niche where I could take something that I was skilled at and go forward and share that knowledge,” she says.

Knowing how badly math and science teachers are needed – a 2013 report by the Texas Higher Education Coordinating Board (THECB) shows that math and science certifications have dropped – Texas State is hoping it can help many more students such as Cotlow. This spring the faculty in the College of Science and Engineering proposed a new degree plan –

and Research, says its mission is to bring together faculty, teaching professionals and members of the community to provide additional in-service teacher training and pre-service teacher instruction in the STEM subjects – science, technology, engineering and mathematics. With the number of graduates in these disciplines already in short supply and demand expected to grow, Ortiz, an engineering education assistant professor and researcher, says the university needs to be a leader in providing the training, outreach and research necessary to both develop better programs and recruit more students in these areas. These include preparing K-12 teachers in engineering design concepts and integrated STEM teaching.

This past year, the LBJ Institute has held various STEM professional development teacher workshops, family outreach events in engineering education

many career options before them, and this is part of the challenge of getting more teachers in the field.

Scott Cater, a 2013 Texas State graduate and chemistry teacher at Crockett High School in Austin, says he is glad to have chosen Texas State over some of the other teacher preparation programs. After getting a bachelor of science degree in chemistry from the University of Texas, Cater enrolled at Texas State’s Teaching Residency Program for Critical Shortage Areas (TRP-CSA), to get his master’s degree in secondary education. He says he still uses things he learned on a daily basis.

“I think I got lucky going to Texas State,” he says. Cater explains that he originally enrolled in another teacher certification program, but dropped out when he realized it was going to require even more advanced math and science courses. “It didn’t make sense to me. I already had all the content knowledge I knew I needed to be a teacher. And that’s what I learned at Texas State: I learned how to be a teacher.”

Students completing a bachelor of science degree in the new Interdisciplinary Science program would be prepared to get a Composite Science Teacher Certification that will allow them to teach any of the biology, chemistry and physical science courses offered in seventh through 12th grades.

“It makes them extremely marketable,” says Julie Westerland, an associate professor in the Department of Biology who spearheads the proposal. “All the districts want somebody who can teach science, all the sciences.”

Meanwhile, work at the institute has already begun with the naming of the faculty from across the university who will serve as research scholars and the creation of a physical location for teacher and community workshops. Ortiz and her colleagues have applied for more than \$5 million in grants for research, community outreach and other efforts aimed at helping teachers and inspiring students to pursue careers in math and science.

“This is an opportunity to leverage how good we are at preparing teachers,” Ortiz says. “We can provide both the pedagogical skills as well as the content knowledge needed by better prepared teachers – and better prepared teachers, means better prepared students. It needs to be a balance and that’s what Texas State delivers.” ☺

I already had all the content knowledge I knew I needed to be a teacher. And that’s what I learned at Texas State: I learned how to be a teacher.

–Scott Cater

2013 Texas State graduate and high school chemistry teacher

a bachelor of science in interdisciplinary science degree – that will include the composite science teacher certification. The degree was authorized by the Texas Higher Education Coordinating Board and approved by the Texas State University System Board of Regents. The new degree helps address two needs: Produce high school science teachers with broad training and deep content knowledge who are qualified to teach any science to alleviate the chronic shortage of science teachers in the state; and the demands of business and industry for more and better prepared STEM graduates at the high school and college level.

In addition, an institute has been created by the College of Education to help focus the university’s research efforts in this area and to better demonstrate its commitment to improving math and science teacher preparation.

Araceli Martinez Ortiz, the director of the LBJ Institute for STEM Education

for kids, and launched engineering summer camps for elementary school children in the San Marcos area. “Texas has been lagging a bit – it’s something that has been missing, an obvious gap,” Ruiz says.

The goal of Texas is to have 6,500 certified math and science teachers by the year 2015, as outlined in the Closing the Gaps plan from THECB. In 2000, there were 2,156 new math and science teacher certifications awarded. The data for 2011 was 3,450; in 2012 the number dropped to 2,643.

NASA recently awarded the university a \$15 million grant that is earmarked for training teachers in the STEM fields [See Page 33]. Established as a teacher preparation college, Texas State holds the distinction of being the state’s largest university-based teacher preparation program. Patrice Werner, chair of the Department of Curriculum and Instruction in the College of Education, says students who are good in the STEM subjects have



In the world of academia, it's not often that a chosen course of study could potentially help save the world. But for students of Ziliang Zong, Ph.D., an assistant professor in the Department of Computer Science, the probability of that is quite real.

This fall, he began teaching a new course centering on green computing, with the aim of promoting energy efficiency in creating software. "Simply speaking, green computing strives to reduce the impact of Information Technology (IT) on our environment and planet," says Zong.

"It is related to everyone's life, no matter if we want greener data centers in our nation, a lower electric bill from our PC, or a longer battery life on our laptop or smartphone," he says. Green computing involves the use of more renewable energy, such as solar or wind, for IT activities as well as improving the energy efficiency of computer systems, hardware and software.

Zong is leading the Marcher Project funded by the National Science Foundation (NSF) that seeks to build a power-measurable high performance computing infrastructure to integrate the newest technologies, including Intel® Many Integrated Cores, Graphics Processing Units and Solid State Disks. The Marcher Project gives Zong's research group the distinction of being one of the few teams in the United States which have the ability to develop both the hardware and software of the next-generation, power-aware, high-end computing systems.

If grants are the currency of credibility, Zong has already secured impressive recognition since joining the Texas State faculty in 2011. He's secured three NSF grants totaling more than \$1 million as the principal investigator and one industry equipment grant from California-based NVIDIA, a visual computing company. Zong earned his doctorate in computer science and software engineering from Auburn University in 2008 after receiving his bachelor's and master of science degrees in computer science from Shandong University, China.



ZILIANG ZONG

USING ENERGY EFFICIENTLY  
TO REDUCE THE IMPACT  
ON ENVIRONMENT

GREEN  
COMPUTING

BY TONY CANTÚ



### Energy efficiency

The objective of the new green computing course is to give future code writers and software developers a blueprint for going about their work with an eye toward energy efficiency and the goal of reducing tons of CO<sub>2</sub> emissions. Meanwhile, it's hoped his research might be adopted by the IT community to further enhance energy efficiency. "The goal of this course is to introduce students to the exciting area of green computing," Zong says. "It will cover fundamental concepts and techniques in green computing, including a hardware energy efficiency roadmap; energy efficient software design; resource management and storage solutions; green data centers and mobile computing."

Students also will be able to acquire knowledge and skills needed to perform their own research in the green computing field. It is that type of research into green computing that has long fascinated Zong, an interest sparked when he met Gary Grider, high performance division leader for the Los Alamos National Laboratory (LANL), at a major conference. "He was so nice to spend about an hour discussing current

Green computing involves the use of more renewable energy, such as solar or wind, for IT activities as well as improving the energy efficiency of computer systems, hardware and software.

trends of HPC (High Performance Computing) with me and provided very useful guidelines for my future research. I was shocked when he told me that the power bill of LANL increased from around \$9 million in 1996 to an anticipated \$18 million in 2010."

Based on that chance encounter, a doctoral thesis was born along with a strong interest in the field that has not waned. "He (Grider) and my Ph.D. advisor, Dr. Xiao Qin, both convinced me that green computing is a paramount but daunting problem that was worth my time spent on it," Zong says. His resulting Ph.D. dissertation, *Energy-Efficient Resource Management for High-Performance Computing Platforms*, won the Auburn University Distinguished Dissertation Award in 2010.

