

hillviews

YOUR WORLD OUR RESEARCH



TEXAS
STATE
UNIVERSITY
The rising STAR of Texas

hillviews
contents *Fall 2012*



WIDE VIEWS

We peek into what lies ahead in sports, which includes new milestones in attendance and growing excitement over the rise into the Football Bowl Subdivision.

WIDE VIEWS



3 Game Day Buzz

6 Strutters' Gallery
 The dance team's history is showcased in stadium expansion.

SPOTLIGHT



Fulbright Scholars
 A study abroad opportunity offers an unmatched cultural experience.
10



A Solid Foundation
 The CIM degree program is helping make Texas bridges safer.
11

8 PACE Center
 Texas State aids freshman success by combining advising, counseling and mentoring in one hub.

12 Lady Bird's Legacy
 The former First Lady wanted children to blossom as much as her beloved wildflowers. A November symposium on early childhood development bears her name.

14 Meadows' Gift
 A generous gift will transform the university's research capabilities regarding water and the environment.

48 Alumni Awards

52 Class Notes

53 A Lesson in Civics
 Kelly Frels is as famous for his civic engagement as for his prowess in the legal community.

54 Aspiring Teacher
 Education changed Gabriella Corrales' life. Now, she aims to help other at-risk students.

56 Last View
 A new Faculty Fountain graces the entrance to LBJ Student Center.



Lyndon Baines Johnson Library





hillviews

vol 43 no 1 | fall 2012
Texas State University

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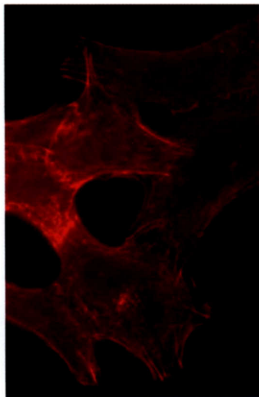
Becky Lockhart

FEATURE

YOUR WORLD. OUR RESEARCH.

Research takes many forms at Texas State, and it doesn't always require its principals to be in lab coats gazing through a microscope.

From cancer prevention to painting, from poetry to jazz, research paves the path to discovery and creativity on campus.



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(from the president's desk)



Our research profile is rising

There has been a significant change recently at Texas State University, and I'm not talking about our unprecedented building program or our rapid enrollment increase.

Research activity has grown dramatically at this university. Our research expenditures alone rose to \$33.4 million in 2012, up roughly three and a half times what they were only five short years ago. That was a key factor that helped Texas State become one of eight Emerging Research Universities in the state — a designation that helps us qualify for state grants to further expand our research portfolio.

The scope of our research is impressive, and you can read more about those activities in the pages that follow in this edition of *Hillviews*.

The new status came on the heels of our university receiving the federal designation of Hispanic-Serving Institution last fall after Hispanics accounted for more than 25 percent of our undergraduate population. These two new designations collectively have made a major impact, most notably when Texas

State was awarded a \$5 million gift from The Meadows Foundation and a \$3.1 million grant from the National Science Foundation. The gift will help transform the research efforts of our newly named The Meadows Center for Water and the Environment while the grant seeks to engage more minorities in a materials science research project with four universities in North Carolina.

These designations and the ensuing grants didn't happen by accident; they resulted from efforts to provide a more robust experience for our students and to make our university more responsive to the state's needs.

We are proud of these accomplishments — particularly that we achieved them during a time of economic uncertainty. And we are excited over what the future holds for this great university as we look forward to building our research and helping Texas prosper.

Denise M. Truitt

(wide)views

PACE:
Texas State sets
the PACE in
academic and
career advising
p.8

**"Best looking stadium
in college football."**

- Seth Stovall Jackson, Facebook



**"Eat 'em up, Cats!
Looks great!"**

- Elisa Bosier, Facebook

GAME DAY BUZZ

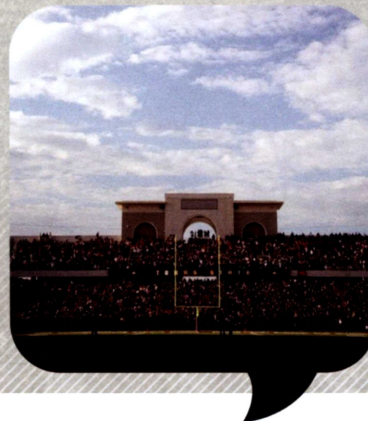


"Boko went crowd surfing!"

- Kayla Lawyer, Instagram



**Go Bobcats all the way,
Keep that maroon and gold on high!
Fight on for every play
until you hear that Bobcat battle cry!
We're gonna cheer for our team today
Until the whole world knows our name.
No doubt about it,
We're gonna shout it -
Bobcats will win this game!**





"The Stadium looks great. I was there as an exchange student last fall semester and I had a wonderful time.

Go Bobcats!"

– Nickolas Schulze, Facebook

"The new Bobcat Stadium, in all its glory."

– Shawn Dullye, Twitter

"Loving this view!"

– Brent Thibodeaux, Twitter

With a newly expanded stadium, membership in the reorganized Western Athletic Conference and the first year playing at college football's highest level, the Bobcats had no trouble stirring fans into a frenzy for the fall 2012 season.

After a decisive win against a highly touted Houston Cougars team on the road in the first week of the season, the football team ignited some high-octane spirit among the Bobcat faithful.

The inaugural home game against the Texas Tech Red Raiders didn't turn out the way Bobcat fans wanted, but 33,006 fans filled the new stadium, the largest audience ever for a home Bobcat football game. And Bobcat pride soared.

"Everybody loves the sense of community we have here," says Texas State junior Christina Flores. "It doesn't matter if we win or lose, people will know who we are because of the way we show our spirit."

With the addition of the North Side Complex, dedicated just 24 hours before the opening kickoff, capacity at Bobcat Stadium grew to roughly 30,000 seats. Even so, thousands had to stand at the home opener.

“Awesome pre-game activities.

As a veteran, I got a lump in my throat after they played 'America the Beautiful' with the field-sized flag and four-jet flyover.”

– Fred Wilson, Facebook

“I bleed maroon and gold. I <3 txst!”

– Erin, Instagram



Despite the loss, many fans remained upbeat about the prospects for the team, which this year played for the first time in the coveted, but tougher, Football Bowl Subdivision.

“I had never experienced Texas State students so proud and supportive of our Bobcats,” says Ashley Jones, a junior international studies major. “Even though we were losing, students never stopped singing the fight song or pumping up the crowd.”

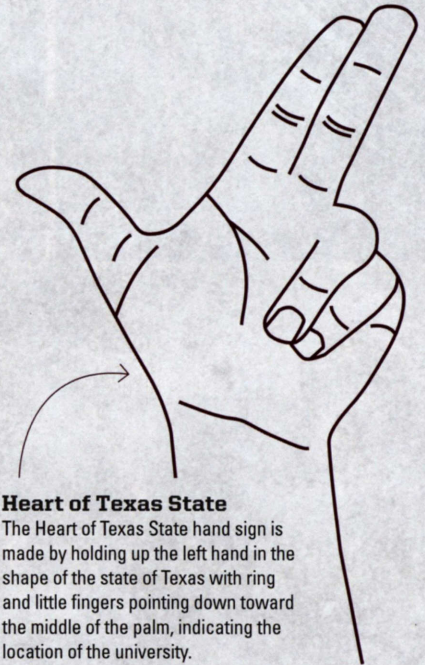
“I have waited 25 years to have big-time football atmosphere and we had it (that night,” adds Bart Hutton, a 1988 alumnus from Boerne.

Fans jammed parking lots and nearby parks several hours before kickoff to set up tents in anticipation of the big event. Many said they had never witnessed tailgating on such a huge scale in San Marcos.

And the excitement didn't wane. Pre-game festivities included fireworks, a flyover and the unfurling of a football field-sized American flag.

“I have said all along, this is not an athletic department move, this is a university move,” says Larry Teis, Texas State's director of athletics. “This university – with its size, location, academic mission and overall leadership – deserves to be at the highest level of collegiate athletics.”

EAT 'EM UP, CATS!



Heart of Texas State

The Heart of Texas State hand sign is made by holding up the left hand in the shape of the state of Texas with ring and little fingers pointing down toward the middle of the palm, indicating the location of the university.



Eat 'em Up, Cats

The Eat 'em Up, Cats hand sign is made by holding up the right hand in the shape of Bobcat paw while yelling "Eat 'em up, Cats!" Your palms should face outward when doing both hand signs.



Barbara Tidwell



Dr. Linda Gregg Fields



Strutters' legacy lives on in new gallery

The legacy of one of Texas State's most widely renowned student organizations — the Texas State Strutters — has been preserved. And it's been done in grand style.

This semester marked the opening of the Linda Gregg Fields Strutters' Gallery in the new North Side Complex at Bobcat Stadium. The gallery contains memorabilia, artwork and displays that celebrate the pride, history and tradition of the nation's largest collegiate precision dance team.

The gallery was named in honor of Dr. Linda Gregg Fields who, along with her husband, Dr. Jerry Fields, donated \$1.35 million for the gallery's construction and operation. Linda and Jerry Fields are among the university's most generous benefactors, having donated more than \$11.7 million in support of a wide variety of university initiatives.

Linda Gregg Fields earned a B.S. in education in 1966 from Texas State, where she was a Strutter, a member of Chi Omega sorority and a Gaillardian (all-campus favorite). A San Marcos native, she taught school for seven years following her graduation. She says she was honored to have the gallery named for her and stressed the importance of preserving the Strutters' legacy.

"In 1960, Texas State was a small, sleepy school with most of its students coming from small towns. Strutters took a group of girls and made sophisticated women out of them, providing praise and recognition for the university on a national level. Football fans loved them, and the national spotlight began to shine on the university when President Lyndon Johnson invited us to be in his inaugural parade," Fields says.

The precision dance team was the first to be formed at a four-year university. Founded in 1960 by Barbara Guinn Tidwell, it currently is led by her successor, Susan Angell-Gonzalez. The group has 113 dancers, boasts more than 3,000 alumnae, and has performed in 24 countries on four continents. The dance team was invited to perform in this year's Macy's Thanksgiving Day Parade in New York City. It will mark the troupe's second appearance in the famous parade.

Fields praises Tidwell and Angell-Gonzalez for establishing and preserving traditions across the decades.

“Barbara Tidwell showed such vision and leadership in a period of time that most people could not imagine, and this needs to be preserved along with the tremendous work that Susan Angell is now doing with a totally new generation. The fact that this group has lasted more than 50 years and still attracts more than 100 women each year speaks volumes for its mission,” says Fields.

Angell-Gonzalez praised the Fieldses and several other donors for their support of the Strutters’ Gallery project.

“The dream of a Strutters’ Gallery is now a reality and our traditions and legacy have been secured,” she says. “I am forever grateful to Jerry and Linda Gregg Fields for their enthusiastic leadership and generous contributions. I am also grateful to other major stakeholders, including Michael and Dianne (Hunt) Bowman, Barbara Tidwell, O.C. and Johanna (Stallman) Haley, John and Dedee (Middleton) Roberts, Bobby and Dottie (St. Clair) Hill and Albert Gonzalez for their support and contributions.”

Diana Becker Hendricks is the current president of the Strutters Always chapter of the Texas State Alumni Association. She says the gallery’s completion represents the fulfillment of the organization’s guiding commitment: “Honor the past. Celebrate the present. Commit to the future.”

“This gallery — filled with so many wonderful memories — honors the past. Working on this project has celebrated the present with so many people who represent more than a half-century of friendships and sisterhood. And now we will commit to the future — our 2012 line of Strutters — which will again be the largest university dance team in the nation,” says Hendricks.

—Mark Hendricks



*front left to right: Dr. Linda Gregg Fields, Strutters’ founder Barbara Tidwell and current Strutters’ director Susan Angell-Gonzalez
back left to right: Mike Bowman and Dr. Jerry D. Fields*



Texas State sets the PACE in career advising for freshmen



“I believe it establishes Texas State as a national leader in programs and services enhancing student success.”

— Dr. Daniel Brown, dean of the University College and director of the PACE Center



An ambitious new program at Texas State is changing the way freshman students receive academic and career advising and could become a model for other public universities across the nation.

The university began piloting the Personalized Academic and Career Exploration (PACE) program last year, and it is now operating at full throttle in its new headquarters in the recently opened 130,455-square-foot Undergraduate Academic Center on campus.

Dr. Daniel Brown, dean of the University College and director of the PACE Center, says PACE is designed to bring four programs together under one administrative and physical roof — academic advising, career counseling, peer mentoring and the University Seminar course — with two primary goals in mind.

“The first goal is helping students clarify their career goals, and that is so important as we consider today’s increasingly competitive global economy. The second is making sure that Texas State freshmen complete their first year having developed an educational plan aimed at graduation,” Brown says.

PACE is offered over a full academic year to incoming freshmen who have earned no more than 15 semester credit hours since graduating from high school — an aspect that makes it different from career advising programs at other schools that begin later in a student’s academic life. Once goals have been set, freshmen are paired with high-achieving upperclassmen to help them stay on a track toward graduation in four years.

“PACE is needed to assist students during a time of transition as they grow from the teenagers they are at new student orientation and PAWS Preview into young adults ready to face the challenges of being successful college students. We want to help our students make wise academic choices. Simply stated, we want to help our students think more deeply about what it will take to be successful during and after college,” says Brown.

Brown says he knows of no other public institution that has established such a bold, intensive, personalized advising and mentoring approach for first-year students.

“PACE brings what has traditionally been a private university model to a public university setting. Private universities are known for their investment in the lives and learning of their new students, which is especially important given the high costs of a private school education. Texas State has recognized that a college education reflects an investment by students and their family members and is applying the same intensive, personalized approach,” he says.

Brown believes that Texas State’s PACE will become a national model.

“I believe it establishes Texas State as a national leader in programs and services enhancing student success,” he says. “Other colleges and universities are going to learn from what we are doing and, as a result, PACE will have greater impacts than we can even imagine. Our PACE plan is exceptional and provides a map to our future success.”

The PACE Center delivers the personalized, student-centered service for which Texas State is known. The program involved an investment in personnel by the university. To prepare for the 2012 fall semester, Texas State hired 15 new academic advisors, two career counselors, two mentoring coordinators and staff with skills in assessment and academic advising. Training for PACE staff continues throughout the year to help them stay abreast of issues facing first-generation students, new federal and state programs and guidelines, and other topics, Brown says.

“Through PACE, we will empower our new students to be champions of their own academic destiny and engage them in deeper conversations about personal and professional success in their chosen field of study and future career,” he says.

The PACE Center is on the first floor of the Undergraduate Academic Center, which is the new home of the University College. The departments of Political Science, Psychology and Sociology are also now in the UAC. The building was completed in the summer at a cost of \$47.7 million.

—Mark Hendricks



International
MINDS

Fulbright experience brings world into focus for scholars

The Fulbright U.S. Student Program annually provides 1,500 highly select students with funds to travel and live abroad while they complete projects of their own design. Dawson Muñoz and Meaghan Patterson are among only six Texas State students ever to have received the prestigious award, granted to those who demonstrate academic merit and leadership.



DAWSON MUÑOZ '11
B.B.A. in finance

In summer 2012, Dawson Muñoz completed his nine-and-a-half-month Fulbright fellowship in Spain.

