

Summer 1993

# Nova Quarterly: The University of Texas at El Paso

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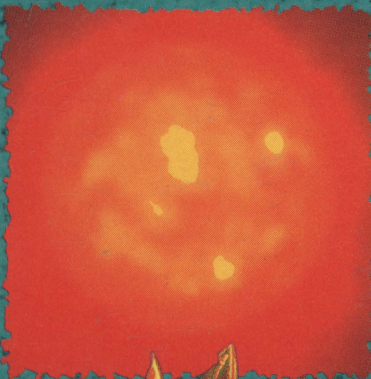
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# NOVA

THE UNIVERSITY OF TEXAS AT EL PASO  
O U A R T E R L Y



SUMMER • 1993



## FROM THE EDITOR

Although *Nova* is published quarterly and a lot can change between publication dates, we have tried to keep you informed about UTEP state funding issues. We reported on the LULAC/MALDEF suit and the proposed settlements that earmarked several million dollars for new UTEP academic programs and facilities. Now, for the latest state funding news, we offer a reprint from *Horizons*, the university's faculty and staff newsletter:

Though this year's legislative session wasn't as lucrative for UTEP as university officials had hoped, UTEP walked away from it with a pledge of about \$9.2 million to enhance current academic programs and another \$23 million for campus renovation and a new classroom building.

A bill sponsored by Rep. Jack Vowell, R-El Paso, that would have given UTEP authorization—but not funding—for a handful of new bachelor's programs, 16 new master's programs and 16 new doctoral programs was approved by the House but died in the Senate education committee.

The measure would have put the programs on a fast track for approval by the Texas Higher Education Coordinating Board.

But its failure shouldn't be considered a setback for the university, says Richard Adauto, assistant to the president.

"We can still continue to develop the new programs the way we have been doing it in the past," Adauto says. "We'll take our proposals to the board of regents and to the Texas Higher Education Coordinating Board just like we did with the new psychology and materials science and engineering Ph.D.s."

The measures that were approved give UTEP money to keep pace with the needs of a growing student body, Adauto says.

The new classroom building at UTEP was approved as part of a massive construction package for Texas A&M and UT System schools. Construction will be paid for with tuition revenue bonds.

Wynn Anderson, assistant to the vice president for finance and administration, says UTEP will present a project proposal to the Board of Regents in August or October. Design of the building should take about a year, and construction will likely take about two years. Possible sites include the current location of the swimming pool, land near the Engineering/Science Complex and a site behind the Education Building.

The \$9.2 million for academic programs was part of the South Texas Border Initiative for border universities. Part of the money will be used to improve UTEP's computer capabilities, Adauto says. The appropriation also includes \$300,000 a year for the Center for Environmental Resource Management and \$150,000 a year for the El Paso Collaborative for Academic Excellence.

During this academic year, *NOVA* also brought you stories about UTEP programs that stimulate community development. In this issue you will read about UTEP's involvement in two important areas affecting El Paso and its surroundings: education and the environment.

One thing is clearly evident when looking at many of the university's efforts. Existing and new programs focus on the strengths and needs of the community, making for a perfect match that benefits UTEP and its students, El Paso residents, businesses and industry. We hope the stories are informative and help everyone appreciate the valuable resource that the university has become to people of this region.

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Summer 1993

# NOVA



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Bobby Daniels.

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# EDUCATION COLLABORATIVE UNITES EL PASO

by Nancy Gillespie

**T**he National Commission on Excellence in Education's 1983 critique of public education introduced the phrase "a nation-at-risk" to the American public. From the report arose the rationale and agenda for educational reform.

Ten years later, new statistics corroborate the need to revamp the nation's educational system. In the United States, more than 25 million adults are illiterate. Thirteen percent of our 17-year-olds—college-bound students and members of the workforce—are functionally illiterate. That figure escalates to 40 percent in some minority groups. The national dropout rate of 25 percent increases to 50 percent in inner city schools.