### Carbon footprint

Zong estimates that even if just a small portion of the computing industry were to implement green computing standards, millions of tons of CO<sub>2</sub> emissions a year could be eliminated from the environment. Still, given the forward-thinking nature of its focus, the impact of green computing is yet to be accurately measured. It's easier to grasp the environmental carbon footprint given today's high level of computing. When considering the global race to build even faster and more powerful supercomputers, even the layman can conceive of the growing threat to the environment in the way of CO<sub>2</sub> emissions.

To begin to grasp this futuristic landscape in computing, it serves to remember one word: exaflop. What is exaflop? It's a measurement given to determine a dizzyingly high number of calculations a computer will soon be capable of performing—a previously unreachable goal. The Defense Advanced Research Projects Agency (DARPA) is looking to render obsolete the petaflop, the prevailing term for the highest achieved calculations per second. DARPA wants to create a platform able to achieve exaflop status, or the ability to carry out 1 quintillion calculations per second.

Much progress has been made in recent years to produce more energy-efficient hardware but corresponding improvements of energy-efficient software have not kept pace, according to Zong. "The majority of software developers either do not consider energy-efficiency of their software at all or they consider it as an afterthought," he says. But if anyone is up the considerable challenge of changing those prevailing attitudes—one student at a time—it's Zong, already internationally known for his work on green computing.

Reversing the tide may seem unreachable, but as the philosopher Lao-Tzu said, a journey of a thousand miles begins with a single step. That step is taking place at Texas State, where Zong quietly toils away at his research and prepares to teach the virtues of green computing to a new generation of software developers. ☺

THE  
**PRICE  
OF  
POWER**  
PETAFLIP TO EXAFLOP

A PETAFLIP IS ESSENTIALLY A SYSTEM'S ABILITY TO PROCESS  
1,000,000,000,000,000  
(1 QUADRILLION) FLOATING POINT OPERATIONS PER SECOND (FLOPS).

BASED ON THE TOP 500 REPORT,  
THE AVERAGE POWER CONSUMPTION  
OF THE TOP 10  
SUPERCOMPUTERS  
IN 2012 WAS ABOUT  
**4 MW**  
(MEGAWATT)  
AND THIS NUMBER HAS GROWN TO MORE THAN  
**6 MW**  
IN 2014. 1MW=\$1MILLION

THE DEPARTMENT OF ENERGY HAS A GOAL  
OF BUILDING AN EXAFLOP SYSTEM UNDER  
**20 MW BY 2020**

TO PUT IT IN PERSPECTIVE,  
**18 MW**  
OF POWER IS EQUIVALENT  
TO THE AMOUNT OF POWER THAT  
**14,634**  
AMERICAN HOUSEHOLDS  
CONSUME IN ONE YEAR.  
18MW WILL ALSO  
LEAD TO MORE THAN  
**100,000**  
METRIC TONS  
OF CO<sub>2</sub> EMISSIONS.

IN 2011, THE SERVERS AND  
DATA CENTERS USED ABOUT  
**2%**  
OF U.S. ENERGY,  
WHICH WAS EQUIVALENT TO  
THE ANNUAL ENERGY USAGE OF  
**7.7 MILLION**  
U.S. HOUSEHOLDS.



D O N A L D  
L S O N



Physics  
professor  
solves  
mysteries  
of history,  
art and  
literature

## CELESTIAL SLEUTH



Some detectives use heightened powers of observation. Others who emulate literary sleuth Sherlock Holmes may apply logic and deduction to solve the most complex of mysteries. At Texas State University, physics professor Donald W. Olson employs astronomy and physics to explain peculiarities and anomalies in history, art and literature.

It was nearly 30 years ago when Olson first took on the role of celestial sleuth, looking to the sun and moon for answers to some of history's quandaries that would confound the greatest detectives today. Olson recently compiled his lifetime work and research in a book titled *Celestial Sleuth: Using Astronomy to Solve Mysteries in Art, History and Literature* (Springer Praxis Books, 2014). Inside he explains what led to the death of thousands of American Marines in one of the first island-hopping battles of the Pacific War, how a rogue iceberg wrecked the Titanic, the specific astronomical references in Chaucer's *Canterbury Tales* and the name of the spectacular cosmic events that make *White House at Night* by Vincent van Gogh stand out on canvas.

By Anastasia Cisneros-Lunsford





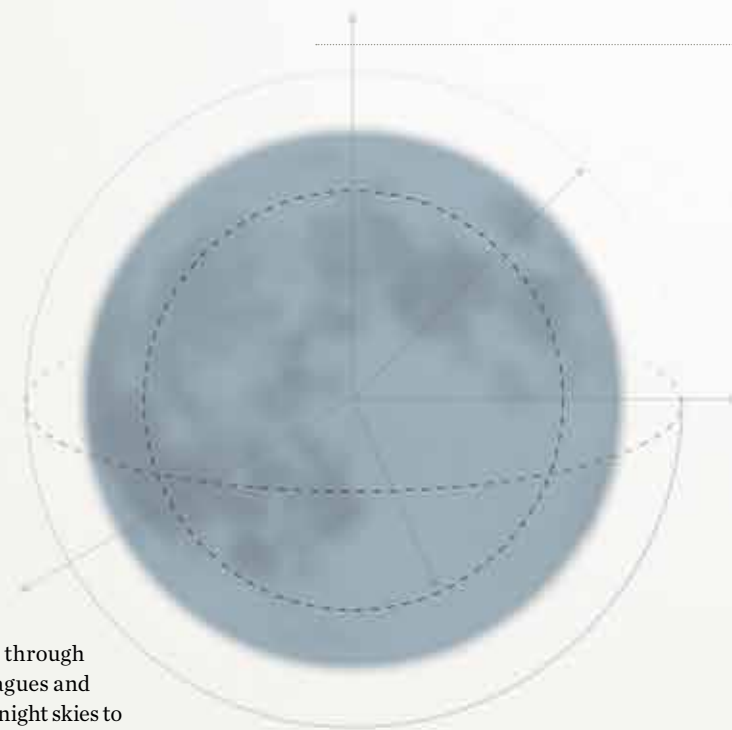
**"I'M BLESSED  
WITH REALLY  
SMART STUDENTS  
WHO ARE DOING  
BRILLIANT THINGS."**

## Interpreting history

Many of these answers came through the hard work of Olson, his colleagues and students who helped research the night skies to interpret history or works of art and literature. "I try, when I can, to involve undergraduates in research," Olson says. "The majority of the articles I've published have student co-authors. I'm blessed with really smart students who are doing brilliant things."

This year, Olson received the Klopsteg Memorial Lecture Award from the American Association of Physics Teachers (AAPT) for his notable and creative contributions to the teaching of physics, and his exceptional communication of contemporary physics with the general public. "I am deeply honored to receive this recognition because the award commemorates Klopsteg, who dedicated much of his life to physics education," he says. "It means a lot to me because I go back with this organization. It sort of brackets my career."

About 45 years ago Olson was the recipient of the Thomas H. Osgood Undergraduate Physics Award at Michigan State University, where he earned a bachelor of science in physics. Osgood, an early editor of the *American Journal of Physics* and involved in the AAPT, was Olson's physics professor and inspired him to seek a career in physics education. After Michigan State, Olson earned his doctorate in physics at the University of California, Berkeley. He did his post-doctoral work at Cornell University, studying galaxies and cosmology. He finished his post-doctorate at The University of Texas at Austin. In 1981, Olson followed his wife, Marilyn S. Olson, Ph.D., an English professor, to Texas State.