“Teaching in Spain was such a rewarding experience,” he says. “The teachers at the high school where I taught, Valle del Saja, were really supportive. As a Fulbrighter, I taught English using a program called ‘Global Classrooms.’ We prepared the students for a conference that we hosted at the end of the year, where they debated their topic with the issues relating to their country. I learned so much from my students.”

Muñoz found out about the Fulbright opportunity from Dr. Pat Pattison, a professor in the McCoy College of Business Administration. He had been paired with Pattison in the Texas State Mentoring Program when he arrived on campus, and they stayed in touch after the official mentoring period — one academic year — was over.

During Muñoz’s junior year at Texas State, Pattison sent him an e-mail about the Fulbright program. At the time, he was preparing for a summer internship, and he saved the e-mail but didn’t explore it further. When the internship ended later that summer, he took two and a half weeks to travel around Europe, winding up in Barcelona, Spain.

“The people were great and the whole experience there was just awesome,” Muñoz says. “I figured there had to be a way I could go back, to work and live there.”

It dawned on him when he got home that he did have that opportunity — through the Fulbright grant. He sought and received recommendations from McCoy College faculty, wrote the required essays and submitted his application. Not long before his 2011 graduation, he learned he had been accepted.

“I enjoyed learning about my students’ experiences in Spain and they really liked hearing about my experiences in the U.S.,” he says, recalling his time living in Northern Spain. “I was able to travel to different parts of the country. It was quite the experience seeing the differences in foods, music and celebrations in the South.”

—Mary-Love Bigony



MEAGHAN PATTERSON '12
B.A. in English, dance minor

One of the life lessons Meaghan Patterson learned while completing her undergraduate degree is that when you’re finding your own path in the world, it’s OK to first follow in someone else’s footsteps before blazing your own trail.

Patterson’s brother and two sisters all graduated as Bobcats. Initially, Patterson — the youngest of the four — was reluctant to follow her siblings.

“I didn’t want to come here [to Texas State] at all — because they did,” she says. “I wanted to do something different. I wanted to go out of state and do something extravagant.”

Her parents vetoed the plan, however, and Patterson soon appreciated their decision. “I’m so grateful that I did end up here, because I’ve had so many opportunities,” she says. One of those opportunities has sent her halfway around the world on a Fulbright U.S. Student Program grant.

Patterson’s Fulbright project is to bring movement therapy to women’s shelters in Bulgaria. Although she’ll spend her days teaching, she sees an enormous opportunity also to learn from her experience.

“I know as an American in Bulgaria, I’ll have a lot to teach that maybe I’m not aware of yet. But I’ve been out of the country only once — just one afternoon in Mexico while I was traveling in West Texas. This whole next year is going to be completely life-changing for me. I’m really excited about it. Scared,” she admits with a laugh, “but really excited!”

And after Bulgaria? The possibilities on Patterson’s to-do list include pursuing an M.A. in movement therapy, joining a dance company and volunteering for a stint with the Peace Corps. The road ahead knows no boundaries. “I want to stay open to whatever the world may throw at me,” she says.

—Audrey Webb



Dr. Jiong Hu leads a team in the concrete industry management program. Pictured here with student Daniel Calhoun.

A bridge not so far

Concrete Industry Management degree has many applications

For two years, Dr. Jiong Hu and a group of Texas State students examined the structural integrity of a dozen East Texas bridges, each of them at least 40 years old.

Under a grant from the Texas Department of Transportation, Hu's team performed field measurements, collected surface and core concrete specimens from bridge columns, gauged acidity levels and chemical composition in mud and water, and even used a microscope to inspect microstructure and check for cracks in the concrete. The meticulous work was conducted to search for signs of and reasons for deterioration.

After the thorough examinations, which included up to a full day's worth of field testing and sample collecting as well as several weeks of laboratory analysis at each site, the team found 11 of the bridges to be sound.

One near Port Arthur, however, had shown excessive deterioration. Team members had measured cracks up to four feet above the water line. Concrete reinforcement in some areas was exposed and corroded. Chunks of concrete had fallen from the structure.

The findings helped TxDOT later identify the bridge as unsafe, and the agency slated it for replacement.

For the Texas State students working on the project, it was an exercise no textbook could match.

"Texas State's Department of Engineering Technology is very welcoming to applied engineering/technology programs. The department deploys a very hands-on approach to learning," says Dr. Vedaraman Sriraman, Concrete Industry Management program director. "We are very industry-oriented."

That Texas State students are involved in such a niche program shouldn't surprise anyone. The concrete industry is important to Texas, which ranks second in the nation in terms of ready-mix concrete production and number of cement plants. Texas also is the second-largest consumer of concrete, surpassed only by California.

Texas State prepares students to enter this growing field with a bachelor of science degree in concrete industry management (CIM), a degree that is offered at only four other institutions in the United States. It is the only degree of its kind in Texas.

The CIM National Steering Committee, comprised of senior executives of concrete companies, developed the CIM degree program in 1996 and identified Texas State as a suitable host institution in part because the university is uniquely situated to give students direct experience in the field.

The industry's large local presence gives Texas State students a wide range of opportunities to connect directly with potential employers through field work, local internships and experts.

Texas State's CIM program consists of nine courses focused on concrete (including concrete construction methods, applications of concrete in construction, and fundamentals of concrete properties and testing) plus technology and business classes. Together, these courses provide CIM students a robust education on which they can build a career.

Since the program began at Texas State in 2009, enrollment in the CIM degree program has more than quadrupled: Thirteen students enrolled in fall 2009 and 57 registered for the fall 2012 semester.

Industry recognition of the Texas State program also has grown. Including the grant that funded Hu's research team, the university has received five highly competitive TxDOT grants, which totaled more than \$625,000.

Hu's team included several graduate students from the biology and chemistry programs and three undergraduate CIM students. As the CIM program grows, so will opportunities for further research, he says.

Hu knows the research results have the potential to affect the lives of travelers across Texas, and he takes the responsibility very seriously.

"There are many things that can go wrong with concrete," Hu says. "That's what keeps me fascinated."

—Audrey Webb

All for the children

Texas State hosts the Lady Bird Johnson Centennial Symposium on Early Childhood Education



Think “Lady Bird Johnson” and a field of wildflowers is likely to spring to mind. But did you know that in addition to her involvement with bluebonnets and yellow bells, Lady Bird also devoted her energy to helping children blossom?

On January 4, 1965, President Lyndon Johnson (class of 1930) delivered a State of the Union address in which he proposed to begin “a program in education to ensure every American child the fullest development of his mind and skills.” Later that month, in her January 14 diary entry, Lady Bird wrote: “The Head Start idea has such hope and challenge. Maybe I could help focus public attention in a favorable way on some aspects of Lyndon’s poverty program.”

As the first honorary chair of Head Start, Lady Bird devoted immeasurable time and energy to the cause. Head Start, a national organization, is still going strong: In Texas, it currently assists more than 90,000 children, providing them access to services that enhance education, health, nutrition and parent involvement.

On Nov. 8, in celebration of Lady Bird Johnson’s centennial and her contributions to Head Start, Texas State University will host a symposium in San Marcos on early childhood education. The symposium will allow practitioners, policymakers and scholars a rare opportunity to engage in face-to-face dialogue about how best to establish an environment of success for young Texans.

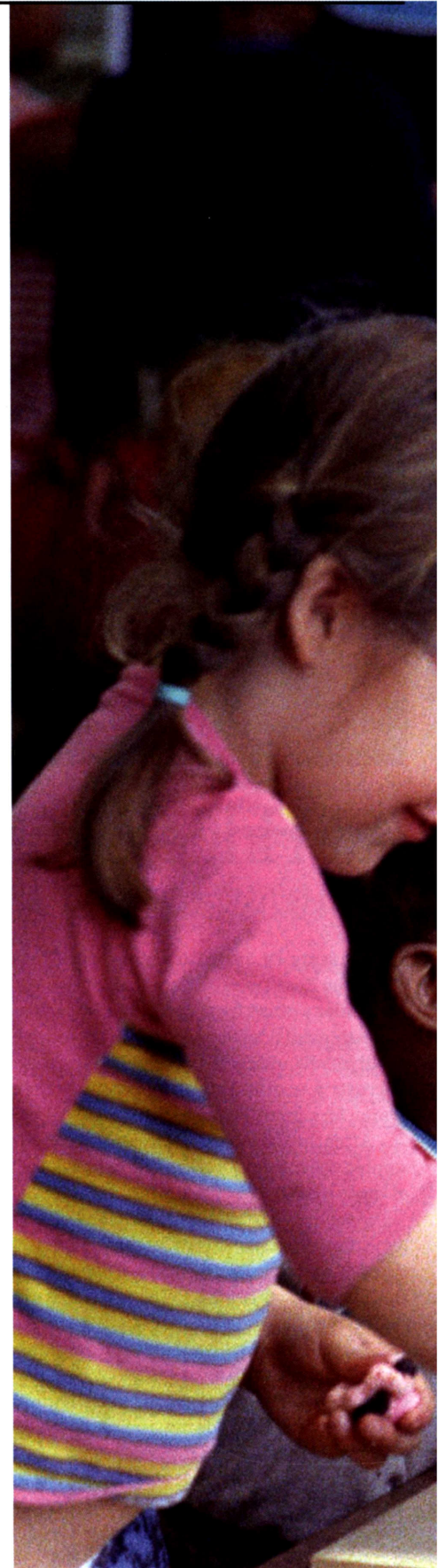
Although President Johnson first declared war on poverty 47 years ago, the battle is far from over. According to 2010 statistics from the KIDSCOUNT Data Center (a project of the Annie E. Casey Foundation that tracks U.S. children’s well-being), more than 1.75 million Texas children are living in poverty. Families with limited resources have little or no access to full-time quality care for their preschool-aged children.

“What we want most is for the cry for equity and access to be heard,” says Dr. Timothy Kinard, assistant professor in the Department of Curriculum and Instruction and a member of the symposium organizing committee. “We really feel that access to success, access to power and access to knowledge are all tied to equity.”

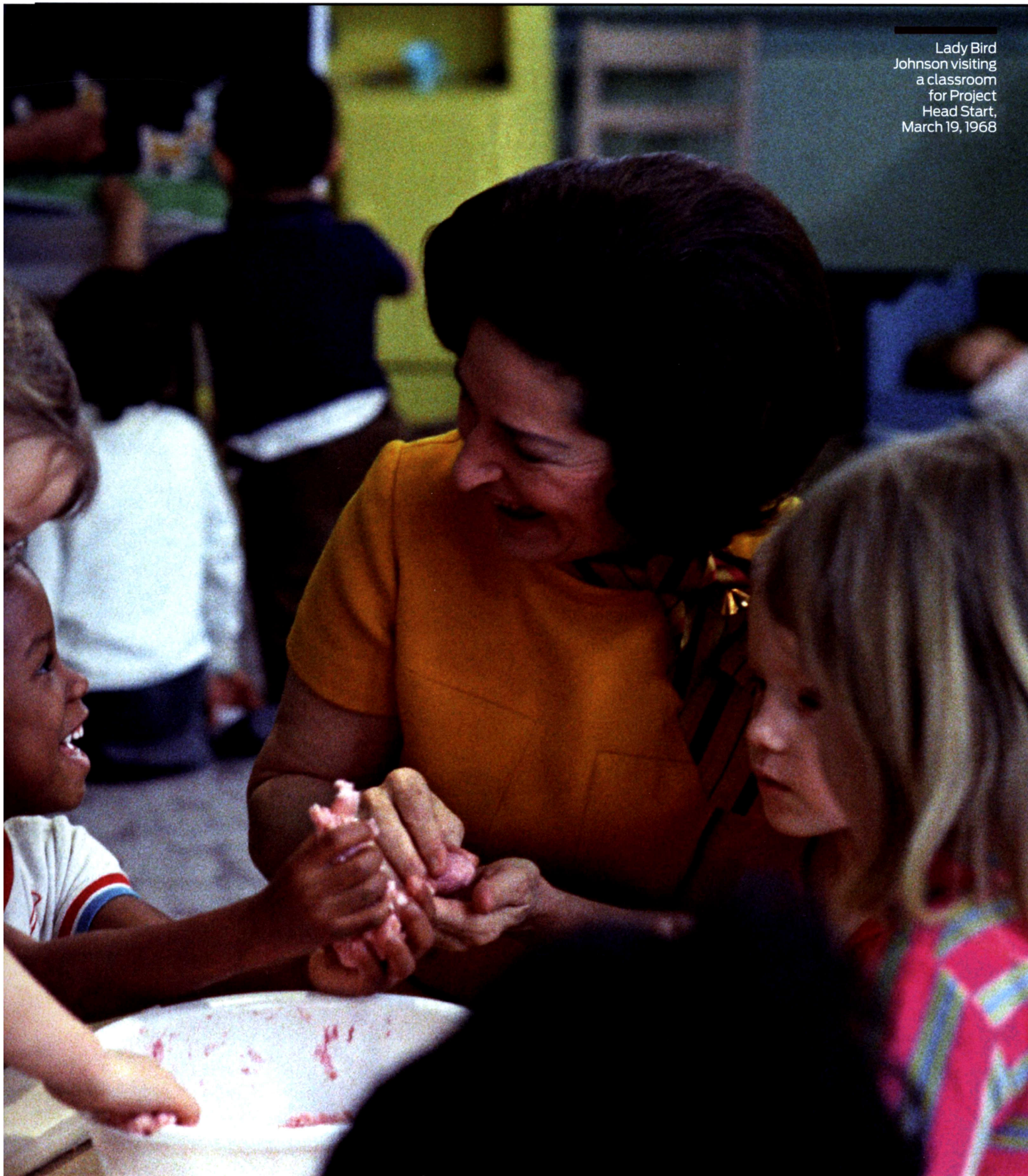
Symposium panelists will include keynote speaker Vivian Gussin Paley, recipient of a MacArthur Fellowship “Genius Grant” and author of 13 books about early childhood education; Dr. Libby Doggett from the Pew Center on the States; Audrey Abed, program operations director at Child, Inc.; and Dr. Rosana G. Rodriguez, director of development at the Intercultural Development Research Association.

Kinard says the symposium will begin a discussion that must continue, and he hopes it will result in “somebody on the floor at the State Capitol talking seriously about funding universal pre-K — at least that to begin with — universal access to full-day pre-K is really on the frontline for us right now.”

—Audrey Webb



Lady Bird Johnson visiting a classroom for Project Head Start, March 19, 1968



Meadows' gift spurs new \$10 million center for water, environmental research

A \$1 million gift from The Meadows Foundation is helping establish a \$10 million center at Texas State University that will focus on water research and water's importance to the environment.

The Meadows Center for Water and the Environment, formerly the River Systems Institute, was founded in 2002 with support from The Meadows Foundation, which recognizes Texas State as a leader in environmental preservation. The Texas State University System Board of Regents authorized the name change in August 2012.

At an August news conference in Austin, the Dallas-based foundation indicated it intends to continue funding the center over the next four years. University and foundation officials say this will account for \$5 million of the cost. The initial \$1 million gift will fund an endowment that supports work of the center's director, Andrew Sansom.

Texas State will seek other philanthropic gifts and state funds to cover the balance needed to support the new center.

The gift is directly related to The Meadows Foundation's strategic plan for the environment, which places a priority on environmental issues focused on water quantity and quality, land and habitat conservation, sustainable energy and environmental awareness.

"We are deeply grateful to The Meadows Foundation for its support of water and the environment in Texas," says Texas State President Denise Trauth. "The foundation has been a generous supporter of the university for many years and is dedicated to improving the environment in our state. Water is a core value at Texas State and The Meadows Center is uniquely poised to be a leader in this country on that topic by combining research, stewardship, education and service."