What the commission called "a tide of mediocrity" refers to a generation of young people who are deficient in basic math, reading, writing and speaking skills. These deficiencies make it difficult to succeed in college or in the job market.

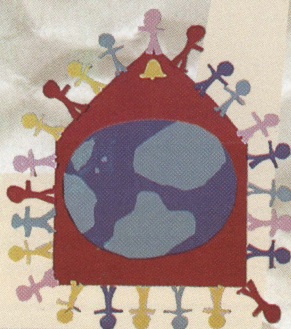
If today's high school graduates aren't prepared to compete in a sophisticated global economy, suggests Dr. Arturo Pacheco, dean of UTEP's College of Education, "Our nation faces collapse."

The commission report attacked public education as the culprit. Others say the problem is societal.

"Public schools have always been the scapegoat," says Jerry Barber, superintendent of the Socorro Independent School District. He says a breakdown in the nuclear family and a generation of legislators unwilling to make unpopular decisions—like increasing taxes to support public schools—are to blame.



**"What we really need is all of us—teachers, counselors, principals, parents, business leaders, university and community college people—working together to improve what children are provided in the schools."**



Whatever the root causes are, the public is demanding effective remedies. Providing unprepared students with remediation is one way to cope with the problem, and some students have been able to successfully pursue a college education with remedial help. But more often, educators say improving academic performance early in a child's education is the real solution.

Fixing the nation's schools is an enormous task that involves massive restructuring from pre-kindergarten to post-secondary education. UTEP President Diana Natalicio has made it one of the university's top priorities to assist in this venture.

"I've long wanted to develop a project that would bring the public schools and UTEP together in a joint effort," explains Natalicio, who hired Dr. Susana Navarro in 1991 to create the El Paso Collaborative for Academic Excellence. "Dr. Navarro brought the experience, expertise and commitment that we needed to launch the project. After she arrived at UTEP, we brainstormed about the major issues and the infrastructure that would accomplish this goal."

The collaborative, organized at UTEP in 1992, unites educational leaders who

believe that academic excellence is the right of every child in the El Paso area. This powerful community coalition consists of representatives from the El Paso, Socorro and Yselta school districts, the El Paso Community College, UTEP, the Region XIX Education Service Center, the El Paso Interreligious Sponsoring Organization, the El Paso and Hispanic chambers of commerce, Mayor Larry Francis and County Judge Alicia Chacon.

"The collaborative seeks to bring about educational systemic change," says Navarro. "We used to think we could improve education by filing suits against the school districts or by getting parents and community people to go and demand changes. But we have come to realize this just doesn't get us where we want to go. What we really need is all of us—teachers, counselors, principals, parents, business leaders, university and community college people—working together to improve what children are provided in the schools. We need to make everyone accountable for academic achievement."





*The El Paso Collaborative for Academic Excellence recently presented awards to area schools that showed improved student academic performance as a result of team efforts and innovative programs. Among the several students, parents and education and business leaders attending the awards ceremony were (front row, left to right) Anthony Trujillo, Ysleta ISD superintendent; Susana Navarro, collaborative executive director; Triana Olivas, Sageland Elementary School principal; Sandra, Stacie, David Saucido; (back row, left to right) Elvis Deucher, Ysleta Middle School student; Marie Cox, Socorro Middle School teacher; and Wes Jurey, Greater El Paso Chamber of Commerce executive director.*

For the collaborative, change and community awareness go hand-in-hand. Navarro says, "We are working to ensure that a far wider segment of the community knows how they can help and what their role is in the move toward change. Long-term change involves significant numbers of community organizations, parents, businesses—all the players—each of whom performs a critically important role."

The first impact of the collaborative was felt last summer when UTEP hosted four seminars attended by more than 600 El Paso teachers and principals. Key discussions, according to Navarro, focused on the need for educational reform, reforming individual schools and how teachers and staff members can participate in the process.