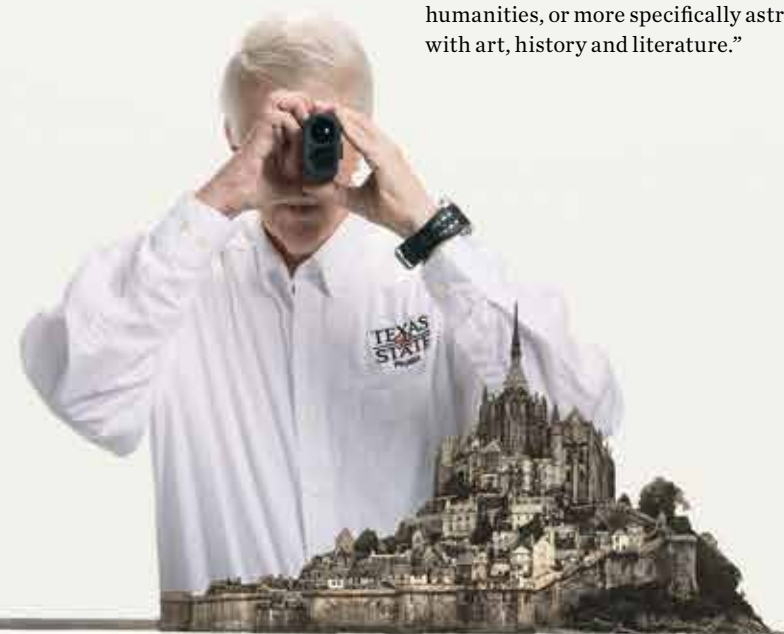


## Mystery in literature

While at a gathering for Texas State faculty in the '80s, Dr. Edgar Laird, now a distinguished professor emeritus, approached Olson with a mystery that had always puzzled him in an early piece of literature. "Laird asked me to help him understand some very complex astronomical passages in Chaucer's *The Franklin's Tale in The Canterbury Tales*," Olson says.

Later, history professor Dr. James Pohl, now distinguished professor emeritus, would overhear Laird and Olson speaking about high tides and the moon, so he approached Olson with a mystery from World War II. "He said that nobody understood what happened with the tides at the Battle of Tarawa, a famous amphibious landing in the Pacific in 1943," Olson says. That's when Olson became the celestial sleuth.

"It changed my career. It changed my life," Olson says. "There are people on the art side and people on the physics side or astronomy side but there aren't many people who cross over to try to put them together and that's what I'm trying to do; merging the sciences with the humanities, or more specifically astronomy with art, history and literature."



**"SOME OF THE GREATEST ARTWORKS EVER PRODUCED  
AND IMPORTANT HISTORICAL EVENTS HAVE BEEN  
INFLUENCED SIGNIFICANTLY BY ASTRONOMY."**

Olson examined the Battle of Tarawa in a 1987 article in *Sky and Telescope* magazine. He made a discovery about an unusual lunar configuration that happened the day before the battle, affecting the tide. "That's one of the articles I'm most proud of because I was able to explain something that had been a mystery until that time," he says. The complicated answer about the tides: the moon was in apogee and quadrature. A simpler answer: The moon, far from the earth and fighting against the sun, weakened its force on the tides. The tide at Tarawa failed to rise the morning of Nov. 20, 1943, reaching only up about 6 inches above the average level, and landing crafts carrying troops were unable to reach the beach. Thousands of Marines waded ashore as the Japanese fired machine guns from positions along the shoreline. There were more than 3,000 casualties.

"Some of the greatest artworks ever produced and important historical events have been influenced significantly by astronomy," Olson says. As a physicist, Olson says he loves a well-posed problem but after developing his celestial sleuthing over the past two decades, he now has criteria for tackling new projects. "It has to be hard enough to be challenging and something people haven't been able to figure out before," Olson says. "It has to be easy enough that it can be solved in a human lifetime so that we can get a result. It has to be interesting enough that if we solve this problem, will anybody care?"

When he's not on the trail of the latest mystery, Olson plays keyboards. "I do that now on occasion, joining former students who come by and we play a little music together – popular music. We play songs from what I'll call the golden age of rock 'n' roll," he says.

Meanwhile, Olson is working on solving another mystery – a painting that has haunted him for a decade. For now, he's keeping the details under wraps. "I thought I would never figure it out but I have a lead and a clue," he says. 🍷



# SAVING THE HOUSTON TOAD

Partners working to keep tiny amphibian at home in Texas

By Bryan Kirk

The future of a tiny amphibian species is looking pretty grim. Unless you're an urban biologist, a zoologist, or are remotely familiar with the increasing number of animals added to the endangered species list, then you've probably never heard of the Houston toad.

But those who have heard of this species have devoted years of research and are working in concert to ensure this native Texan doesn't disappear. In fact, since about 2007 a partnership between the U.S. Fish and Wildlife Service, Texas Parks & Wildlife Department (TPWD), Texas State University and the Houston Zoo is working in various ways to preserve the Houston toad and its habitat.

The Houston toad, known by its scientific name as *Bufo Houstonensis*, was discovered in the late 1940s and was named in the early 1950s because of its proximity

to the city of Houston. While exact figures are not available, it is believed that the Houston toad was adversely affected by the severe drought of the 1950s and never fully recovered. In 1970, the tiny amphibian (it is 2 to 3 1/2 inches long) was placed on the endangered species list, where it remains today.

"Conservation cannot proceed without multiple partners at each [including] the regulator, the conservation and the research side," says Michael Forstner, a professor of biology and the Alexander/Stone Chair of Genetics at Texas State. Forstner is also the Texas State University System Regents Professor.

Forstner, a graduate student in the 1990s when he joined the research team at Texas State, has devoted thousands of hours of scientific research toward conservation efforts aimed at saving the endangered toad. He explains that one of the least discussed links in this conservation partnership is the landowners. "Ninety-eight percent of Texas is owned by Texans. We cannot do anything without private landowners," he says.

Meredith Longoria, a TPWD biologist, spends much of her time in Bastrop State Park east of Austin and works with Bastrop County and the U.S. Fish and Wildlife Service on a habitat conservation plan. Longoria says the group has worked to build a level of trust and cooperation with landowners where small pockets of the Houston toad are found. "Because we have a good rapport with them, it's helpful for us to be involved and to present these programs that are available to landowners in a way that makes sense to them [and] in a way that they can understand and trust that what is happening is not going to be a bad thing," she says.

When an endangered species is found on private property, the landowner and the Fish and Wildlife Service will enter into an agreement called a Habitat Conservation Plan. The landowner continues normal

practices, such as farming or ranching, but agrees to minimize the chance of harming the endangered species. At the same time, the Fish and Wildlife Service provides education on how those practices can be accomplished without disturbing the habitat, as well as provides information on obtaining permits.

Some landowners, however, view such conservation efforts as an intrusion on private land rights. "There is that mentality of, 'this is my land, and I can do what I want...,' so that is one of the biggest obstacles," Longoria says.

Jeffrey Hill, a biologist with the Fish and Wildlife Service has conducted numerous outreach events for private landowners and has received positive responses. Much of

that outreach has taken place in Leon, Lavaca, Austin, Bastrop, Colorado and Burleson counties.

"There are a lot of those folks who are older, who bought 100 acres or more and they want to preserve what is there and manage it for wildlife," he says. "In that demographic we do pretty well. Over time they figure out that the Fish and Wildlife Service is not the Big Bad Wolf."