The Meadows Center will collaborate with other entities at Texas State, including the nationally recognized Department of Geography and the Aquatic Resources program in the Department of Biology. Other collaborations will involve research centers at other universities in Texas and around the world.



Officials from Texas State University and The Meadows Foundation pose with the new logo for The Meadows Center for Water and the Environment. From left are Bruce Esterline, Andrew Sansom, President Denise M. Trauth, Meadows President and CEO Linda Perryman Evans, Lee Rouse and Mike McCoy.

When fully funded, The Meadows Center will include a conservation leadership endowment for the center's director, two endowed chairs and two endowed professorships. Additionally, the Meadows Endowed Graduate Fellows program will bring outstanding students to Texas State for learning and research opportunities.

Sansom has developed a number of programs for water and environmental research with support from The Meadows Foundation, other donors and governmental entities. One of Texas' leading conservationists, Sansom is the author of six books and former executive director of the Texas Parks and Wildlife Department and The Nature Conservancy. He has received numerous national awards,

"This gift truly transforms our work."

—Andrew Sansom, Executive Director, The Meadows Center

"Establishing the center is a critical step toward our goal of preserving a sustainable supply of water to support the needs of Texas residents, wildlife and natural habitats by providing scientific research on which to base sound water management policies in Texas," says Linda Perryman Evans, president and CEO of The Meadows Foundation.

The new center has well-established ties with other entities and is supported by the three Texas agencies that address water-related issues: the Texas Water Development Board, the Texas Parks and Wildlife Department and the Texas Commission on Environmental Quality.

"This gift truly transforms our work," says Andrew Sansom, The Meadows Center director. "The Meadows Foundation commitment will enable us to build on our success; expand research into key areas such as water conservation, environmental flows, watershed protection and environmental education; and make a major contribution in the years ahead to both the economic prosperity and the environment of Texas."

including the Pugsley Medal from the National Park Foundation, the Chuck Yeager Award from the National Fish and Wildlife Foundation and the Seton Award from the National Association of Fish and Wildlife Agencies.

Algur H. and Virginia Meadows established The Meadows Foundation in 1948 to assist the people and institutions of Texas to improve the quality and circumstances of life for themselves and future generations. Since 1991, the foundation has contributed more than \$2 million to Texas State, including gifts to the university's water initiatives, its Mathworks program and the Center for the Study of the Southwest.

"Water is the only substance without which no life can exist," says Trauth. "It is clearly the most critical natural resource issue facing Texas in the coming generation and, thanks to The Meadows Foundation, Texas State will assume an even larger and more effective role in addressing it on behalf of future generations."

—Matt Flores

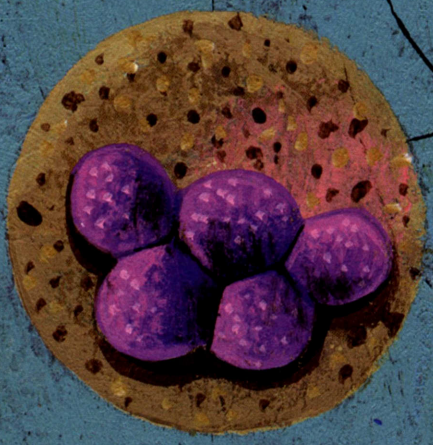
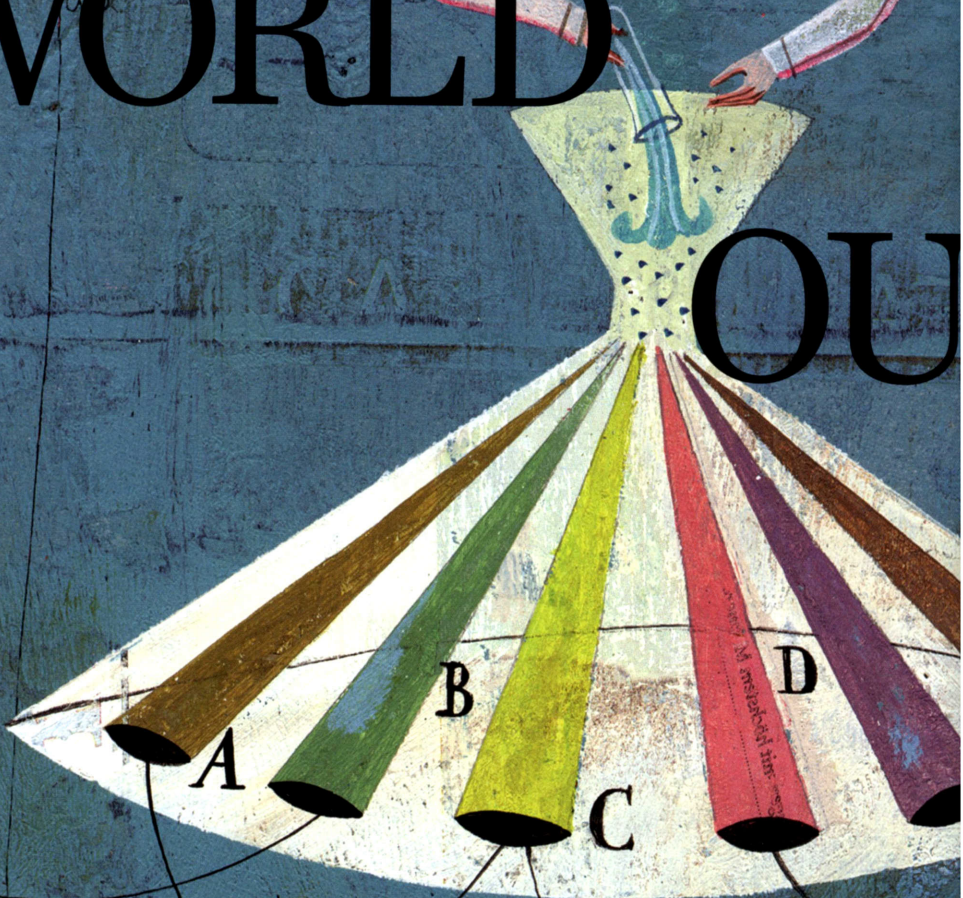


**THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT**

TEXAS STATE UNIVERSITY



YOUR WORLD



Research impacts so much of our daily lives that many of us don't fully appreciate the true breadth of its influence.

It yields new knowledge and discoveries, which enable us to better fight disease, purify our water and air, and even expand the understanding of our heritage, among other things.

At Texas State, our research spans a multitude of disciplines—from anthropology to wildlife management. We promote research with relevance, so we keenly are focused on preparing students for the future.

One could say research activity at Texas State produced an energy of its own in 2012.

In January, the state elevated our institution to Emerging Research University status, which put it in the select company of seven other research-intensive public universities in Texas seeking Tier One status, a designation reserved for the country's top-performing research institutions.

Emerging Research Universities are eligible for matching state grants that help institutions grow their research capacity. Earlier this year, Texas State was awarded a major National Science Foundation grant in a collaborative effort with North Carolina's famed Research Triangle. The \$3.1 million grant will fund research in materials science, and it partners Texas State's Department of Chemistry and Biochemistry with the triangle's Materials Research Science and Engineering Center.

But well before we achieved that status, Texas State was showing strong evidence that it was becoming a major research player in the state. Research expenditures at the university have grown to \$33.4 million, more than triple what they were in 2005. Over that same period, the university doubled its number of doctoral programs (from six to 12) and the number of doctoral students (from 178 to more than 400).

With that as a backdrop, this issue offers a wide lens on our research activities. Many other areas of research are worthy of mention, but far too numerous to review in a single issue. In future publications, we'll continue to showcase other areas of critical research that demonstrate why our university is "The rising STAR of Texas."

—Matt Flores



Illustration by Olaf Hajek

water

SINCE 2002, THE MEADOWS CENTER FOR WATER AND THE ENVIRONMENT (*formerly the River Systems Institute*) AT TEXAS STATE HAS BEEN DEEPLY COMMITTED TO PROTECTING AND PRESERVING FRESHWATER RESOURCES.

NEW NAME same mission

If anyone ever questioned how precious water was as a natural resource in Texas, 2011 provided the perfect answer. It was the state's driest year on record; more than \$7 billion in agricultural losses were reported; and nearly 90 percent of the state was suffering through what climatologists called "exceptional drought."

Cities and towns throughout the state enacted their most stringent water conservation efforts. One tiny hamlet in West Texas, Robert Lee, teetered on the brink of becoming waterless after its sole water supply, E.V. Spence Reservoir, was 99-percent empty.

Perhaps at no other time had water become such a coveted resource for so many people, not just cattle ranchers and rice farmers. Texas had weathered many droughts, but the severity of the one in 2011 provided the context for just how bad Texas' water problems could get.

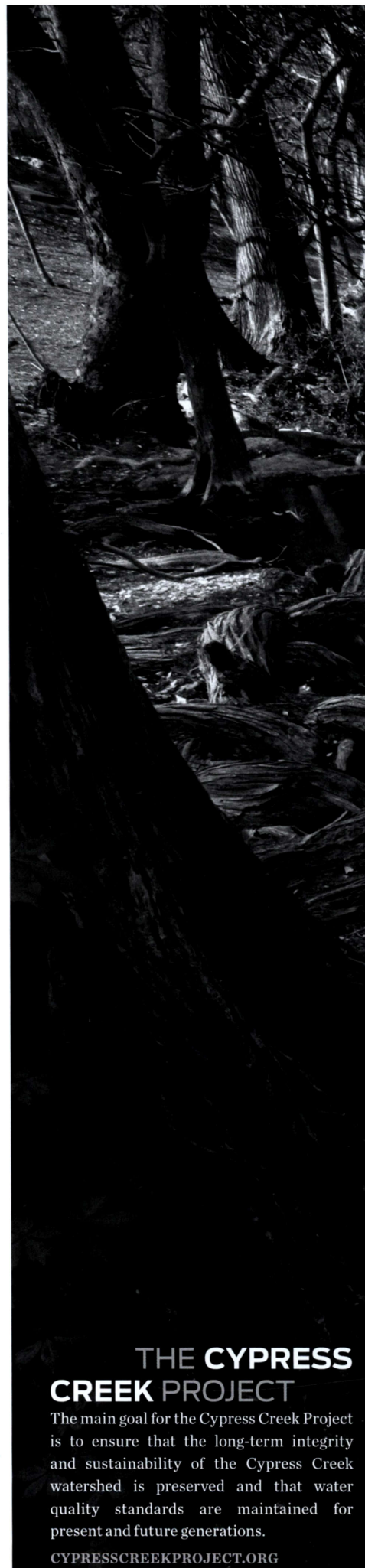
Since 2002, The Meadows Center for Water and the Environment at Texas State has been deeply committed to protecting and preserving freshwater resources. The center conducts collaborative research on main river bodies as well as springs, wetlands and estuaries, and studies the impact that activities such as recreation and tourism may have on them.

Through its many programs, the center monitors water quality at hundreds of freshwater sites, maps waterways and studies flow. The center also uses public awareness campaigns and educational initiatives to inform the public about water conservation and protection.

Among its projects are the restoration of Spring Lake at the headwaters of the San Marcos River on university property and the development of a comprehensive watershed plan for Cypress Creek in the Wimberley area. But the center's reach goes much farther, extending to virtually every corner of the state.

Lawmakers, industry experts, academics and economists agree on one thing: If the state is to prosper, it must vigorously protect its natural resources. And for Texas, water is among its most essential.

—Matt Flores



THE CYPRESS CREEK PROJECT

The main goal for the Cypress Creek Project is to ensure that the long-term integrity and sustainability of the Cypress Creek watershed is preserved and that water quality standards are maintained for present and future generations.

CYPRESSCREEKPROJECT.ORG



h2o

TEXAS
STREAM
TEAM

Monitoring water quality statewide is a huge challenge, but the Texas Stream Team — part of The Meadows Center for Water and the Environment at Texas State — has tackled it by enlisting an army of local volunteers who have a passion for protecting local waterways.

“We train volunteers, and they in turn are active with the mission, which includes education outreach and monthly monitoring,” says Jennifer Buratti, the Stream Team’s outreach specialist.

Volunteers participate in a one-day training session that teaches them to sample for pH, conductivity, dissolved oxygen, temperature and basic environmental data. After a monitoring site is determined, the volunteer can begin collecting monthly data. Experienced monitors also check for *E. coli* bacteria, nitrate-nitrogen, orthophosphates, turbidity and stream flow. The sooner the contaminants are detected, the more quickly local agencies can pursue effective clean-up measures.

Established in 1991, the Stream Team is funded by grants from the Environmental Protection Agency. The full-time staff of six oversees some 150 volunteers across the state. Partnering organizations, such as the Houston-Galveston Area Council, the City of Dallas, the Colorado River Watch Network-Austin Area and other river authorities, manage another 100 or so volunteers.

“It would be impossible to manage a statewide program for a state the size of Texas without the help of partners and all of the volunteers taking on additional roles in their groups by either coordinating training, being quality assurance officers, managing the equipment of the group or just being the overall group coordinator,” says Neal Denton, a staffer who manages the volunteer program.

To learn more about the Texas State Stream Team and how to become a volunteer monitor, visit TXSTREAMTEAM.MEADOWSCENTER.TXSTATE.EDU.

—Jayme Blaschke

A UNIQUE RESOURCE Spring Lake was created in 1845 when Edward Burleson, former vice president of the Republic of Texas, built a dam across the San Marcos River and the resulting body of water flooded the San Marcos Springs. This sealed thousands of artifacts dating as far back as 12,000 years in a protected environment and created a unique habitat that today is the home for eight endangered species. Underwater archaeologists are working to discover artifacts from civilizations that lived near the springs thousands of years ago and construct the history of human occupation of the area.

The Spring Lake aquatic restoration includes the removal of structures from the former Aquarena Springs theme park, grassland restoration and removal of exotic vegetation. The goal is to restore in-stream aquatic habitats, wetland resources and water quality to benefit resident and migratory wildlife species in Spring Lake.



spring lake

archaeological research indicates that the area
has been inhabited for more than **12,000** years

2nd largest spring
system in Texas

22°C
Spring Lake
year-round
temperature
72°F

2000

springs bubble beneath Spring Lake

home to 8 federally listed endangered species



Peck's cave amphipod



Comal Springs riffle beetle



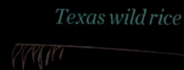
Texas blind salamander



San Marcos salamander



San Marcos gambusia



Texas wild rice



Comal Springs dryopid beetle

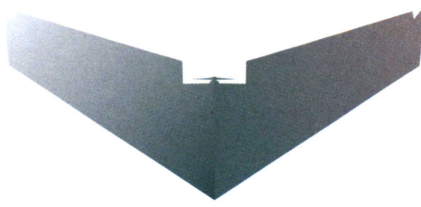


fountain darter



DRONES OVER TEXAS

by JAYME BLASCHKE



In the middle of an open pasture, Tom Heard holds a six-foot delta wing of bright yellow and red above his head. The wing trembles against the pull of a taut bungee cord.

Heard glances over his left shoulder to James Tennant, the pilot-in-charge, who gives a nod. Heard releases the craft and the delta wing swoops forward like Mighty Mouse, a yellow and red streak in the sky. Moments later, the small electric pusher-prop jumps to life, filling the air with a high-pitched whine, not unlike that of the wire-controlled Cox airplanes from decades past.