Motivated by the seminars, the Ysleta school district initiated a massive training program to design new approaches to teaching the schools' curriculum.

"The session involved hundreds of teachers and thousands of hours," remarks district superintendent Anthony Trujillo.

One of the collaborative's major goals is to sensitize school administrators to the importance of math in the curriculum.

Stephen Riter, dean of UTEP's College of Engineering, says emphatically, "We must create major attitudinal changes. In our society, we believe everyone cannot do math, but we compete with Japan and Germany where they believe that everyone can."

The need for mathematical skills is no longer job specific. "No matter what their profession," says Riter, "everyone across the board must develop analytical skills and speak the language of technology to perform in the 21st century. If our people are technologically illiterate, society pays for it."

Already, the collaborative is helping schools meet the challenge. Middle schools that had been offering a rehash of third- and fourth-grade mathematics are now teaching all seventh graders pre-algebra. Eighth graders study Algebra I.

"This is a dramatic departure," says Navarro enthusiastically. "The educators decided that they are going to have to teach their students different materials if students looking to attend college are to do so successfully."

(...Continued on pg. 6)





**"Too often, parents delegate their children to the facilitators, but both parents and children must set goals and work together."**

## **GROWING TOGETHER**

### **Mother-Daughter Program Provides the Link**

Since its inception in 1986, UTEP's Mother-Daughter Program has opened doors for 900 girls and 900 mothers, a total of 1,800 individuals who have stepped across a significant threshold with the requisite skills and confidence to take charge of their own destiny.

The program's success comes from the dedication of its administrators, but also from the profound involvement of the public school system, the YWCA and UTEP. All entities work together to integrate the participating Hispanic girls and their mothers into the reality of a competitive society.

The concept arose from program director Dr. Josefina Tinajero's study of Hispanic women in the American work place. Startling statistics showed that fewer Hispanic females nationwide have attended college than women or men of any other ethnic group. While 47 percent of Hispanic women enter the work force at an early age, few hold high-salaried positions.

The situation is fed by poverty and the Hispanic culture.

Tita Yanar, the Mother-Daughter Program's associate director, explains, "In the Hispanic family, the male is seen as the provider and therefore the one for whom education is a priority. The female role as wife and mother precludes education. And sometimes, when a girl demonstrates a high level of achievement in high school and perhaps even wins a full scholarship to college, the mother is reluctant to let her go."

The program also addresses apprehensions about assimilating into the Anglo world fostered by a lack of familiarity with non-Hispanic social systems.

The program was conceived as a vehicle through which both mothers and daughters could participate fully in the process of self-actualization.

"Too often," explains Yanar, "parents delegate their children to the facilitators, but both parents and children must set goals and work together."

After district coordinators and school administrators determine target schools, recruiting begins. Fifth-grade teachers in target schools are asked to identify girls who demonstrate great potential but who may not reach it because of economic, family, or neighborhood problems. During the screening process, TAAS scores and GPA are reviewed. When a group of candidates is selected, an invitation to join the program is extended to the mothers. The full commitment of both mother and daughter is emphasized.

Every year, a total of 150 students from the Ysleta, El Paso and Socorro school districts enter the program. From sixth grade to graduation, guidance and inspiration accompany the girls every step of the way.

UTEP sponsors four annual activities. The open house and campus tour familiarize mother-daughter teams with college life. Career Day brings program participants and professional women together to explore career opportunities. A nationally recognized Hispanic presents the keynote address at the leadership conference. During summer camp, the girls spend a weekend at a UTEP dorm and visit classes.

The ripple effect of the program is evident in mothers who have returned to school to finish their own education. Some, inspired by the program, have chosen a teaching career. "We show both mothers and daughters how to participate in society, not just observe," says Yanar.

Norma de Jong Gomez and her daughter Adriana can testify to the program's effectiveness.