While landowners can play a vital role in these efforts often with positive outcomes, nature has a way of being cruel, and it sometimes can exact a terrible toll. In 2011, Texas endured one of the driest summers on record, which sparked widespread wildfires throughout the state. One of the largest fires scorched nearly 6,000 acres in Bastrop –home to the largest Houston toad habitat, which also reduced the species' numbers significantly.

At present, the population of the Houston toad in the wild is believed to be in the hundreds. Conservation officials hope to one day increase it to the hundreds of thousands. "There are probably more in captivity than there are in the wild," Hill says.

Although zoos in Dallas and Fort Worth also work to preserve and protect the Houston toad, the Houston Zoo has the largest exhibit. Cassidy Johnson, a researcher for the Houston Zoo's Department of Conservation and Science, says the zoo has 520 adult Houston toads and has returned more than 160,000 eggs into the wild.

"It is unfortunately incredibly complicated to save a species; therefore, it takes multiple organizations – in government, academia, and non-profits – to ensure any measure of success," Johnson says. "Hopefully these efforts will increase the wild population and help keep the species from becoming extinct." 🐸

"Ninety-eight percent of Texas is owned by Texans. We cannot do anything without private landowners."

– Michael Forstner, Michael Forstner, professor of biology, the Alexander/Stone Chair of Genetics at Texas State and the Texas State University System Regents Professor



Photos: © Houston Zoo/Stephanie Adams



The Houston toad is only 2 to 3 1/2 inches long. This photo example is about 2 1/2 times bigger than the actual toad.





1 Annaka Chesnutt

**Kelly Lyttle '12**  
Austin, was named Customer Service Representative of the Year at the Independent Insurance Agents (IIA) 177th Annual Conference and Trade Show. She works for the Watkins Insurance Group in Austin and serves as a board member of IIA Austin where she is also director of their Young Insurance Professionals committee.

**1 Annaka Chesnutt '11**  
Austin, has been named the 2014 Austin CW Star. Chesnutt received a one-year contract to represent KNVA-TV as the face, the voice and the personality that is The CW Austin. She was chosen by viewers from 25 semi-finalists.

**2 Juan B. Hernandez '09, '11**  
Jackson, Miss., graduated with a juris doctor degree in May 2014 from the Mississippi College School of Law. Hernandez worked for the law offices of David K. Sergi & Associates in San Marcos, and was a 2013 summer law clerk at Brunini, Grantham, Grower & Hewes in Jackson, Miss. Hernandez was the recipient of several awards in law school, including the Dean's List, National Order of Barristers, Judge Charles Clark Memorial Scholarship, Floyd & Luella Doolittle Labor Law Award, and received the Amjur award in six of his classes.



2 Juan B. Hernandez

**Alysha Mendez '10**  
Austin, has published her first novel, *The Waiting Room*, under the name Alysha Kaye. *The Waiting Room* is a story of not just love, but of faith, predestination, philosophy, friendship and self-actualization, of waiting. Mendez is also a teacher in Austin

**Micah Elizabeth Murphree '09**  
Jackson, Miss., graduated with a juris doctor degree in May 2014 from the Mississippi College School of Law. She served as a judicial clerk for the First Judicial District at the Caddo Parish Courthouse in Shreveport, La. She was elected president of her legal fraternity, Phi Alpha Delta, and elected as Honor Court Chief Justice during her final year of study.

**Lindsey Thomas '07**  
Dripping Springs, has been selected as the 2014 Dripping Springs ISD Elementary Teacher of the Year. She is in her sixth year as an art teacher in the district, having taught three years each at Rooster Springs Elementary and Walnut Springs Elementary.

**3 Sonia V. Diaz '06**  
Coral Gables, Fla., won a PR Week Award for Multicultural Marketing Campaign of the Year. She is an account manager and lead digital strategist at Balsera Communications. She is also on the advisory board for the Communication Arts department at Florida International University



3 Sonia V. Diaz

(FIU), and serves as Vice President of the Hispanic Public Relations Association Miami chapter.

**Jerome M. Brooks '04**  
Edinburg, has been named Chief Operating Officer for Edinburg Regional Medical Center and Edinburg Children's Hospital. He is responsible for coordinating the day to day operations of the hospital. He was previously vice president of Endeavor Healthcare in New Braunfels, is a fellow of the American College of Healthcare Executives and a member of the Texas Hospital Association.

**4 Jennifer McInnis '03**  
San Antonio, has been named the Food and Drink editor at the *San Antonio Express-News*. She assumed her new role in April. McInnis worked at the *Corpus Christi Caller-Times* and the *Dallas Morning News*, before joining the *Express-News* in 2007.

**5 Kelli Petty '03**  
Dallas, has joined Consuro Managed Technology as an account manager. Prior to joining Fort Worth-based Consuro, she was senior account manager for a regional managed service provider and previously held various sales and account manager roles in her decade-long tenure at Dell Inc.



4 Jennifer McInnis

**Michael Hofhiens '02**  
Dallas, has been promoted to vice president for the Dallas/Fort Worth branch of RealManage, a property management company that specializes in home owner associations and community management.

**Lt. Col. Jason Scott '96**  
Tacoma, Wash., now commands the 361st Recruiting Squadron at Joint Base Lewis-McChord. Scott comes to McChord from Naval Air Station Pensacola, Fla., where he served as the 12th Flying Training Wing's chief of safety. Rated as a master navigator, Scott has more than 1,700 flight hours on five different models of Air Force aircraft.

**E.R. Bills '90**  
Weatherford, has written his second book, *The 1910 Slocum Massacre* (The History Press, 2014). The book deals with the slaughter of African Americans by white mobs in Anderson and Houston County at the turn of the last century.

**Kenneth 'K.C.' Kraft '88**  
Stillwater, Okla., is an archaeologist with the National Resources Conservation Service and works for the Oklahoma office of the U.S. Department of Agriculture. His publications range from geology and paleontology to anthropology and history. He is the author of *Prehistoric Bison Hunters of the Southern Plains: Grasslands, Canyons, Bone Bed and Spear Points*.



5 Kelli Petty

**Larry M. Mark '83**  
Atlanta, Ga., has been named vice president/controller for the Coca-Cola Co. He joined the company in 1991 and was previously director of investor relations, vice president of finance/North American Foodservice Division, CFO Europe Group and most recently deputy controller for Coca Cola.

**Kathleen Anzivino '82 & '87**  
Houston, has been named Dean of Student Development at Houston Community College (HCC). Overseeing HCC campuses in Alief, Katy and Spring Branch, Anzivino's role includes providing oversight for Advising, Counseling, Admissions/Enrollment Services, Job Placement and Financial Aid. She is also co-directing a college program that focuses on the success of first-year students.

**6 Dr. Trinidad San Miguel '77**  
Austin, has been appointed to the board of Austin Partners in Education, which works with students in Austin ISD's Title I schools providing volunteer academic and supportive mentoring programs.



6 Dr. Trinidad San Miguel

**Randy Willis '72**  
Austin, has co-authored the book *Twice a Slave*. It is the story of Joseph Willis, his four-time great grandfather. A member of the Board of Trustees of The Joseph Willis Institute for Great Awakening Studies at Louisiana College, Willis also owns two music publishing companies and is an ASCAP-affiliated songwriter and president of Quadra Entertainment Group.

**William Wright '70**  
Houston, has been designated a member of the Wells Fargo Premier Advisor's Program. He is a first vice president-investment officer with Wells Fargo, where he has worked for five years.