Tennant toggles the controls on a transmitter box, guiding the plane in circles around the pasture as it climbs to its cruising altitude of 400 meters. Satisfied the systems are functioning properly, he relinquishes control and lets the small aircraft begin piloting itself.

The Meadows Center for Water and the Environment at Texas State has launched another drone mission.

Mention “drone aircraft” to most people and they’ll automatically think of the imposing Predators flown by the CIA in the Middle East. In comparison, the unmanned aerial vehicles (UAV) flown by Texas State are downright underwhelming.

“Fundamentally, we wanted to develop a low-cost, unmanned, autonomous vehicle, primarily oriented toward collection of remotely sensed data from digital cameras,” explains Thom Hardy, chief science officer of The Meadows Center for the Water and the Environment, a Texas State center aimed at protecting and improving the state’s water resources.

“One of our design criteria from the outset was that it had to be off-the-shelf, Radio Shack-level technology. Our system is basically a Hobby Lobby delta-wing Styrofoam aircraft. You can take off and land from remote areas without having to have a dirt strip or highway or anything else. It’s very small. It fits in the back seat of your car.

“It has sophisticated electronics to allow it to have a GPS signal and internal navigation where you can pre-program the flight,” Hardy says. “A lot of people don’t understand it has nothing to do with domestic spying or things like that. That’s not what our mission is at the center. Our focus is on resource management.”

Any hobbyist familiar with radio-controlled airplanes would immediately recognize the various gear and materials of the UAV— and could very likely fly it as well. That was by design, part of an effort to simplify and control costs insisted on

by Hardy when he helped develop the UAV project with the Utah State University Water Research Laboratory. Peeling back the Velcro cover to the internal workings of the UAV reveals a few additions that aren’t so common on standard-issue radio-controlled planes. The UAV’s payload contains two image sensors cannibalized from Canon DSLR cameras. One of the sensors captures images in traditional visible light, while the other is modified so that it produces images in the near-infrared portion of the spectrum, a technique long used for tracking the health of vegetation and chlorophyll content.

“The more we use the plane, the more excited we become for its future applications,” says Kristy Kollaus, who graduated from Texas State in 2006, earned her master’s in aquatic resources in 2009 and now serves as the UAV team leader for flights. “For instance, the team at Utah State is testing a thermal imaging camera that will give us the ability to evaluate stream temperatures, as well as a radio antenna and receiver that will allow us to track fish and wildlife with the plane. This should reduce the costs of some of these studies and make them more practical to do. We’re excited about what the future of this UAV can hold for the field of biology and natural resource research.”

Fish were a major concern for the UAV program during the 2011 drought. When the Brazos River ran dry in sections, the Texas Parks and Wildlife Department called on Texas State to fly over the river and locate ponded areas so that native fish could be

salvaged as part of the Guadalupe black bass initiative. Halfway through a two-year evaluation period funded by a \$260,000 grant from Texas Parks and Wildlife, Texas State’s UAVs are proving to be a cost-effective alternative to traditional fixed-wing aircraft. A significant percentage of Texas Parks and Wildlife’s routine operations— monitoring the health of riparian systems, monitoring gravel mining, doing wetland inventory and even counting of nesting birds— can be completed more quickly with lower costs by using Texas State’s UAVs, no small consideration in an era of tightening state budgets.

“It’s a nice tool to broaden our scale— we can look at scales that would take a long time to cover on foot. We can fly 10 miles of river in 20 minutes, or fly over 600 acres of pasture in the same time, and keep doing it,” explains Heard, who earned his geography degree from Texas State in 1996 before coming back to complete his master’s in aquatic resources in 2008. “It’s expanded our scale and cut down on our time on the ground trying to interpret sandbars or the effects of controlled burns.

“It’s a nice tool to have in coordination with background work,” he says. “You’ve got a great picture of the river, but you’re still going to have to get data on the ground. It’s another tool in the toolbox of a biologist.”

The potential benefit for Texas agriculture could also prove significant. For the rice farming industry, UAVs offer an effective way to complete annual assessments of canal seepage and nuisance weeds. For the Utah

Water

State group Hardy works with, UAVs combined with soil moisture probes have enabled more effective timing of irrigation and improved crop conditions in dry climates — with an overall water savings of 15 percent.

“And 15 percent is huge in terms of water saving,” Hardy says, particularly with Texas facing persistent drought conditions.

Heard conducts maintenance on the aircraft and often designs the flight plan. After a successful flight, the

team will normally have, on average, around 700 high-resolution photos. Kristina Tower, currently finishing her master’s in geography at Texas State, will then use software to combine them into a mosaic to be included in the final report. She also will conduct image classification and integration in geographic information systems for analysis of the data.

Apart from the practical applications of the drones, the fact that Texas State is on the cutting edge of this type of advanced research generates no small amount of pride among The Meadows Center for the Water and the Environment team. The UAVs allow them to take Texas State’s expertise in aquatic resources and water management to an entirely new level.

“I’m shocked that I’m on the leading edge of UAV research. Every time I speak to people, they say, ‘Wow! I can’t believe you’re doing that!’” says James Tennant, a 2009 geography graduate of Texas State. He spent several years serving in the U.S. Air Force, where he worked as an aircraft mechanic, so the irony that he now flies unmanned drones is not lost on him. “It’s exciting, interesting and a little bit stressful, because you don’t want to hurt the planes but you have to sometimes push it a little,” he says.

Other agencies across the state are slowly learning about The Meadows Center for the Water and the Environment’s UAV program and what it can do for them. Already there have been discussions of other entities using the UAVs for future studies, including the Army Corps of Engineers, the U.S. Bureau of Reclamation, the U.S. Fish and Wildlife Service, the U.S. Bureau of Land Management and various water authorities, to name a few.

“A variety of non-government organizations and federal and state agencies involved in agriculture and resource management have expressed interest. Our project has been running about a year and there’s another year to go. The outcome will be an evaluation by Texas Parks and Wildlife about what they would like to use the system for. I think it’s clear already that there are some programs they will want to continue doing themselves, but there are some that will likely come to Texas State for annual monitoring because it’s just easier than keeping a full-time UAV-qualified crew up and running,” Hardy says.

Kollaus, with her cap pulled low to shield her eyes from the sun’s glare, tracks the UAV flight path on her laptop monitor. Gusty southern winds push the drone a little off course half an hour into the flight, but the on-board GPS corrects the path without Tennant having to take over. It’s almost back now, another successful mission completed.

“I see it,” Heard calls out, pointing to the clouds. A moment later, the dark speck resolves into the familiar yellow and red wing. The high-pitched engine whir follows shortly thereafter, faint and tenuous on the breeze.

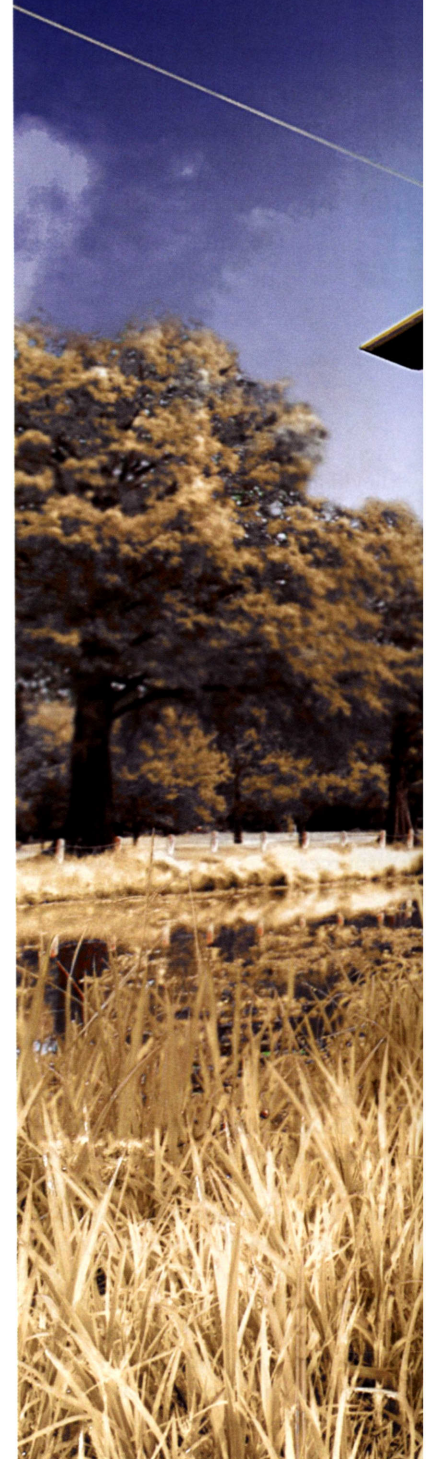
Tennant takes over from the onboard navigator, circling the pasture as the UAV drops altitude. At the last moment, he cuts power to the engine and the drone glides to a landing in the tall yellow grass just a few steps from the bungee that launched it.

Tennant grins to the team. “You are all witnesses — I just had the best landing of my career!” ☺

“I’m shocked that I’m on the leading edge of UAV research. Every time I speak to people, they say, ‘Wow! I can’t believe you’re doing that!’”

— James Tennant

YOUR WORLD. OUR RESEARCH.



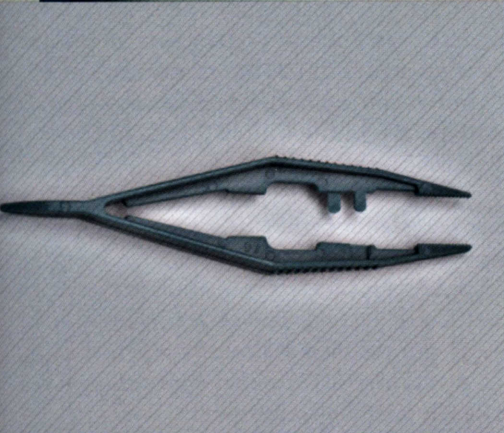


Tom Heard, James Tennant and Kristy Kollaus prepare to launch a drone in a pasture outside San Marcos.

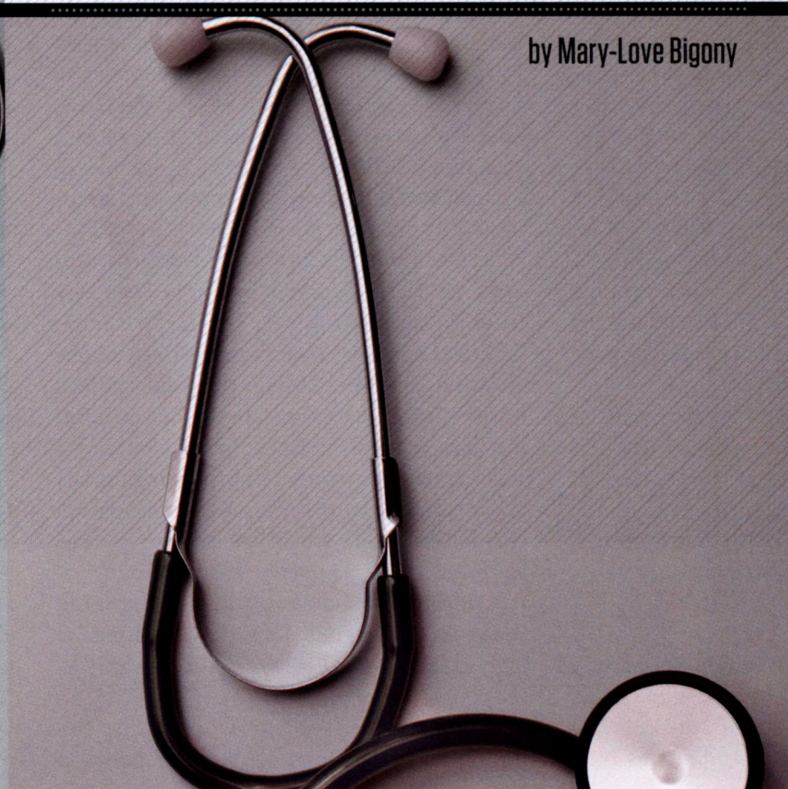
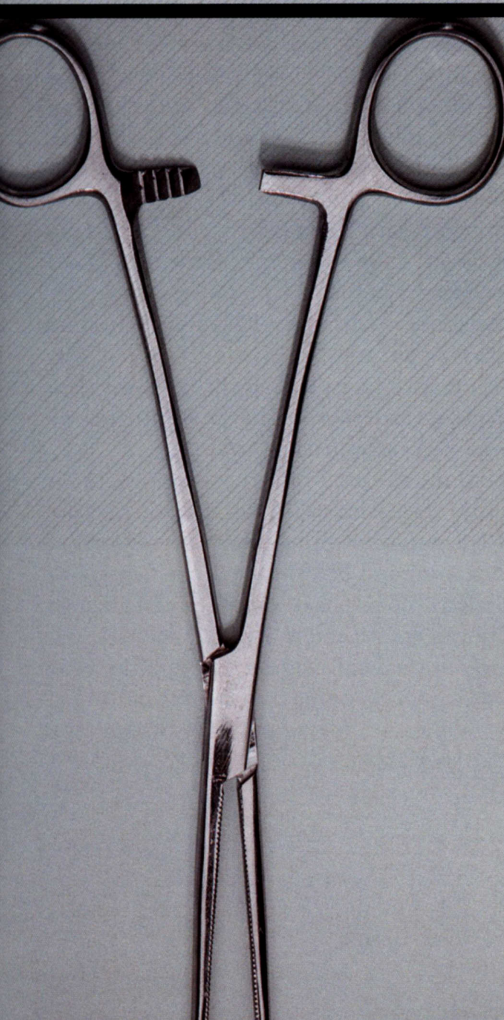
HAIs

Healthcare-associated infections in the U.S.

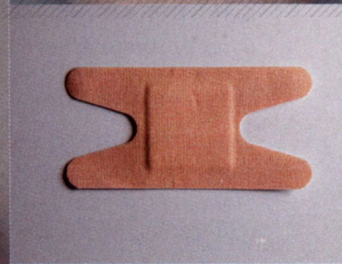
2.5 million infections per year. **100,000 deaths annually.**
\$28.4 to \$33.8 billion in annual healthcare costs.
More people die from HAIs, such as MRSA, than from HIV.



A POUND OF PREVENTION



by Mary-Love Bigony



The last place you'd expect to contract a life-threatening infection is in a hospital. But it happens.

The infection could come from the doctors or nurses or any healthcare provider who fails to wash his or her hands properly, change gloves between patients or follow strict patient quarantine measures. It could come from equipment that isn't properly disinfected, bed linens, a surgical incision that receives inadequate care or the environment in general. Pathogens could be just about anywhere.

"Healthcare-associated infections, or HAIs, are a major issue nationwide with respect to people coming into healthcare facilities and being exposed to agents that we call multiple drug-resistant organisms," says Dr. Rodney E. Rohde, associate dean for research in Texas State's College of Health Professions and associate professor of clinical laboratory science.

These multiple drug-resistant organisms include methicillin-resistant *Staphylococcus aureus* (MRSA) and a handful of others, Rohde says. "MRSA has been around and has been studied for quite some time, and it's devastating. MRSA is a bacterium that has become resistant to many of the typical antibiotics." He compares it to the more common *Staphylococcus aureus*, with which many people are familiar. "About one in three people 'carry' or are colonized with 'regular' staph in the nostrils," he says. "When you are colonized, you don't actually have an illness, but you may be more likely to acquire a staph infection or transmit it to someone. The good news is that 'regular staph' is still treatable with most first-line antibiotics."