"It has done so much for our entire family," says Mrs. Gomez, who started classes in January at the El Paso Community College. She plans to transfer to UTEP for a counseling degree. To improve his language skills, her husband has enrolled in English as a second language classes.

"Actions speak louder than words," says Mrs. Gomez, who feels she and her husband are stronger role models.

Adriana, who admits being nervous whenever she thought about college, has gained self-confidence and says she looks forward to attending the university in the future.

"It's so much easier because of what I've learned in the program. A lot of my friends tell me they wish they could enroll (in the Mother-Daughter Program)."

In 1993-94, the program will expand to include 20 mothers and daughters from the Canutillo School district and another 20 from San Elizario. As the program grows, so do the expectations of the participants—and the number of young Hispanic women who have been empowered.

—Nancy Gillespie



*Mother-daughter team Norma de Jong Gomez and her daughter, Adriana, share their dreams and their successes.*



**"The rest of the country is looking to us for a supply of bilingual teachers, and they are also taking a close look at our training methods."**



*Jorge Rivas and his son Adrian, a senior at Jefferson High School, participate in TLCC-sponsored workshops which encourage communication between parents and their children.*

## Center to Create New Supply of Bilingual Teachers

The shortage of bilingual educators in El Paso County's three school districts mirrors a nationwide problem. It is estimated that Texas alone lacks 10,000 bilingual teachers to meet student needs.

Hispanics, underrepresented in the teaching professions, currently comprise only 10 percent of U.S. teachers. By 2000, this figure is expected to drop to 5 percent, an inverse ratio to the projected increase in Hispanic students. Supply is simply not meeting demand.

To alleviate the shortage of qualified bilingual educators, UTEP launched the Teachers Learning Community Center (TLCC) a year ago.

Located in the College of Education, the TLCC has already garnered national attention. According to Dr. Arturo Pacheco, dean of the College of Education, recruiters from 50 school districts outside of Texas are looking to hire UTEP bilingual education graduates.

"The rest of the country is looking to us for a supply of bilingual teachers, and they are also taking a close look at our training methods," says Pacheco.

Dr. Margarita Calderon, who directs the TLCC program, considers the recruiting and retention of minority teachers a three-way partnership between the high schools, the university and students' families. The center's prime objective is to increase the supply of bilingual educators by recruiting high school students with an interest in bilingual education. But the center also addresses academic performance by improving GPA, encouraging minorities to enroll in honors courses, reducing the dropout rate and shortening the time to graduation.

Outreach to high school students encourages them to choose a career in bilingual teaching. Both students and parents participate in workshops where parents learn how to support their sons' and daughters' educational goals.

The TLCC also provides a faculty mentor in teacher education who meets with students to trouble-shoot and determine areas of need. As high school students who enter the program become

juniors and seniors, they will work as mentors for their freshmen and sophomore classmates.

Another component of the center, the Bilingual Alternative Certification Program, provides teachers and undergraduate bilingual education majors support services through a collaborative learning center and monthly seminars that address a range of topics from building self-esteem to peer-coaching, mentoring and test preparation.

The TLCC also is recruiting professionals from other fields who are looking for a career change. Course work and support services enable UTEP to tap this potential pool of bilingual teachers.

In its international outreach program, UTEP networks with teachers, principals and teacher trainers from Ciudad Juarez and other parts of Mexico. Research projects allow UTEP to interact with educators throughout the United States, Canada, Israel and Mexico.

Graduates in bilingual education are almost guaranteed a job in El Paso where 70 to 80 percent of the children enrolled in public schools are Hispanic. Among the Socorro school district's 17,000 students, the figure is closer to 90 percent.

"We are understaffed when it comes to bilingual teachers," says Jerry Barber, superintendent for the Socorro school district. "There are more than 3,000 students actively involved in the bilingual education program and others who are predominantly Spanish-speakers. Between 8 and 20 percent of the children entering kindergarten speak little or no English. Five percent of that population comes from Mexico."