**Saúl Sánchez '67**  
Seguin, has written a memoir, *Rows of Memory: Journeys of a Migrant Sugar-Beet Worker* (University of Iowa Press, 2014) that tells the story of his family and other migrant farm laborers. Now retired from Texas Lutheran University, Sánchez taught Spanish, French, and English as a second language at several universities during a career lasting almost 40 years.

Send your Class Notes contributions to: hillviews@txstate.edu

IN REMEMBRANCE

**Charles Barsotti, (B.A. '55)** longtime cartoonist for *The New Yorker* died June 16 at his home in Kansas City. A native of San Marcos, Barsotti worked for Hallmark and *The Saturday Evening Post* and spent four decades as staff cartoonist for *The New Yorker*, creating more than 1,300 cartoons. In 1995 he received the university's Distinguished Alumni Award. He received national and international acclaim for his work that appeared in such publications as *The Atlantic*, *USA Today*, *Texas Monthly* and *Playboy*, and on the op-ed pages of *The New York Times* and *The Kansas City Star*. A number of books were published including *They Moved My Bowl*, *The Essential Charles Barsotti*, *From the Very Big Desk Of, Kings Don't Carry Money* and *The Best of Charles Barsotti*.

**Lawrence Frank "Red" Jurecka, (B.A. '52, M.A. '56)** died at his New Braunfels home on May 14. 'Red' was editor of the *Star* and the *Pedagog* and president of the press club. He was also elected president of the freshman class and a cheerleader. In the 1950s he worked as an administrative aide for then-Sen. Lyndon Johnson. He served two years in the Army, working for the Inspector General's office in Alaska. After completing graduate school he used his passion for journalism in a career selling college textbooks. Following retirement Red focused his energies on Texas State where he served on the Alumni Board for more than 40 years. A scholarship fund has been established in his name. Contributions may be sent to: Texas State Alumni Association, 601 University Drive, San Marcos, TX 78666; attn. Kim Gannon.

**Billy Mack Porterfield (B.A. '55)**, award-winning author died June 29 after a long illness. His first newspaper job was on the *Star*. He started as a crime reporter for the Houston Chronicle and later worked as a columnist for the *Dallas Times Herald* and the *Austin American- Statesman*. His work appeared in a number of publications including *The Saturday Evening Post*, *Texas Monthly*, *New Braunfels Zeitung*, the *Chicago Daily News* and *The Detroit Free Press*. In 1967 he was the first writer selected for the Dobie-Paisano Fellowship and later joined Jim Lehrer as a commentator on KERA-TV in Dallas. Porterfield's books include *LBJ Country* (1965), *A Loose Herd of Texans* (1978), *Texas Rhapsody: Memories of a Native Son* (1981), *The Greatest Honky-Tonks in Texas* (1983), and *Diddy Waw Diddy: The Passage of an American Son* (1994). In 2010, Porterfield donated his archives to the Southwestern Writers Collection, part of the Wittliff Collections at Texas State University.





## The long road from there to here

Artist-educator finds her calling painting colorful murals for Africa's children *By Alex Dominguez*

**as** Sarah Ackerley packed up the paint brushes that have defined her as a fundi, which is Swahili for craftsperson, she reflected on the year she spent traveling and painting murals throughout Africa. And then she thought of those enriching experiences she would be bringing back with her to the United States. It took her “a long time to get from there to here,” she says.

“There” is Waxahachie, where Ackerley was born the second of seven children. “Here” is the culmination of her volunteer duties that began in March 2013 with Empowering Lives International (ELI). California-based ELI engages volunteers to work in projects that address the spiritual, physical and economic needs faced by the people of Africa. Since she arrived in Kenya, Ackerley has spent her time caring for orphans, teaching and painting murals in schools, churches and hospices.

When she first started voicing her desire to travel to Africa, her parents, family and friends gave her their whole-hearted support. “Knowing me and knowing my passions, when I started saying things like ‘I want to move to Africa,’ they all understood and felt like that sounded perfectly in line with what I wanted to do in life,” she says in a phone interview.

### Missionary trips

Growing up in Waxahachie, the Texas State University alumnus was exposed to altruism by watching her parents readily give of themselves wherever they saw a need, including adopting two young children. “Seeing my parents put themselves out there, taking in children who needed a home ... seeing that and loving my brothers as I do, made me want to give of myself as well,” she says. As a high school student, Ackerley and her siblings spent summers on missionary trips to Central Mexico with their church’s youth group. The time was spent helping construct churches, cleaning up orphanages and conducting street ministries.

Upon high school graduation, Ackerley took a 10-year hiatus from the church. She graduated from The University of Texas with a bachelor’s degree in studio art in 2004 before receiving her master’s in elementary education from Texas State in 2007. She moved to California for five years, and for one year she taught second grade reading and math in the morning and art in the afternoon.

It was shortly after arriving in Kenya when Ackerley walked into a hospice for the sick and dying and met eight youngsters being cared for in the children’s room. The children’s diagnoses ran from tuberculosis to AIDS. Her studies in art and education did not prepare her to medically assist the eight children whose smiles captured her heart, so Ackerley did what she was trained to do – she painted.

“The (children’s) room was just plain, walls were blank. I did what I could to brighten it up,” Ackerley recalls. She painted a high-spirited monkey dangling one-armed from a tree as a nearby giraffe lazily ate leaves and a green lizard inched its way up the opposite end. Along another wall, she introduced a blue elephant, its trunk curled up slightly as birds rested upon its back. An image of a lion perching on a rock filled another wall.

“I gave the room a more child-friendly feel and I could tell it made a difference for them. They would run in every day to see what new animal I had painted and would argue about whose bed would be by the elephant,” Ackerley says.

She spent seven days painting the walls of the children’s room in the hospice run by Living Room Ministries International. In her blog, <http://sarah-ackerley.blogspot.com/>, Ackerley writes: “... I could probably spend the rest of my life painting classrooms here in Kenya. I could make myself a little mud hut, raise support for the paint, and just travel from school to school ... painting alphabets, numbers, shapes and animals.”

### First book

In 2008, Ackerley fulfilled her dream of becoming a children’s author when her first book *Patrick the Somnambulist* was published. That was followed by four additional books that she also illustrated: *Partners in Crime*, *Your Fantastic Elastic Brain*, *Spaghetti is NOT a Finger Food* and *Close as a Breath*.

“Two years ago, I really wanted to take the challenge that God had given me and work with orphans and underprivileged kids,” Ackerley says. “I wanted to come to Africa, but I knew I needed a platform or an organization. I did not think it would be productive for me to go on my own. This is me coming back to the church.”

As far as next steps, Ackerley is considering another master’s degree in intercultural studies to add to her skill set in working with third-world countries, and she definitely wants to return to Kenya. “I think God makes us in a specific way. When he created me, he placed in me this desire to work with the needy and love the cross-cultural experiences. A place like Kenya fits me in a way it may not fit another.”



## Amelia Gray finds her voice

Author enlivens staid literary world with rock ‘n’ roll style book tour *By Michael Agresta*

**N**ovelist and short story writer Amelia Gray is in the business of knocking her readers off balance. Often she’ll do it with the first sentence of a story: “One morning, I woke to discover I had given birth overnight.” Or, “The young inventor created a device that could predict the future within one-tenth of a percent of accuracy.”