When people are colonized with MRSA, however, it's a different story, because MRSA is resistant to those first-line antibiotics. "If not diagnosed and treated properly," Rohde says, "MRSA can lead to serious illness, complications and even death."

Diligence Pays Off

Rohde recently completed a two-year study with the first cohort of students in Texas State's St. David's School of Nursing. He and his team followed the students as they

completed their clinical training in different settings. At the end of the two years, he did not see a rise in MRSA or *S. aureus* among the student nurses.

"I think what happened is that because the student nurses were aware of the study, and we were talking to them and doing nasal cultures every three or four months, they were more diligent about hand washing, personal hygiene and barrier nursing techniques," Rohde says. "And that actually played a part in not allowing those students to become colonized with MRSA or other types of pathogens. The implication is that this kind of diligence ultimately will better protect all patients from acquiring an HAI." The study was published as an interim report in the 2012 spring issue of the professional journal *Clinical Laboratory Science*. A final report is being prepared for publication.

Rohde says people have known for decades that hand hygiene and other types of protection for patients should be in place in all healthcare facilities. "But we know that when people are in a hurry and no one is watching, hand-washing rates go all over the place," he says.

The Healthcare Environment

Rohde recently was appointed to the Healthcare Environmental Disinfection Advisory Board of Johnson & Johnson's Advanced Sterilization Products Division, which will focus on the impact of the healthcare environment on HAIs, how the hospital environment contributes, common infectious agents and how they are spread, and environmental contributors to morbidity and mortality.

"The board is looking at MRSA and other HAIs, too," Rohde says. "There's a new focus on the environment inside healthcare facilities and we're asking questions about cleaning personnel and how that could affect a hospital's HAI rate. For example, one hospital may have enough funding to have full-time on-staff cleaning personnel who follow regimens about proper disinfection, sterilization with chemical agents or other types of things. Other hospitals may not allocate that funding."

He says that some hospitals are beginning to investigate using UV lights in rooms or foggers that spread hydrogen peroxide around the room.

"As a committee, we're looking at the possibility of the environment being a

reservoir of pathogens and coming up with some recommendations about that," he says. "In 2009, the American Care and Recovery Act put out \$50 million to the states and territories for investigating HAIs and public reporting, so there's a lot going on right now."

Rohde says that Texas is one of 27 states where public reporting is mandated. "Any citizen will be able to look at a website and find rates for infections in certain designated surgical site incisions or with CLABSIs, which are central line-associated bloodstream infections."

Informed and Aware

HAIs cost the United States \$28.4 to \$33.8 billion a year, Rohde says. Deaths from HAIs are approaching 100,000 annually and about 2.5 million infections per year are recorded. More people in the United States die from HAIs than from HIV.

"It's a huge problem that for decades has been percolating at the surface, but in the last five to 10 years, it's really come to the forefront," Rohde says. "It's not a critique of any particular healthcare system, but as a consumer of healthcare, you should be comfortable that you can go into a facility and not acquire an illness or deadly microbial infections."

Rohde says that healthcare consumers should learn to ask whether the people providing treatment have washed their hands. If a provider comes into your hospital room wearing gloves, ask that the gloves be changed.

"People think about devastating diseases like HIV or Ebola, and they think about foreign places," Rohde says. "But HAIs can be devastating and they're right here in our backyard, whether it's the dialysis clinic your uncle goes to or the hospital you're going into to have your tonsils removed. Or even your own family care place, if there's some type of on-site procedure going on. As a public, we need to be informed and aware."

Rohde's ongoing research includes future discussions with the St. David's School of Nursing as well as other institutions of education and healthcare. "The College of Health Professions is composed of dedicated clinical practitioners and faculty from all parts of the healthcare spectrum," he says, "and we are changing the research culture to become leaders for patient safety and quality at all levels." ☺

#1
Coagulase-negative
staphylococci

#2
Staphylococcus
aureus

#3
Enterococcus
species

#4
Candida
species

#5
Escherichia
coli

#7
Klebsiella
pneumoniae

#6
Pseudomonas
aeruginosa

#8
Enterobacter
species

#9
Acinetobacter
baumannii

#10
Klebsiella oxytoca

TEN MOST COMMON PATHOGENS

nutrition research

PROBIOTIC WEIGHT LOSS

Approximately 1,000 species of bacteria live in the human intestinal tract. Many of these microorganisms perform useful functions, such as impeding the growth of harmful varieties of bacteria. Others can affect how our bodies store fat.

Dr. Vatsala Maitin, an assistant professor in the School of Family and Consumer Sciences, is leading a team of graduate and postdoctoral researchers to determine if 'beneficial' alterations in gut flora introduced by dietary means such as probiotics and prebiotics can influence obesity and our bodies' metabolism.

"We are presently investigating the effects of probiotics on a protein called Fasting Induced Adipocyte Factor (FIAF), a regulator of fat storage in the body," says Maitin. In a pilot clinical study of healthy overweight individuals, her research team is looking at the influence of ingesting probiotics and prebiotics — such as those found in fermented milk products, many vegetables and whole grains — on gut flora, body composition and a few related metabolic biomarkers. They expect this approach to enrich the numbers of beneficial bacteria like *Bifidobacterium* species in the gut and promote favorable changes in body composition, since low numbers of these bacteria have previously been reported in obese individuals.

BEST FOOD FITS

Dr. Sylvia Crixell, professor in the School of Family and Consumer Sciences, and graduate student Julia VonBank founded Best Food for Families, Infants and Toddlers (Best Food FITS) after they examined the eating practices of a sample of infants and toddlers in San Marcos. Research indicated these children had a high intake of sugar-sweetened beverages and little to no consumption of fruits and vegetables. The team also discovered that among local eighth-graders, overweight and obesity rates were more than 50 percent.

The team hypothesized that modifying the eating environment in San Marcos could influence taste preferences in young children and result in reduced rates of childhood obesity. Thanks to Best Food FITS, 17 San Marcos restaurants have altered their menus or introduced children's menus to feature healthier options.

SPICE OF LIFE

Dr. Dhiraj Vattem, associate professor of nutritional biomedicine and biotechnology, focuses his research on the effects of herbs and spices on neurodegenerative pathologies. His laboratory has recently shown that in animal models, treatment with cinnamon and sage can prevent the development and progression of both Alzheimer's and Parkinson's diseases.



BOBCAT BLEND

Jen Sembera, a graduate student in the Department of Agriculture, is harvesting and incorporating food waste collected from Texas State cafeterias for use in a composting experiment. The purpose of her study is to investigate whether a natural compost system can offer an effective alternative means of managing invasive plant species, including brown algae (*Sargassum natans* and *Sargassum fluitans*) and wild taro (*Colocasia esculenta*), while creating a profitable byproduct — compost she calls “Bobcat Blend” — for use in agriculture, horticulture and related markets.

Colorectal cancer is the third most commonly diagnosed cancer and the third leading cause of cancer death in both men and women in the United States.

—*Colorectal Cancer Facts and Figures 2011-2013*,
a publication of the American Cancer Society, Atlanta, Georgia

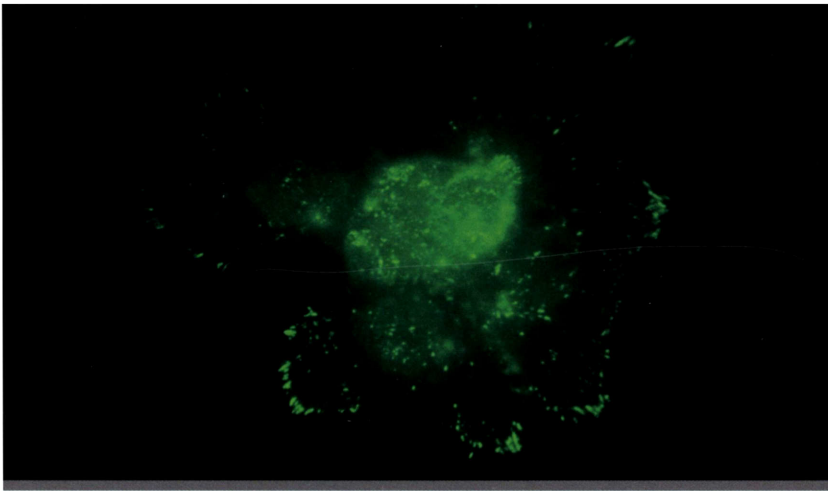


TARGET:

Colon Cancer

Could the first vitamin ever discovered hold the key to treating one of the deadliest cancers?

by Mary-Love Bigony



“Since my training is in nutrition, I decided to look at how diet — specifically vitamin A — affects colon cancer progression. The form of vitamin A we eat is a compound called retinol. So I look at retinol, and 99 percent of the other researchers look at retinoic acid.”

—Dr. Michelle Lane

Dr. Michelle Lane, an associate professor in the nutrition and foods program at Texas State, is researching the molecular mechanism by which vitamin A prevents colon cancer metastasis. Colorectal cancer is the third most common form of cancer in the United States, with a five-year survival rate of only 10 percent for patients with metastasis.

She says most people who study vitamin A look at retinoic acid, a metabolite of vitamin A. Retinoic acid is used in chemotherapy for leukemia and some forms of skin cancer, but chemotherapy with retinoic acid can produce undesirable side effects, and many tumors become resistant to it.

“Since my training is in nutrition,” she says, “I decided to look at how diet — specifically vitamin A — affects colon cancer progression. The form of vitamin A we eat is a compound called retinol. So I look at retinol, and 99 percent of the other researchers look at retinoic acid.”

Although scientists previously thought retinol was not an effective cancer treatment, Lane’s research shows it stops or slows the growth of tumors. “With colon cancer,” she says, “it’s not the primary tumor that kills you, it’s the metastasis. We know that the enzyme PI3K (phosphatidylinositol 3-kinase) is what regulates the metastatic process, and we know that vitamin A can stop it.”

Lane’s laboratory is examining how retinol interacts with PI3K and the signaling molecules regulated by PI3K to inhibit colon cancer cell invasion. “We go through and overexpress or block each gene in the pathway that we think is controlling how these cells invade.”

She says colon cancer is the best model to study how dietary vitamin A can affect



Lane’s research on Vitamin A (retinol) shows it stops or slows the growth of tumors.

the metastatic process. “With colon cancer, you can increase the amount of retinol in the lumen of the intestine and the cancer cells metastasize to the liver, where we store vitamin A. You can get high concentrations in the colon and in the liver.

“You absorb vitamin A and store it in your liver, and that’s where the metastasis moves to,” she continues. “So if you could block the metastatic process to any organ, it would be the liver. And we can.”

Lane says she “fell in love with vitamin A,” found typically in dairy products and liver, as a postdoctoral researcher at Cornell University’s Weill Medical College. “Vitamin A was the very first vitamin discovered at the turn of the century, because its effects are so strong. During development, vitamin A controls what’s your head, what are your toes, what are your fingers. It controls the pattern of your body.”

Since vitamin A is a powerful force against colon cancer metastasis, should people consider taking it as a preventive? No, Lane says. “I don’t recommend that anyone take excess vitamin A. Both its deficiency and its toxicity have real problems.

“Too little vitamin A causes night blindness and a lot of other problems. Too much vitamin A causes *pseudotumor cerebri*, which is increased intracranial pressure that causes headaches. In infants, the fontanel actually bulges.”

The National Cancer Institute, the American Cancer Society and the American Institute for Cancer Research have funded Lane’s work. She plans to seek additional grant funding to continue her research into halting colon cancer metastasis. 🍌

PSYCHOLOGY of AD



ADDITION

ADDICTION HAS A STAGGERING IMPACT ON SOCIETY. THE NATIONAL INSTITUTES OF HEALTH ESTIMATES THAT THE TOTAL COST OF ALCOHOL, TOBACCO AND DRUG ABUSE IN THE UNITED STATES — INCLUDING HEALTH- AND CRIME-RELATED COSTS AS WELL AS LOSSES IN PRODUCTIVITY — EXCEEDS HALF A TRILLION DOLLARS ANNUALLY.

by *Mary-Love Bigony*

► Professors in the Department of Psychology at Texas State University are researching how addictions begin and are devising new methods to treat them. By studying stress, risk-taking behavior and other factors, they approach addiction as a preventable disease.

ALCOHOL AND STRESS

Professors Natalie Ceballos and Reiko Graham are studying the reactions of social drinkers — most of them college students — to pictures of alcohol as compared to pictures of neutral control items before and after a stressful event. Funded by a grant from the Integrative Neuroscience Initiative on Alcoholism and Stress, the professors looked at P300 responses, brainwaves that happen in response to rare target information.

The professors started the process by interviewing each of the subjects. “We needed to find out what they expected from alcohol,” Ceballos says. “Our hypothesis was that people who drink to relieve stress, or think they drink for that purpose, might respond differently to pictures of alcoholic drinks before and after stress even if they’re not drinking.”

To create stress, Ceballos and Graham asked the test subjects to complete a complicated math problem under a strict time constraint. “They said that the task made them anxious,” Ceballos says. “We ran them through the alcohol picture test again. And it seemed like the stress effect was showing.”

The researchers were able to show that these effects began within milliseconds of participants encountering alcohol-related pictures, before they had time to consciously reflect on what they were seeing.

“When people are stressed, they may be more susceptible to engaging in behaviors like alcohol consumption,” Ceballos says, “in part because of the way that alcohol-related images — like those seen in advertisements — automatically capture their attention.”

SMOKING AND RISK-TAKING

Dr. Ty Schepis, also in the Department of Psychology, is studying adolescents and young adults who are trying to quit smoking.

“Research has shown that impulsive people have a harder time quitting and sticking with it,” he says. “A lot of people use smoking to cope and to deal with stress. I did a small study looking at this, and found that among adolescents who were trying to quit smoking, it wasn’t impulsivity quite as much as it was risk-taking. They took more risks after getting stressed, and smoking, of course, is risky.”

Schepis studies smokers and nonsmokers. “The first time they come in we measure their personality, life stress, coping and things like that,” he says. “They also tell me about a recent situation they were in where they were really stressed and a couple of things they like to do to relax.

“For the second session, they come in relaxed and do a set of tasks, one that measures impulsivity and one that measures risk-taking. Then

they listen to a description of their stressful situation. And then they redo the tasks that measure impulsivity and risk-taking.”

The goal, Schepis says, is to develop treatments for people who are more impulsive or more apt to take risks. “Whether it’s giving them some concrete strategies to deal with stress or ways to avoid stress,” he says, “the goal is to take the current treatments and improve upon them.”

Schepis has received a grant from the National Institutes of Health through the National Institute on Drug Abuse to extend research on smoking and stress to young adults.

BODY MASS, DIETING AND PICTURES OF FOOD

Texas State researchers also are studying dieters, and how their cravings can be very similar to those normally associated with drug and alcohol addiction.

In a study published in the research journal *Appetite* in 2011, Graham and Ceballos, in collaboration with Professor Oleg Komogortsev of Texas State’s Department of Computer Science, tracked participants’ eye movements while they looked at images of different foods: high-calorie sweet foods like cake, high-calorie savory foods like cheeseburgers and low-calorie foods like vegetables and fruits. The researchers measured participants’ body mass indices (BMIs), hunger levels, cravings and how often they dieted.

“Overall, underweight or normal weight participants, as a group, did not differ from a group of overweight or obese participants in terms of the amount of time they spent looking at the different types of food,” Ceballos says.