A mood is set, the world is thrown off-kilter, and there’s nothing to do but read on and see where Gray will take you. Over the course of seven years since graduating from Texas State University with her master of fine arts degree, Gray has written three books and proved to be well worth following. The New York Times has praised her “deceptively simple, yet powerful sentences” and her prose that “achieves a kind of deceptive primness even as it sneaks around behind to clock you on the head.” Her novel, *THREATS*, (Farrar, Straus, and Giroux, 2012), was nominated for a prestigious PEN/Faulkner Award.

Gray grew up in Tucson, Ariz., the daughter of an IBM engineer father and a mother with a M.F.A. in visual art. “They always had lots of good and interesting books on the shelves, Vonnegut and Irving and Brautigan and an old copy of *Our Bodies, Ourselves*,” she says. “All that mashed up and made a lot of sense to me. I saw writing as a way to figure things out about the world, and I wanted to be a part of that.”

Though she originally aspired to be a concert violinist, Gray switched gears to creative writing while an undergraduate at Arizona State University. Her fiction professors pointed her toward the M.F.A. program at Texas State, renowned for a faculty then anchored by Tim O’Brien (*The Things They Carried*) and Denis Johnson (*Jesus’s Son*). “[M.F.A. Program Director] Tom Grimes was generous enough to offer me the time and space to work for three years, despite the fact that I was really just crawling around as an infant in terms of writing,” Gray says.

She looks back at her years at Texas State as a time of exhilarating exposure to the world of professional fiction writers, including O’Brien and visiting writers such as George Saunders and Barry Hannah. It took some time, however, before Gray was able to find her own voice. The summer after completing her studies, in what she calls a “post-grad lurch,” she wrote an entire book — her debut, *AM/PM* — in about two months.

To publicize her first effort, Gray joined up with other small-press authors to tour the country in a van. The idea was to enliven the normally staid world of literary readings with the rock ‘n’ roll style of a touring band. “We poured bourbon into Dixie cups in Baltimore and had pie and homemade ice cream in Atlanta. I lit a branch on fire and paraded it through the street in, I think Albany,” Gray recalls.

“I’ve done a couple such tours,” she adds. “It’s so much more fun to make art and see it made with your friends than to do it alone, particularly with such a lonely profession as writing.”

The barnstorming worked, and Gray began to find an audience, which has only expanded with each new book. Now she has two more under contract, including *Gutshot Stories*, a short-story collection due out in April 2015.

Today she makes her home in Los Angeles where she also works as a copywriter in marketing and advertising. These days, Gray’s travels are more likely to take her to prestigious guest-teaching gigs at colleges and universities. But to her, it’s all part of the same adventure. “I’m pretty much game to go wherever a department chair wants me to go, which is some of that tour van spirit with a nicer hotel room at night,” she says.

### On the Web

Sarah Ackerley  
[www.sarahackerley.com](http://www.sarahackerley.com)

Empowering Lives International  
[www.empoweringlives.org](http://www.empoweringlives.org)

Living Room Ministries International  
[www.livingroominternational.org](http://www.livingroominternational.org)



# On track, ahead of the pack

Disability hasn't slowed James Ortiz as coach or runner | By Melisa Aguilar-Rehm



Photo © San Antonio Express-News/ZUMA Wire

“IT DIDN'T TAKE LONG FOR ME TO REALIZE THAT I HAD TWO CHOICES IN LIFE. I COULD SIT IN MY HOSPITAL BED AND KEEP CRYING OR FIND THE POSITIVES IN MY LIFE AND MOVE ON.”

– JAMES ORTIZ

Ever since he was in seventh grade James Ortiz knew where he wanted to go to college and run. It only took one visit to see his older brother Reuben at Texas State to fall in love with the campus and the dining halls. “I couldn’t believe the cereal selection they had,” he says.

Of course, there was more to Texas State than cereal choices. Throughout junior and senior high school, Ortiz paid close attention to the university’s running program. Coach Don Hood was leading the Bobcats to Southland Conference titles just about every year and Ortiz says he knew that’s where he wanted to continue his running career. The problem was that he wasn’t recruited, at least not by Texas State.

On the day Ortiz was to sign with The University of Texas at San Antonio, he took a chance and called Texas State Athletics. Coach Hood told him that Texas State couldn’t make him a suitable offer and he knew that other colleges could offer more. By the time their conversation ended, Ortiz agreed to sign with Texas State for a partial scholarship.

## Captains team

Throughout his running career at Texas State, Ortiz was one of the top athletes to score in most every meet or event. It was obvious that he had talent, and his work ethic and dedication to training was just as admirable. He was chosen captain of the Men’s Track and Field and Cross Country programs, was a two-time All-Southland Conference athlete on the track and still holds the university record in the 1,500 meter run (3:48.35).

Then tragedy struck in the summer of 2006 as Ortiz was heading into his senior year. He was riding a bike in San Marcos and was involved in a collision with a garbage truck. The injury resulted in the amputation of his lower right leg.

“Since running was my life and I had just lost my leg, immediately I felt like my life was over,” he recalls. “It didn’t take long for me to realize that I had two choices in life. I could sit in my hospital bed and keep crying or find the positives in my life and move on. God has a plan for me and I knew it wasn’t for me to spend the rest of my life dwelling on the situation.”

He went on to serve as a student assistant coach for the university’s cross country team and graduated in 2007 with a bachelor’s degree in interdisciplinary studies. Following graduation he accepted an offer to become the track and cross country coach at the University of the Southwest in Hobbs, N.M. During his almost two years at the small Christian college, the men’s and women’s track teams earned Red River Athletic Conference Champion awards and All-Red River Athletic Conference awards.

Today Ortiz is head coach for the Colby Community College Men’s Track & Cross Country programs in Colby, Kan. The Colby Trojans’ running program is nationally ranked in the top 10 in the National Junior College Athletic Association (NJCAA).

In 2012 Ortiz completed his master’s degree in sports administration and started running track competitively. The following year he set the 1,500-meter world record competing against other disabled athletes in his category. His goal is to someday represent the United States in either track and field or triathlon.

“I think getting the chance to represent your country is the greatest honor,” he says. He says he would also like to break his own 1,500-meter world record, as he feels it’s his job as the current record holder to raise the bar for other amputee distance runners.

## Baby bobcat

Ortiz met his wife, Tenley Determan, at Texas State when she was on the women’s cross country and track and field team. The couple has a son, Jameson. At 6 months old, Jameson joined the Bobcats Kids Club and he’s already been to his first Texas State football game.

“He is such a blessing. He is my motivation to stay healthy and active. I remember when I got in my accident I was nervous I would miss out on all the father-son activities because I was unsure on how mobile I would be when I had a child, but that has not been the case,” he says.

“We’ve even run a 5k together already. I pushed him in his stroller and we took fifth overall in a Jingle Bell 5k run in College Station. It was really great seeing the reaction of people when they got passed by a one-legged guy pushing a baby stroller.”

In March the Colby Trojans competed in the NJCAA Indoor Track and field nationals in New York after winning the Region VI and Kansas Jayhawk Community College Conference (KJCCC) Conference-West Indoor Track and field titles — a first for the college. At nationals, the team not only set some personal records, it also was the national runner up in the Men’s Indoor Track and Field tournament.

In May, the Colby men’s cross country and track teams won the 2014 Region VI Outdoor Track & Field Championship in Arkansas City. Prior to this season the Trojans had earned only one men’s Region VI title in the school’s Division I history.

Ortiz was named Region VI Indoor Track and Field National Coach of the Year for 2014. Ortiz has proved his determination by relentlessly pursuing his goals, overcoming obstacles, coaching others and by returning to competitive running after a five-year absence. “Finding positives in your life is so important. One thing positive people need to remember in life is that there is always someone who believes in you. As a former student-athlete and now a coach, it’s important to learn that if athletes can carry over their determination to improve themselves from athletics into their everyday life, their lives will change for the better.”



# Bobcat Bowling

Sun Belt partnerships give football team seven shots at post-season play

*Editor’s Note: At press time, 2014 bowl selections had not been announced.*

By Raúl A. Flores

National titles and bowl games. They’re the measures of success for any collegiate football program. Texas State University, steeped in a rich 110-year gridiron history, climbed the ultimate pinnacle when as Southwest Texas State it won back-to-back NCAA Division II titles in 1981 and 1982 under legendary coach Jim Wacker. (During the five years that the Division II National Championship game was played in McAllen, the game was dubbed the “Palm Bowl.”) But the Bobcats have never been to a Division I bowl game.

All that could change in the coming years thanks to two new partnerships that give Texas State and the other schools in the Sun Belt Conference as many as seven shots at a bowl berth with the addition of the Cure Bowl, set to kick off in 2015; and the Raycom Media Camellia Bowl, which played its first game on Dec. 20.

The Sun Belt, comprised of 13 schools, including 11 that field a football team, announced earlier this year that it will send a team to the newly established Cure Bowl in Orlando, Fla. The inaugural game is scheduled for 2015 and will pit a team from the Sun Belt against a team from the American Athletic Conference.

In August 2013, organizers announced the formation of the Raycom Media Camellia Bowl, which will be played in Montgomery, Ala., between teams from the Sun Belt and Mid-American Conferences. The Sun Belt already has partnerships with the R+L Carriers New Orleans Bowl and the GoDaddy Bowl in Mobile, Ala., and is part of a coalition that will send teams to the Miami Bowl and Bahamas Bowl on a rotating basis over the next six years.

“This is great for the conference,” says Texas State head football coach Dennis Franchione. “We had a number of teams,



including ourselves, which were bowl-eligible last year and didn’t get a chance. This really enhances the opportunity for all our conference schools. Getting a chance to play in a marquee city like Orlando and giving your players the chance to have an additional postseason game; it’s a win.”

What looms on the immediate horizon for Texas State football has Franchione excited. But it’s the long-term effects that Franchione says could have a bigger payoff, especially in the recruiting wars against other schools. “Any time you have an impact of playing post season, it’s a great tool,” Franchione says. “With the limited amount of games on television, this type of exposure is huge for recruiting. When we can tell recruits about the potential, it’s exciting. What it can do for your program is immeasurable.”

Sun Belt Commissioner Karl Benson agrees and sees it as a great opportunity for all the football programs in the conference. He contends that in years past the conference has not been well-represented in bowl games despite having a handful of bowl-eligible teams and sees the addition of the

new partnerships as a way to showcase the Sun Belt. “The bowl landscape was that the Sun Belt was under-associated with bowls,” Benson says. “We had seven bowl-eligible teams last season and we should have about the same this year. “(The Sun Belt Conference) set a goal of four bowls, so when you add the Miami and Bahamas Bowls, we have exceeded that.”

Benson said there was some benefit in years past by remaining in the at-large pool that provided the opportunity to play in a big-name bowl. But those are never guaranteed and last season’s success among teams in the conference proved the importance of partnering with a bowl, which assures a bowl berth.

For Texas State, it’s a huge step in Franchione’s vision of continuing to solidify an identity for a program that over the last four years has competed in the Southland, Western Athletic and Sun Belt Conferences. The school was part of the Football Championship Subdivision – the lower rung of Division I schools that have a playoff system to determine its champion – and in

2010, announced it was moving to the FBS, the division of upper-tier schools that compete in bowl games. But the school could not officially make the jump until 2012, leaving the Bobcats in limbo for the 2011 season.

“We started out in transition; we were neither FCS nor FBS,” Franchione said. “We changed conferences on yearly basis. Trying to develop a roster of Division I players was a challenge. We took a big step last year by going 6-6. We just needed one more.”

Franchione, who compiled a 13-9 record at Texas State in 1990-91 and returned to the school in 2011 after coaching stints at New Mexico, Texas Christian University, Alabama and Texas A&M, downplays critics who say competition gets watered down with the number of existing bowl games.

“There are no bad bowl games,” Franchione said. “All we’re doing is giving a group of young men a chance to play an extra football game. This gives you a chance to reward your players and your alumni with the opportunity to experience a bowl game.”

## Sun Belt Bowl Partnership:

Highest ranked team from the American Athletic Conference, Conference USA, Mid-American Conference, Mountain West Conference & Sun Belt Conference will play in a top-tier bowl.

R+L Carriers New Orleans Bowl  
Saturday, Dec. 20, 2014 | New Orleans, La.  
Sun Belt Conference vs. Conference USA

Raycom Media Camellia Bowl  
Saturday, Dec. 20, 2014 | Montgomery, Ala.  
Sun Belt Conference vs. Mid-American Conference

Cure Bowl  
Dec. 19, 2015 | Orlando, Fla.  
Sun Belt Conference vs. American Athletic Conference

GoDaddy Bowl  
Sunday, Jan. 4, 2015 | Mobile, Ala.  
Sun Belt Conference vs. Mid-American Conference

## OTHERS IN WHICH A SUN BELT TEAM WILL COMPETE ON A ROTATING BASIS:

Bahamas Bowl  
2017 | Nassau, Bahamas  
Sun Belt Conference vs. Mid-American Conference

Miami Beach Bowl  
Date and Conferences TBA  
Miami, Fla.





# Defying Odds

Texas State’s Bartu, Morris find NFL success as undrafted rookies

By David Flores

Driven to fulfill their dreams of playing in the NFL, Texas State graduates Joplo Bartu and Darryl Morris made a pact when they completed their football careers with the Bobcats in 2012. After resolving to push one another as they prepared to get evaluated by NFL scouts on Texas State’s “Pro Day” the following spring, Bartu and Morris went through a grueling regimen of daily workouts that tested them mentally as well as physically. *All the hard work paid off.*

Although neither was selected in the NFL draft last year, Bartu and Morris both caught on with teams as free agents in 2013 – Bartu as a linebacker with the Atlanta Falcons and Morris as a cornerback with the San Francisco 49ers – and enjoyed promising rookie seasons.

“Without a doubt, Darryl and I talked about doing everything we could to go to the NFL,” Bartu says. “We both were focused. We’d go to San Antonio in the morning to work out, went to class in the afternoon and then went home. All we thought about was accomplishing our goals.”

Bartu, a Waller High School graduate who grew up in Prairie View, started 13 of 16 games last year with the Falcons as an outside linebacker. He finished third on the team with 85 tackles and 3½ sacks; that’s quite a feat for an undrafted rookie free agent.

## Special teams

A San Antonio Warren High School graduate, Morris made the 49ers’ practice squad after training camp and was promoted to the team’s active roster three games into the 2013 season. He played in 13 games for the 49ers, finishing with six tackles. In August he was picked up on waivers by the Houston Texans and now wears No. 26. He signed a three-year contract with the Texans worth \$1.49 million. In two of the season’s first games he is credited with 10 tackles.

Undrafted rookie free agents are generally long shots to make it in the NFL, but Bartu and Morris both embraced the challenge and were

determined to buck the odds. “When you’re an undrafted player, you’re going the hard way,” Morris says. He credited personal trainer Duane Dunkley, who worked with him and Bartu in San Antonio, with helping them both make it into the NFL. “He’s probably one of the main reasons I’m here,” Morris says.