“However, when the overweight or obese participants were given a choice between the two, they were more likely to direct their attention to fruits and vegetables first and avoid looking at the higher calorie options,” she continues. “Their pupils became smaller when they looked at high-calorie sweet foods compared to low-calorie foods, suggesting that high-calorie sweet foods were not as appealing to them as fruits and vegetables.”


She says that this pattern may be at least partially explained by dieting practices: overweight or obese individuals who frequently diet may develop negative automatic responses toward pictures of high-calorie foods, especially sweets.

The underweight/normal weight group showed a more positive response to high-calorie foods. This group also showed a stronger relationship between food cravings and arousal-related increases in pupil diameter to high-calorie savory foods.

Binge eating and other forms of uncontrolled food consumption that may lead to obesity share physiological and cognitive similarities with other forms of addiction, Ceballos says. Positive attitudes toward certain types of food could have a powerful effect on cravings and subsequent consumption patterns. ❖


The Creat

Far from waiting for a muse, artists pursue inspiration through research.



The creative process is different for every artist, scientist, academic and entrepreneur. Each employs a unique method of gathering, developing and defining the ideas that become their work.

In scientific fields, this method is easily recognized as formal research: the biochemist reviewing test results in a lab; the aquatic scientist testing water content in a lake; the anthropologist poring over museum archives. Creative fields, on the other hand, rarely apply any semblance of such activities.



For creative writers, research crafts vision and excavates details.

Many envision a creative writer as a free-spirited bohemian worked into a frenzy by a muse, or a tortured soul typing in monkish solitude. Far from these tropes, creative writers rely on the day-to-day practice of research.

The faculty of Texas State's nationally esteemed Creative Writing M.F.A. program — National Book Award winners, Guggenheim fellows and National Endowment for the Arts grantees — are luminaries in their literary fields. Among them, three distinguished writers reveal the role of research in their creative work.

ion Myth

by Billi London-Gray

RESEARCH BUILDS WORLDS

Novelist Nelly Rosario is a stickler for details; her narratives and historical fiction are supported by true-to-life elements. “Research is definitely critical to my overall work,” she says, explaining that real-world facts “can breathe life and add texture” into her stories.

On a broader level, her research forms the basis of her characters and the places they inhabit — from the Dominican women in her novel, *Song of the Water Saints*, to a beekeeping Iraq War veteran in a recent short story.

“My creative work is fueled by what-ifs and whys. Research helps me discover possible answers, sometimes even more questions,” she says. For example, what is it about an apiary that can hold a war veteran’s interest? “Here, research can help to connect the seemingly unrelated dots of bees and war: Bees are trained to find buried land mines. Research can also allow for play with perspective: The mystic considers the green rain in Calcutta a spiritual phenomenon; the scientist understands that the rain is colored by bee feces full of pollen from local mangoes, as was reported by Reuters in 2002.”

Rosario teaches a graduate-level seminar that centers on the effective use of research in writing fiction. Covering research methods — libraries, online resources, interviews, public archives — she and her students examine stories that “wear the writers’ research lightly,” which is the ultimate goal of incorporating those real-world details into fiction.

“As architects of artificial worlds, novelists should be adept at conducting research so that the reader can submit to the patterns and internal realities of their stories,” she says. “Writing is like trying to create a dream from which the dreamer does

CREATIVE WRITING FACULTY | RECENT BOOKS



Cyrus Cassells, *The Crossed-Out Swastika*
(Copper Canyon Press, 2012)

Cristina García, *Dreams of Significant Girls*
(Simon & Schuster Books For Young Readers, 2011)

Cristina García, *The Lady Matador's Hotel*
(Scribner, 2010)

Tom Grimes, *Mentor: A Memoir*
(Tin House Books, 2010)

Debra Monroe, *On the Outskirts of Normal*
(SMU Press, 2010)

not want to wake, and research is among the tools the writer of that dream has at hand.”

RESEARCH ABSORBS THE WORLD

Dr. Debra Monroe concentrates her creative energy on nonfiction writing, exemplified by her 2010 memoir, *On the Outskirts of Normal*. While she occasionally digs for specific facts, she considers her research to be two other modes of investigation: paying close attention to the world around her and continuously studying the history of the novel — its forms, conventions, devices and modes.

“Research happens all the time in subtle ways,” she says, citing everyday examples such as overhearing conversations at the grocery store and reading the newspaper. “If you are deeply immersed in the writing process, many things feel relevant.”

She defines this sort of research — having a keen eye for germane details — as “a state of receptivity. It’s having unanswered questions and being ready for information that speaks to it.”

Her study of the history of the novel, which stemmed from her doctoral dissertation,

informs everything she writes. “That research feeds my writing every single minute,” she says. The reason, she explains, is that the form of a story is as critical to its conveyance as the words used to tell it.

“Every new subject is unfamiliar — to the writer, to the reader. But narrative forms can’t be entirely brand new or they’d be incomprehensible. They are our unconscious inheritance,” she says. “Studying centuries of story forms helps give unwieldy subjects a lovely shape, and these forms give the reader familiar access to unfamiliar material.”

For Monroe, this formal research results in expanded structural knowledge about writing, rather than information for one particular project. Her own aphorism says it best: “One story form is a recipe. But hundreds are a repertoire.”

RESEARCH SATURATES THE MIND

Poet Kathleen Peirce approaches research with the aim of transforming, rather than transferring, her findings into her writing. She researches intensely and steeps information about a particular subject — “whatever

materials interest me in a real way,” she says — until the poetic brew is ready.

She composed her fourth book of poetry, *The Ardors*, by studying stories, articles, photographs, literary references and artwork related to pearls. “I immersed myself, and I wrote what came to me,” she says.

Using this process, Peirce offers a wide-angle definition of research: “the act of thinking in the company of others.” Such a view gathers light from the spectrum of experience and knowledge, focusing it into an expression or refracting it into something that looks completely different.

“In my creative process, I welcome a state of mind that travels in what might sound like two directions at once,” she explains. “I gather close what’s important to me because it may be useful or beautiful or baffling to me. I take it in. At the same time, I generate an intense vulnerability to whatever turns or stops my thinking might take in response to what I’ve gathered and taken in. Writing gives the encounter voice and form. I suppose it’s sort of like being lost in a labyrinth of one’s own making while one is making it.” ❀



POETRY | KATHLEEN PEIRCE, Professor of English

“*The Ardors* was built with the intention of including a pearl, or pearliness, or some aspect of pearl lore or pearl value in as many poems as I could make. I wanted to see — in pearl-like fashion — what shapes obsession might take. I wanted to see how far I could go, how variously, and this meant reading a great deal about pearls, their biology, folklore, gradations, harvest, fragility, shine. I looked at photographs of famous pearls. I read about the lives of pearl divers, and pearl farms. I kept Shakespeare’s lines from *The Tempest* within reach: ‘Those are pearls that were his eyes.’ I didn’t write poems about these things exactly. I immersed myself, and I wrote what came to me.”

FONDLE PEARLS AND THEY’RE QUICK TO FLY

Outermost nacreous layer where reflection was made constantly to bend is how the pearl turned, even when at rest, like the simple hunger of the dead brought to bear on the smell of baking bread, then felt by us as peacefulness when bending toward a loaf, a slice, a crumb. In this way we felt acted on as well as left alone, at every turn reawakening with variation, with the sense of previous bearings as well as those we lacked. We saw ourselves not in the pearls we found, but in the pearls too deep, too underneath, that went unseen and were increased. These lay together in our minds; with these we made adornments for someone.

“Fondle Pearls and They’re Quick to Fly” from *The Ardors*, Copyright 2004 by Kathleen Peirce, used by permission of Copper Canyon Press, www.coppercanyonpress.org.

Nurturing the Craft

The Creative Writing M.F.A. program at Texas State is a springboard for emerging writers. Visits by internationally known writers bring the literary world to campus. Award-winning poets and writers form the faculty, giving students the mentorship and nurturing critiques required to hone their craft. A range of generous scholarships, fellowships and residencies provide writers with the most essential fuel for creative growth: time.

L.D. CLARK AND LAVERNE HARRELL CLARK LITERARY ENDOWMENT AND RESIDENCY

The Clark writer-in-residence, selected from graduating M.F.A. students, lives and writes for part of the year in a historic Smithville home. As the endowment grows, it will eventually fund two fiction awards and residencies.

W. MORGAN AND LOU CLAIRE ROSE ENDOWED FELLOWSHIP

Rose fellows, selected from entering M.F.A. students, receive a three-year scholarship and engage in research related to the creative writing process.

KATHERINE ANNE PORTER LITERARY CENTER AND RESIDENCY

Pulitzer Prize-winning novelist Katherine Anne Porter spent her childhood in a quaint three-bedroom home 10 miles from the Texas State campus. The restored building — now a National Literary Landmark — serves as a writer's residence for select M.F.A. students and hosts readings by visiting writers.

FRONT PORCH JOURNAL

M.F.A. students gain publishing experience and connect with writers around the country through work on *Front Porch*, a nationally known online literary journal that includes new fiction, poetry, essays and videos of visiting-writer readings and Q & As.

ENDOWED CHAIR IN CREATIVE WRITING

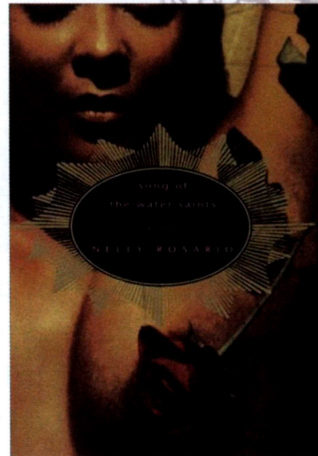
Each year, the chair teaches a graduate workshop and conducts one-on-one critiques with M.F.A. students. The chair holder also visits classes for Q & As, gives one reading and delivers three talks on writing. National Book Award winner Cristina García will hold the chair from 2012 to 2014.

www.mfatxstate.com

NON-FICTION WRITING | DR. DEBRA MONROE, Professor of English

"I continue to research the history of the novel; the history of forms; the history of point of view, etc. That research feeds my writing every single minute. Studying centuries of story forms helps give unwieldy subjects a lovely shape, and these forms give the reader familiar access to unfamiliar material."

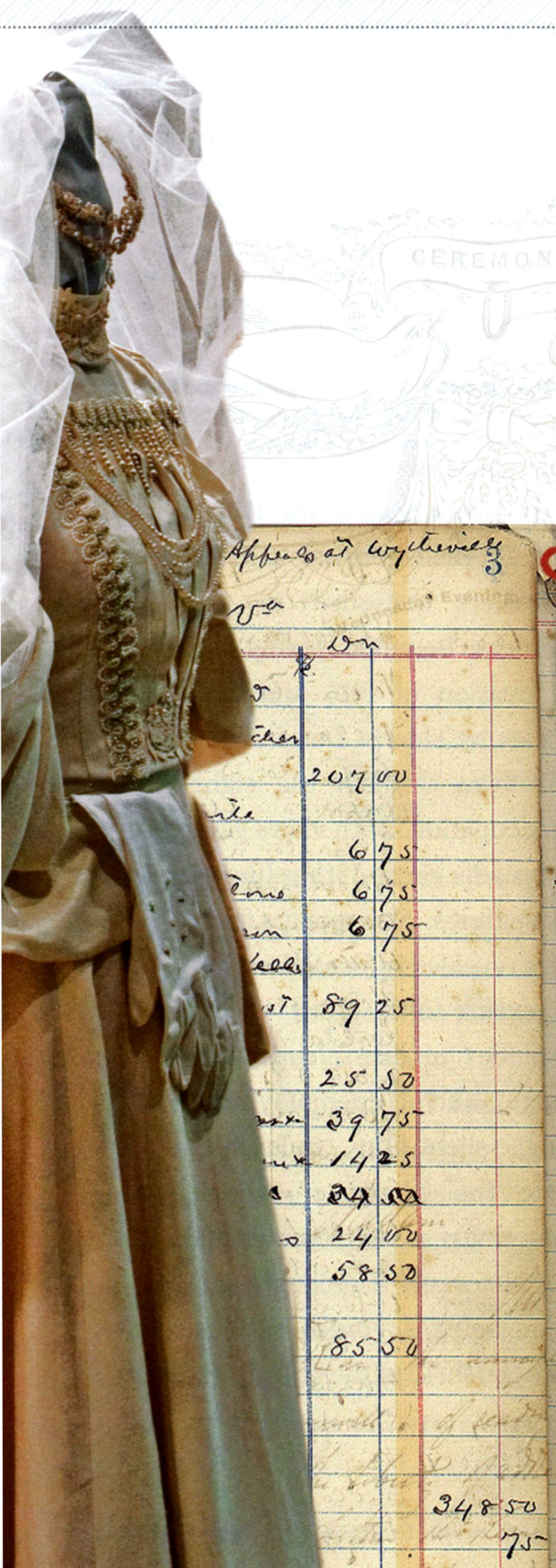
FICTION WRITING | NELLY ROSARIO, Assistant Professor of English



*"For the novel *Song of the Water Saints*, I read journal entries by soldiers stationed in the Dominican Republic during the U.S. invasion of 1916 and oral histories by elderly Dominicans who'd lived through the eight-year occupation. Both views gave me a broader sense of the climate of those times. Newspapers from the era revealed information that gave texture to the story — stuff like modes of dress, consumer brands and unemployment among silent-film musicians due to the advent of talkies. Conducting research reminds me that I'm forever a student, and I enjoy being a gumshoe. Plus, there's the thrill of the hunt."*

On the Origin of Ideas

From crafting jazz compositions to addressing border issues through photography to training Broadway's future stars, Texas State faculty members explain how research is in the DNA of creative endeavors.



Restoring the Past

“I have a personal collection of more than 200 antique wedding gowns. What’s interesting about restoring these pieces is the research. The oldest is a dress from Creole, La., dating to 1842. When I began to conserve this dress, some things didn’t add up to the time period: stitches, fabrics. I researched its provenance. Wedding dresses are the easiest on which to find provenance, because people keep records about them: court records, family bibles, diaries, invitations, oral history. Probably originally it was a ball gown from the 1830s and some pieces were added to it. Then it was used again later in the 19th century, so it had additional changes. The dress has the history of a family.”

DR. ANN DUPONT
Senior Lecturer in the
School of Family and Consumer Sciences



Preparing Actors

“Rather than restricting the actor’s imagination, research sets it free. Research into the real world expands our knowledge and experience for living in the playwright’s imaginary world. Through research, the actor builds confidence in his craft and artistic choices. At its best, the creative process carries us into the unknown, into a sea of questions. Research doesn’t always give us all the answers, but it does inspire us to search for them in imaginative ways.

“For my acting students, research assists them as they explore the imaginary world, making it ‘real’ by immersing themselves in worlds beyond their personal experiences. One of the classes I teach is Acting Realism; my students have to do extensive research into their characters. It’s far easier to play a role if you’ve made choices that are grounded in the reality of the world you’re portraying.

“For an actor or any artist, if you draw only from what you already know, the work you do will be limited and not very interesting. Your audience wants to experience something new. It is the artist’s responsibility to take them beyond what they already know by exciting their imagination.”

MICHAEL COSTELLO, *Professor in the Department of Theatre and Dance*

Creating Photographic Narratives



JASON REED, *Assistant Professor of Photography in the
School of Art and Design*



Installation of *Without Being Seen*
Photographs sourced from U.S. Border Protection Archives
Cropped and printed by artist
Archival inkjet prints, 16"x20"

“Most of my work is related to the Texas-Mexico borderland region, which is a complex socio-political environment that must be navigated with an understanding of its history and its contemporary situation. My work stems from

questions; I start by reading, writing and looking at data regarding these questions, and only after [achieving] some good amount of understanding do I start to make pictures and create artwork.”

Tommy Fitzpatrick
Transverse (2012)
Acrylic on canvas, 45"x30"

Painting Architectural Ideas

“Research is probably the most important activity an artist can do during the creative process. My painting ‘Nest’ was from a photograph I took [at Beijing National Stadium]; it’s an observational kind of painting. That painting led me to research Herzog & de Meuron, its architects. They also did the Prada store in Tokyo. I visited and photographed that, too. Then I started researching the Prada building and found a really nice text at Alkek Library showing their creative process — it wasn’t about their buildings, but about all the research they did to come up with the designs. I’ve got a new body of work influenced by the images in this book. These paintings are a big change for me. None of the colors are real at all. Some are monochrome. My ideas are not from the real world, like in my previous work, but from this book.”

TOMMY FITZPATRICK
*Assistant Professor of Painting in the
School of Art and Design*

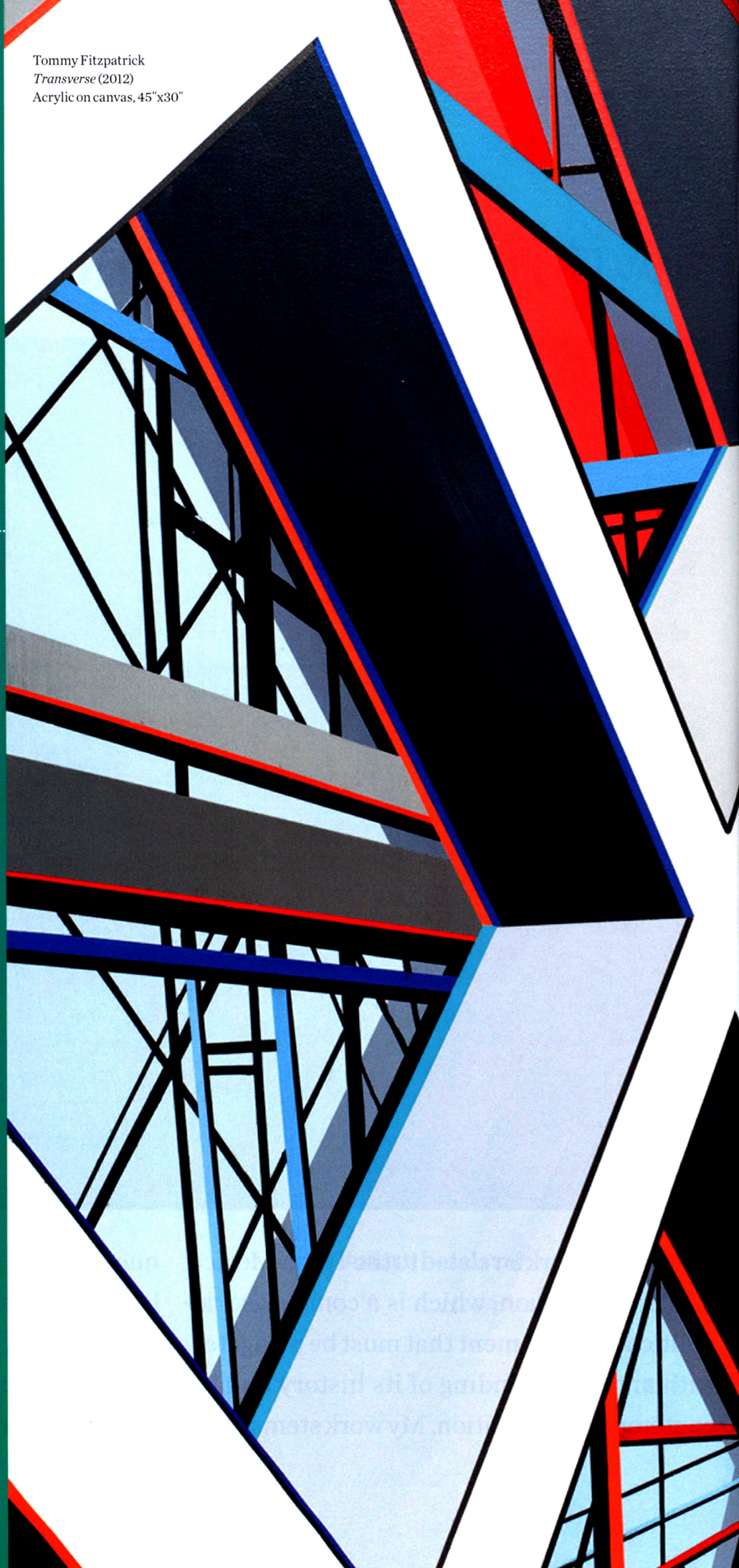




Photo by Nancy Hunter Warren, Courtesy Palace of the Governors Photo Archives (NMHM/DCA), HP.2003.29.19

Composing and Performing Jazz

“In order to find these two pieces, I spent hours listening to almost all 6,000 recordings of Native American dance online at the John Donald Robb Archive of Southwestern Music. I transcribed pieces, deconstructed them in terms of harmony, melody and rhythm, and wrote a contemporary jazz composition that allows a live ensemble to perform in sync with the 60-year-old recordings.”

HANK HEHMSOTH

*Senior Lecturer in the School of Music
2010 MacDowell Fellowship recipient
for the composition “Two Desert Dances”*





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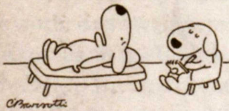
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Scientist who helped develop the world's first artificial heart valve  NBA players


CNN *foreign correspondent* ★ ★ U.S. Air Force brigadier general

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Cartoonist for *The New Yorker* and *The Atlantic*

“One of the top 1,000 scientists in the world” — *F1000*  MLB players

National Hispanic Businesswoman of the Year

THE FIRST STATE HISTORIAN  *Woodrow Wilson-Rockefeller fellows*

CMA Entertainer of the Year  and many more...

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(class)views

DA DISTINGUISHED ALUMNI

Texas State honored six new Distinguished Alumni at Homecoming festivities in October. With these newest honorees, the university now has presented its most prestigious award to 175 graduates since the first was given to then-Sen. Lyndon B. Johnson in 1959.

The diversity of the honorees illustrates the breadth of Texas State's curriculum and the depth of instruction. Graduates have taken their diplomas from here to excel in a variety of professions, not to mention their contributions to the civic and philanthropic arenas. Many may not have household names, but with their leadership and success in their chosen fields, they have set high standards among their contemporaries in business, science, industry, entertainment, government, the military, law enforcement, literature, the clergy, healthcare, education and sports.



DR. LINDA GREGG FIELDS, '66, '12

A San Marcos native, Dr. Linda Gregg Fields has a long-standing connection to Texas State, spanning multiple generations of her family. As a Texas State student, she performed with the famed Strutters dance team. She was a member of Chi Omega and a Gaillardian.

Dr. Fields' dedication to community service and philanthropic causes has benefitted numerous organizations, including the Texas State University Development Foundation, the Ronald McDonald House Houston Board of Directors, the American Cancer Society, the Cystic Fibrosis Foundation, and the American Red Cross. She is a past President's Council member and former co-chair for the "Pride in Action" capital campaign. With her husband, Jerry, she has funded an endowed chair and two Excellence in Professorship awards, and has provided the means for several university endeavors, including the renovation of the Jerry D. and Linda Gregg Fields West Side Complex, the Linda Gregg Fields Strutters' Gallery, and the university's move to the Western Athletic Conference.

DR. KATHLEEN FITE, '69, '70

Dr. Kathleen Fite is an active scholar frequently recognized by student groups, colleagues, and peers for her mentorship, teaching, service, and leadership. She is a recipient of the Presidential Award for Excellence in Service, the Everette Swinney Excellence in Teaching Award, the Alumni Achievement Award, the Alumni Teaching Award of Honor, and the Key of Excellence Award from Texas State University. She is a past president of the Texas State Alumni Association and is a member of Alpha Xi Delta sorority.

Dr. Fite is the author of two books recording Strutters' history. She is a member of the Strutters' Hall of Fame, a Strutter Giant, and a past president of the Strutters Always Alumni Chapter. Widely acknowledged as a champion for children, education, and human rights, Dr. Fite has worked as a writer, presenter, consultant, and leader at many levels. She serves on the Board of Directors for the Association for Childhood Education International, located in Washington, D.C. Recently named Gesell International Ambassador, she also serves on the Advisory Council for the Gesell Institute of Child Development on the Yale University campus.



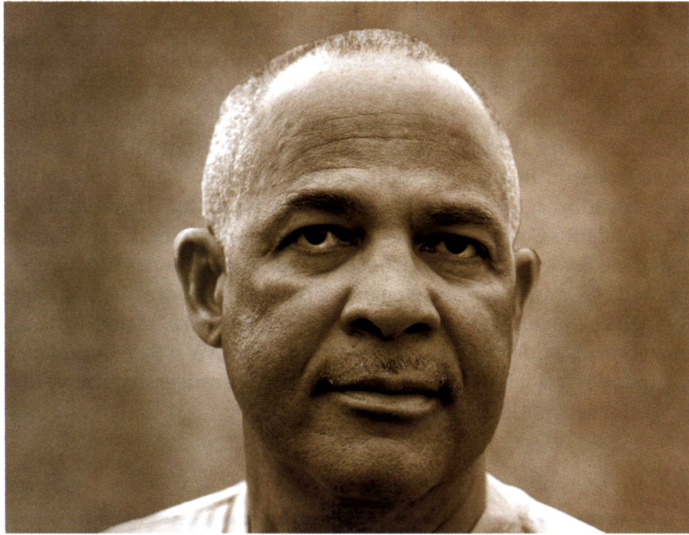
DR. DARCY WALSH HARDY, '82, '83

Dr. Darcy Walsh Hardy has been an advocate for quality distance and online learning in higher education since the late 1980s. With her recent appointment to the U.S. Department of Labor, she has added the adult workforce to the populations she serves. She was an assistant vice chancellor for academic affairs and executive director of the UT TeleCampus, the virtual arm of the University of Texas System that supported online delivery of system-wide collaborative academic programs from UT institutions, for more than 12 years.

She has worked with the U.S. Department of Labor, the U.S. Department of Education, and the White House Office of Science and Technology Policy and collaborated with key leaders in philanthropy and technology. Today she plays a key role in a program established by a historic \$2 billion investment by the federal government. Dr. Hardy is involved with numerous councils and organizations dedicated to the study and development of distance learning and is noted for her willingness to nurture and assist others in the distance learning community.

(class)views

Distinguished Alumni (continued)



DR. PAUL PHILLIPS III, '77

As a Texas State student-athlete, Paul Phillips III was a four-year letterman in football. He was co-captain of the team in 1976 and received multiple awards for athletics and academics. In the 1977 pre-season, he was a member of the Baltimore Colts.

Phillips completed his doctorate of medicine at The University of Texas Health Science Center at San Antonio. He entered the orthopedic surgery program at Martin Luther King, Jr./Charles Drew Medical Center in Los Angeles and completed an additional year of hand surgery training. He is a founding member of Arlington Orthopedic Associates.

Dr. Phillips received a direct commission in the U.S. Army Medical Corps during his residency. Promoted to colonel in the Army Reserve in 2010, he has been mobilized to Germany, Iraq, and Afghanistan in support of U.S. service members and humanitarian missions. His company received the Patriotic Employer Award from the National Committee for Employer Support of the Guard and Reserve.

DR. JILL D. PRUETZ, '89

Dr. Jill Pruetz specializes in the behavior and ecology of primates. Her fieldwork, funded by such prestigious national and international agencies as the National Geographic Society, the National Science Foundation, the Wenner-Gren Foundation, Great Ape Trust and The Leakey Foundation, has taken her on research expeditions in Peru, Costa Rica, Morocco, Panama, Nicaragua, Kenya, and Senegal.

Author of numerous peer-reviewed journal articles, book chapters, and juried articles in prominent periodicals, Dr. Pruetz was one of only nine "Emerging Explorers" named by the National Geographic Society in 2008.

As a Bobcat, Pruetz was on three conference-winning track and cross-country teams. An enthusiastic scholar who was inspired to become a scientist by one of her childhood role models, Dr. Jane Goodall, Dr. Pruetz is especially interested in applying her research findings, such as the ability of female and juvenile chimpanzees to use spear-like weapons, to increase our understanding of the behavior of our earliest ancestors.



MR. S. BLAKE RATCLIFF, '84

Houston native Blake Ratcliff joined the National Aeronautics and Space Administration (NASA) and the Johnson Space Center in 1988. During his tenure there, he has held numerous positions of increasing responsibility. Throughout them all, Mr. Ratcliff has demonstrated an abundance of tact and diplomacy. Since 2006, he has served as the manager for external integration within the International Space Station (ISS) Program. In this role, Mr. Ratcliff is responsible for negotiating and managing multi-billion dollar agreements for goods and services supporting the ISS with the partner governments of Russia, Japan, Canada, and the 11 member states that comprise the European Space Agency.

Mr. Ratcliff also manages the external interfaces and educational and outreach activities for the ISS program, overseeing communications with such diverse groups as congressional staff, the Office of the Inspector General, and the general public.



2012 Alumni Achievement Award Winners

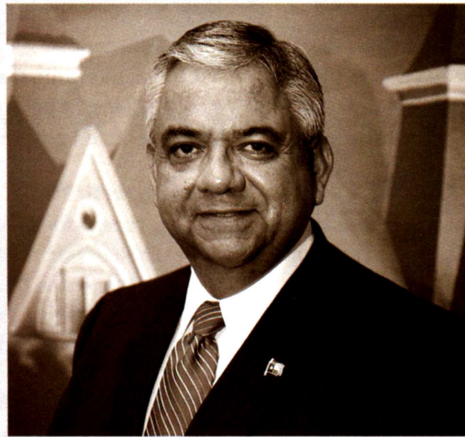
The Alumni Achievement Award honors Texas State graduates who are distinguished and prominent in their chosen business, profession or life work on a local, state or regional level. Recipients are of such integrity, stature, demonstrated ability and renown that the faculty, staff, students and alumni of Texas State take pride in and are inspired by their recognition.

Lisa Dvorak, '77



Dvorak retired from a 30-year career in law enforcement, capping it with the position of assistant police chief for the City of San Marcos. Currently, she serves as the city's community liaison. She has been instrumental in developing the Achieving Community Together (ACT) Program, which brings community and university stakeholders together to achieve common goals. Dvorak collaborated with the Texas Department of Criminal Justice to establish the program and educate students about problem-oriented policing. Through her efforts, the ACT program has received international recognition for its many successful initiatives.

Ruben Perez, '74



Perez currently serves as assistant U.S. attorney, a position he has held since 1992, and as chief of the Civil Rights Unit. His responsibilities include preserving personal liberties by enforcing criminal civil rights laws, ensuring provisions of the 1968 federal Civil Rights Act through enforcement of election laws, and enforcing statutes against human trafficking and slavery. A career prosecutor, Perez has tried cases against international crime organizations involved in narcotics trafficking and money laundering among other high-profile cases, earning numerous civic and professional awards. He speaks frequently on human trafficking and civil rights issues, and serves as a mentor for many students.