Sadly, Bartu’s joy of living his childhood dream was tempered by the death of his mother, Esther Gbawar, who passed away on Dec. 29. Gbawar emigrated from Liberia to the United States when she was pregnant with Bartu and had battled breast cancer since Bartu’s freshman year. Gbawar died on the final Sunday of the NFL regular season, but continues to inspire Bartu. “She left a voicemail on my phone,” Bartu says. “It was Psalms 18. She told me to say that verse every single day when I wake up. I still say it every day when I wake up.”

One of the first people to call Bartu after his mother’s death was Morris, who stayed in touch with his former teammate throughout the season. “I just called him to tell him I loved him and that if he wanted to talk about anything, he could always give me a call,” Morris recalls.

A month before starting his second training camp with the 49ers, Morris recalled what it was like to be activated. “All the hard work, all the workouts I’d been doing in the offseason when I was preparing for Pro Day, all the work in camp, in the weight room, extra sprints after practice, finally paid off,” he says.

## Learning curve

Bartu and Morris talked about the tough learning curve they faced adjusting to the pace of the NFL, both on and off the field. “You’ve got to always be on top of the game going into practice,” Bartu says. “Sometimes it can be overwhelming for a rookie coming in. You have to learn so many new things fast. As the season goes on, you realize that the game is not going as fast as you thought it was. For me, the game slowed down. That helped me out a lot.”

Morris says most fans have no idea how much mental preparation it takes to play in an NFL game. “It’s definitely a cerebral game,”



“Sometimes it can be overwhelming for a rookie coming in. You have to learn so many new things fast.”

–Joplo Bartu, LB No. 59, Atlanta Falcons

Morris says. “Every team is different. It may not be simple in college, but when you get to the NFL, I don’t care what position you play, you’re going to have to think and think fast.”

Bartu and Morris started their careers at Texas State with Brad Wright as head coach. After redshirting as freshmen in 2008, they played two seasons under Wright and two with Dennis Franchione at the helm of the program. Morris and Bartu were leaders on and off the field, and both earned their degrees – Morris in business management and Bartu in exercise and sports science.

Bartu says he learned the value of a good work ethic during his career at Texas State. “You’ve got to be focused and have that tunnel vision and tune out everything that will knock you off course,” he says.

Morris credits his parents, Patricia and Darryl Morris Sr., both retired from the Air Force, for instilling values in him that have helped him in every phase of his life. “I think it’s all about decision-making and time management,” Morris says. “You have to be accountable. For Joplo and me, as team leaders, we knew that was important. We knew nothing was going to be given to us.”



“When you’re an undrafted player, you’re going the hard way.”

– Darryl Morris, DB No. 26, Houston Texans

## From high school to NFL

*Statistically of the 100,000 high school seniors who play football every year, only 215 will ever make an NFL roster. That is 0.2 percent! Even of the 9,000 players that make it to the college level only 310 are invited to the NFL scouting combine, the pool from which teams make their draft picks.*

–from NFLplayers.com



# The (last) view

*The Texas State vs. Navy football game in Bobcat Stadium drew a record crowd of 32,007 on Sept. 13. The game day was also special for: Military Appreciation, Family Day and Bobcat Marching Band Alumni Day. The game, televised on ESPNEWS, was the Bobcats first loss of the season. The Navy Midshipmen won 35-21.*



## TEXAS STATE

### 2014-2015 BOBCAT BASKETBALL

**WESLEY DAVIS**  
6-3, 185 | GUARD  
ARLINGTON, TX

**KILEAH MAYS**  
6-2 | CENTER  
DALLAS, TX

**RAVEN BURNS**  
5-7 | GUARD  
HOUSTON, TX

**EMANI GANT**  
6-8, 225 | FORWARD  
LOS ANGELES, CA



## Get in the Game!

For Tickets: [txstatebobcats.com/tickets](http://txstatebobcats.com/tickets) or 512.245.2272

## PAVE THE WAY

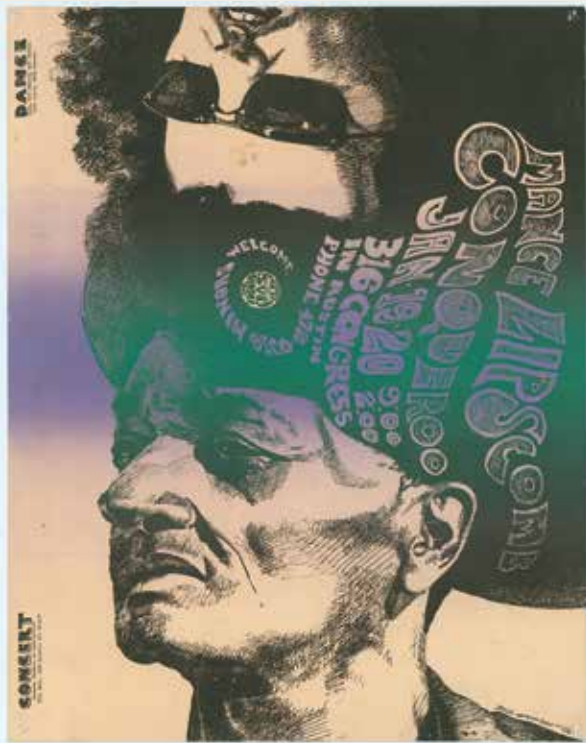
[TxStateBobcatClub.com](http://TxStateBobcatClub.com)

The Bobcat Club is committed to providing current student-athletes with a first-class education and a chance to excel both in the classroom and on the playing field. Join the Bobcat Club today in support of the student-athlete scholarship fund and Pave the Way for the continued academic and athletic success of our student-athletes.

Join the  
**Bobcat  
Club**



## from the collections



Poster by Jim Franklin for Mance Lipscomb and Conqueroo at the Vulcan Gas Company, January 19 & 20, 1968

## AT THE WITTLIFF COLLECTIONS

Homegrown — Austin Music Posters, 1967 to 1982

JANUARY 12 THROUGH JULY 3, 2015

*Homegrown: Austin Music Posters* presents more than 120 original posters documenting the vibrant music scene in Austin during the pivotal period of 1967 through 1982. This exhibition of vintage posters — most donated to the Wittliff by music enthusiast Tom Wilmore — celebrates the artists who created the visual backdrop for the counter-culture revolution that transformed a sleepy university town into a veritable island of underground artistic and cultural activity.

Featured are inventive works by more than 20 artists, among them Jim Franklin, Gilbert Shelton, Micael Priest, Danny Garrett. Screen-printed or offset, the posters represent the psychedelia of the Vulcan Gas Company, the pen-and-ink portraits of blues performers at Antone's, the cosmic Western imagery of the Armadillo World Headquarters and Austin Opry House, and the handbills and flyers heralding the emergence of punk rock in clubs such as Raul's. These posters serve as a window to this unique time in Texas music and cultural history.

Admission to the Wittliff is free. For more information, including more exhibitions upcoming events, hours, directions and parking, visit [www.thewittliffcollections.txstate.edu](http://www.thewittliffcollections.txstate.edu) or call 512-245-2313.

### Homegrown Catalog and Events

An exhibition catalog edited by Texas State lecturer Alan Schaefer is forthcoming from the University of Texas Press. The catalog includes introductory essays by music writer Joe Nick Patoski and artist/poster art historian Nels Jacobson.