Rubén Garza, '77



Garza spent several years in public education before returning to his alma mater, where he now serves as an associate professor in the College of Education. He also serves as a field-based block instructor, assisting students as they work within public schools to develop their instruction and classroom preparation skills and to build relationships with high school faculty and administrators. He is credited with developing the Sunshine Mentoring Initiative for at-risk students. His students admire his passion for teaching and helping them learn the craft. His skill with foreign language instruction allows him to share his approach for improving students' language proficiency as a national consultant for the Bureau of Education.

(class)views



1 Lisa M. Martin



2 Jennifer Walsh



3 H.S. "Buddy" Garcia



4 Erma Bonadero

2010

Linda Turner '11

San Antonio, a paralegal specialist in the Office of the Staff Judge Advocate, U.S. Army Medical Command, was awarded the Department of the Army Achievement Medal for Civilian Service.

Dante Dominguez '11

San Antonio, completed his first year at St. Mary's University School of Law, where he was named to the law review and participated in a study abroad program taught by U.S. Supreme Court Justice Antonin Scalia.

Jon Kedrowski '10

Ellensburg, Wash., was featured on CNN's "This Just In" after his recent climb of Mount Everest.

David Standefer '10

Round Rock, was promoted to senior account executive for UPS.

Erin Hanrahan '10

Austin, has joined Robin Bond Interiors of Austin.

2000

Jamie Vaughn '08

Lubbock, was awarded the Texas Tech Regents Scholarship and the University Presidential Scholarship to attend Texas Tech University School of Law, where she is enrolled this fall.

Erika Aguilar '07

Los Angeles, became a reporter for Southern California Public Radio station KPCC.

Andrea Haughton '06

Austin, is now director of public policy for the American Lung Association of the Central States.

Jillian Cash Toler '06

Live Oak, is now an account executive for Harland Technology Services, an information technology company.

1 Lisa M. Martin '06

San Antonio, has been named public relations manager for Creative Civilization, a San Antonio-based advertising and marketing firm.

Sherry Cook '04 & '08

Cedar Creek, has been appointed administrator of the Texas Alcoholic Beverage Commission. Cook becomes the first female appointed to the agency's top position since it was created in 1935.

Stacey Lawson Barr '01 & '06

Chicago, recently moved to an account executive position at PR Newswire.

2 Jennifer Walsh '01

Houston, has been promoted to communications advisor for Total Petrochemicals & Refining USA, Inc. Total, one of the world's largest integrated oil and gas companies, is based in France.

1990

Diana López '99

Victoria, has published her third novel, *Choke*, about a dangerous game children play.

Kyle Harrell '98

San Marcos, is founder and CEO of Texas Red Worms, a farm that cultures worms on food scraps. The worms serve as fish bait or fertilizer for pasture land.

Leah Bryant '97 & '08,

Chicago, was elected second vice president of the Central States Communication Association (CSCA), and will become president in 2015. The CSCA promotes the communication discipline in educational, scholarly and professional endeavors.

Carmenn Miles '93

San Antonio, was hired as the director of training for Embrey Management Services, a property management company.

3 H.S. "Buddy" Garcia '90

Austin, formerly with the Texas Commission on Environmental Quality, was appointed by Gov. Rick Perry to the Railroad Commission of Texas.

1980

Joel Stone '88

San Antonio, became CEO of SpawGlass, a San Antonio-based construction company.

Veronica Gonzales '86

McAllen, a former state representative whose district covered part of the Rio Grande Valley, was named vice president for university advancement at The University of Texas-Pan American.

Michael George '86

College Station, was promoted to vice president of news at KBTX-TV News 3, which covers the Bryan-College Station area.

4 Erma Bonadero '82

Houston, was named to the Harris County Drug Court Foundation Board of Directors, which provides financial support to an addiction recovery program.

1960

Alfred Evans '66

San Antonio, was inducted into the Comanche (Texas) High School Hall of Fame following a 30-year teaching career.

Bobby Patton '62 & '63

San Marcos, was inducted into the National Athletic Trainers Association Hall of Fame at the association's national conference.

For more Class Notes, see txstatealumni.org/ClassNotes.

spotlight



Editor's path to top job paved at Texas State

It may come as a surprise that **Debbie Hiott** was not always interested in journalism. When she first came to Texas State University, she had other plans.

"I went to (then-) Southwest Texas because I wanted to be a teacher, but immediately went to work on the student newspaper for fun," Hiott recalls. "After a year of that, all I ever wanted to do was work for a newspaper."

Now editor of the *Austin-American Statesman*, Texas State alumna Hiott has come a long way since she graduated in 1992 after serving as the editor-in-chief of the *University Star*. Inducted into the *Star's* Hall of Fame in 2007, Hiott still serves on the advisory board for the newspaper and occasionally speaks to journalism classes at Texas State.

Currently, Hiott is dealing with the challenges all newspapers face as they transition to the digital age. "I like the idea that because there are more ways we can reach our audience, there's always a new challenge for doing that," Hiott says.

And Hiott is no stranger to hard work and meeting challenges. She said her work at the *Star* helped prepare her for a job in a professional newsroom because she could learn from her mistakes.

"Working on the student newspaper was like a lab for my career," she says. "At Texas State I experienced real reporting situations and called the shots as a real editor. There was no one holding my hand along the way."

After graduating from Texas State, Hiott began her professional career at the *Statesman*. She worked as a city and suburban reporter first and became an assistant metro editor in 1999. Hiott later had stints as assistant state editor, state editor, metro editor, assistant managing editor and then managing editor. She spends some of her energy these days trying to expand the *Statesman's* reach through digital platforms.

"The most challenging thing is the same thing I'll be facing for years to come: transitioning the newsroom from a print newspaper to an organization that provides news on many platforms, whether it's in a newspaper or magazine or website or mobile app," Hiott says.

Whatever she faces in the future, Hiott will continue to embrace challenges like she first did at Texas State.

"The thing I liked the best was working alongside people who cared just as much as I did about journalism and the news," Hiott says, recalling her days at the *Star*. "That's the thing I like the most about my current job, too."

— Casey Torrance

A picture of civic engagement



Kelly Frels says he loves being a lawyer. Ever since he enrolled in graduate school to study government in 1966, he's been hooked. "We studied a lot about what lawyers did, and I decided I wanted to do what lawyers did," Frels says.

Over his astonishing career, Frels has helped clean Houston's air, improved its schools and enriched the city's urban core.

As the recipient of the 2012 Leon Jaworski Award, Frels has been recognized by the Houston Bar Association Auxiliary as a lawyer whose extraordinary efforts have benefited the community.

In 1970, Frels began his career at Bracewell & Patterson, LLP, just as the firm began representing the Houston Independent School District. He was lead attorney for the district during its successful transition to system-wide racial integration in the 1980s, and helped establish Houston Community College.

Frels was named managing partner in 1995 and began concentrating his efforts on the community and improving Houston's air quality. He chaired the Greater Houston Partnership's Quality of Life Advisory Committee, the Texas Environmental Research Consortium, the Center for Houston's Future and was a member of the Clean Air Task Force.

Through a mix of public awareness campaigns, education initiatives and policy development that led to stricter legislation over industrial emissions, Houston's air quality was greatly improved. Frels also was instrumental in Houston's push to remove graffiti, plant trees along roadways, tighten controls on billboards and improve landscapes in green areas.

But long before Frels made a name for himself in Houston, he was doing the same at Texas State. He was in the student senate, later served as student body president, and then helped found the Bobcat Club in the 1970s. He was named a Distinguished Alumnus in 1978 and received the College of Liberal Arts Distinguished Alumni Achievement Award in 2011.

"Southwest Texas was a caring institution with quality faculty and administrators who provided opportunities to develop leadership and life skills," Frels recalls.

He also met his wife, Carmela, after seeing her picture in the *University Star* in 1969. Frels attributes his personal achievements to his wife of 42 years and gives credit to the team of lawyers he works with for many of his professional and civic successes.

— Casey Torrance

Math figures into alumnus' blueprint for success

After his own rocky start in life, Texas State alumnus Guadalupe Delgado mentors disadvantaged youths to ease their path to success.



Guadalupe Delgado grew up in an area of Brownsville so riddled with crime that people in his mother's carpool didn't dare drive her all the way home. Instead, they would leave her on the outskirts of their *colonia* — a subdivided neighborhood lacking such basic services such as running water and electricity — from where she would walk nearly three miles to their house.

The hardscrabble life his mother endured to make things better for her family inspired Delgado to aim for a higher quality of life. "I remember seeing her walking through the mud and thinking, 'I cannot let this woman down,'" Delgado says.

From the age of 10, Delgado knew he wanted to become an engineer. At 16, however, Delgado fathered a child. Demonstrating maturity beyond his years, he accepted the emotional and financial consequences and took the responsibility of providing for his son seriously.

"My father walked away from me when he was in his mid-30s and I would never allow my son to go through what I went through without a father for any reason," Delgado recalls.

After high school, the need to earn money forced a detour in his educational plans. In 1997, he earned a vocational certificate in automotive mechanics from The University of Texas at Brownsville, but to live the life he envisioned, he knew he would need a university degree.

He applied to UT Brownsville in 1998, but low scores in writing and math forced him into remedial classes. Determined to excel, he enlisted the aid of a math tutor who not only helped him improve his scores, but also inspired Delgado to become a math tutor himself. After two years of general studies, Delgado transferred to Texas State.

"Texas State had that country charm," says Delgado. "You could tell by the friendly atmosphere that you're not just a number, you're a person. You're respected."

He flourished at Texas State, and in 2004, he graduated. Delgado now lives in southern California, where he works for the Aerospace Systems division of Northrop Grumman, an aerospace and defense contractor.

For him, true success is being able to mentor hundreds of children. And he has dedicated countless hours of his personal time to provide help and encouragement to underprivileged students.

In 2011, Delgado was honored with a HENAAC (Hispanic Engineer National Achievement Awards Corporation) Award in recognition of his professional achievements and community involvement.

"Every time I see someone succeed or triumph, I know I've done the right thing," he says. "Their gift to me is when I see them graduate."

—Audrey Webb



Gabriella Corales '12

On a mission to improve education

Gabriella Corales embodies the transformational power of education. The first-generation college graduate plans to become a conduit for change in the lives of at-risk students — and she has received a national award to support her along the way.

Corales, who graduated from Texas State in May 2012 with a B.A. in English, is among 25 students nationwide to receive a 2012 fellowship from the Woodrow Wilson-Rockefeller Brothers Fund (RBF) for Aspiring Teachers of Color.

The prestigious fellowship provides Corales with a mentoring network and a \$30,000 stipend for graduate school, which she started in June at Stanford University. Following completion of her M.Ed., Corales will spend three years teaching students at a high-need public school. But well beyond those three years, she's made it her mission in life to continue to assist underserved students.

"The field needs teachers who want to be teaching," she explains. Having attended an underserved high school on San Antonio's south side, Corales knows firsthand the challenges these schools — and their students — face.

"My high school experience solidified my commitment to equity in schools, fair treatment and equal opportunity. The quality of education we received was not, in my view, the same type of education wealthier districts offered," she says. "Having been in that situation, I feel like I can have a deeper impact going into those schools."

She's already demonstrated her dedication to student success as a volunteer with Big Brothers Big Sisters in San Marcos. Her "little sister" for the past two and a half years is moving up to middle school this fall. "I can see how having a mentor has transformed her. She really is set," Corales says.

As to her own transformation as an RBF fellow, Corales credits the mentoring and guidance of Dr. C. Britt Bousman, who initially contacted her about applying for the fellowship, and Dr. Jaime Chahin, dean of the College of Applied Arts, who helped her prepare for the interview portion of the selection process.

"They were instrumental to my success. It changed my life," she says. "I have received so much support. I love Texas State."

—Billi London-Gray

Call center to ramp up outreach efforts

Texas State aims to dramatically improve its outreach to alumni across the country with the opening of an innovative new call center. The University Annual Fund program is partnering with Enrollment Management and Marketing for an initiative unique among American universities — one that puts a priority on maintaining contact with former students while at the same time recruiting new ones.

“We are making outreach a priority in the coming year,” says Kim Gannon, director of alumni relations. “We will be giving them an update of all the exciting things happening at Texas State. We want to increase their participation and connection with the university.”

Forty Texas State student employees will make the calls, keeping the heart of the initiative in house while also providing year-round positions for deserving Bobcats. The students will work afternoons and evenings, Sunday through Friday, and are projected to make approximately 35,000 calls annually — almost double the number accomplished in the past.

Unless designated elsewhere, gifts received through the initiative will go to support the Maroon and Gold Fund, which addresses the university's greatest need, explains Elisa DeFord, annual giving coordinator. The fund touches every area of campus life and allows the university to take care of priorities as well as unexpected opportunities.

A significant percentage of calls will target prospective students across the state to support recruiting efforts.

— Jayme Blaschke

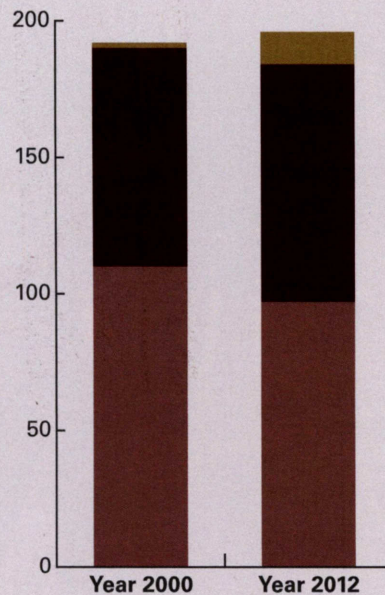
How Texas State is evolving

Change is good. Here are the numbers:

\$585

Million

Estimated total cost of the **26** construction projects in development, underway or completed in 2012.



196

Degrees Offered

The total number of degrees offered has increased over the last **12 years**, with the largest increase reflected in the total number of **doctoral degrees (from 2 to 12)**. The number of **bachelor's degrees** offered has seen a slight decrease (**from 110 to 96**), while the number of **master's degrees** offered has increased (**from 80 to 87**).

7,838

Students enrolled in distance education courses in 2011-12.

34,229

Number of students enrolled in fall 2012.

The university has enjoyed

45%

enrollment growth over the last 10 years.

Average enrollment growth for Texas public universities is **32%**.

The (last) view

Flowing Art: A 10-foot-tall bronze-plated fountain sculpture, inspired by the San Marcos River and titled "Water Tales," now graces the southeastern approach to the LBJ Student Center. Featuring an elevated basin and curving spires evocative of splashing water, the copper-green fountain was created by Art and Design Professor Roger Colombik in collaboration with his wife, Jerolyn Bahm-Colombik. The new sculpture replaces an old concrete fountain, which had fallen into disrepair.



MAKE A GIFT. MAKE AN IMPACT.

SUPPORT STUDENT-ATHLETE SCHOLARSHIPS



The Bobcat Club is an organization of alumni, fans, former student-athletes, coaches and friends that provides current student-athletes with scholarships, a first-class education and a chance to excel in the classroom and on the playing field. The Bobcat Club offers many benefits to its members, including priority parking for football and men's and women's basketball games, priority seating for football games, exclusive invitations to special events, weekly e-mails and much more.



TEXAS STATE

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from the collections



LAS SOMBRAS / THE SHADOWS: *Photograms by Kate Breakey*
ON EXHIBIT AT THE WITTLIFF COLLECTIONS THROUGH APRIL 11, 2013

New works from Australian native Kate Breakey feature contact prints of the flora and fauna that inhabit the American Southwest. The photograms have the sepia-toned look of Victorian images but are distinctly modern.