By reaching out to high school students in the United States and Mexico as well as working professionals who might consider bilingual teaching as a second career, UTEP's dynamic TLCC will serve both the immediate community and the rest of the nation.

The Teacher Learning Community Center is supported by the Exxon Education Foundation through the Tomás Rivera Center for Policy and Research at Claremont Graduate School in California and the Texas Education Agency. —Nancy Gillespie



(...continued from pg. 3)

Alicia Parra, executive director of the Ysleta school district's Staff Development Office, talked about one teacher who attended the collaborative's summer institute and decided that it wasn't fair to assume that only honors students could understand complex concepts.

"He ended up blending his regular classes with his honors classes," Parra says. "One individual teacher just decided on his own to do that."

This teacher's decision was made possible by a dynamic movement that focuses on site-based decision making, now Texas law. The site-based approach encourages teams of teachers and administrators to work together to improve their schools and share accountability for the results. In this new framework, teachers are able to implement their own solutions from their first-hand knowledge of what works in the classroom.

At Del Valle High School in El Paso's Lower Valley, a math institute was created to help students succeed in all college bound math courses. Remedial math courses have been eliminated from Ysleta district schools.

In the El Paso school district's Alamo Elementary School, a parent outreach program is recruiting parents as teaching assistants and as students in health and parenting classes. Parents also hold group meetings at neighborhood homes where they learn to become important advocates for their children's education, regardless of their own educational level.

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**"The collaborative is the catalyst for change in El Paso, but the chemistry also requires parents who must assume more responsibility for their children's education and a community that holds educators in high esteem."**

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El Paso's isolation is advantageous to the changes planned by the collaborative. Natalicio says, "We're fortunate to have a closed loop: 86 percent of UTEP's students come from El Paso County, and we provide 80 percent of the area teaching degrees. There's a striking interdependency in which everyone hopes to advance educational achievement in the region. Close relationships are required to implement systemic change—and it's nice to get your arms around the system."

At the UTEP College of Education, dean Arturo Pacheco supports the concept. "The central focus of the college is the production of well-trained educators who serve the community, a win-win situation in which we provide cutting edge training to educators who take those skills directly into the community."

As a result of the partnership between the university and the public schools, the College of Education initiated a new program this year. In a laboratory experience, teams of student teachers spend a semester in the public schools working with teams of their professional coun-

terparts. The students observe their mentor-teachers, but they also teach under direct supervision.

UTEP's relationship with the community is symbiotic. Pacheco says, "As the only business in town, responsiveness is a key issue."

Trujillo remarks, "El Paso's unique population is an issue for local educators. Our students are the emerging population of the Southwest and the country. Hispanics have been denied access and deprived for so long that there's only one way to go, and that's up. The border Hispanic population is on the verge of becoming a significant factor in the country's social and economic fabric."

The path upward is already in evidence, as noted by Socorro school district's Jerry Barber. "Our district is 90 percent Hispanic and 70 percent economically disadvantaged, yet our dropout rate of only 2 percent for the last four years is lower than the average for Texas or the country. And 65 percent of our students plan to attend college."

The strength of the collaborative supports such success stories while working to derail failures. Natalicio attributes the organization's cohesion to the fact that there are no strident voices in the collaborative, no blaming or finger pointing.

The harmony achieved by the mutual goals of collaborative members places El Paso a giant step ahead of peer communities.

Navarro says the Pew Charitable Trust, one of the collaborative's benefactors, identified only 10 cities in the United States that the foundation thought were capable of meeting the challenge of improved educational opportunities. The Coca-Cola Foundation is also providing funding to the collaborative.

"El Paso is the lead city with the highest level of commitment and understanding, and we moved the fastest," Navarro explains proudly.

"The collaborative is the catalyst for change in El Paso, but the chemistry also requires parents who must assume more responsibility for their children's education and a community that holds educators in high esteem."

"And all of us need to remember that our children's performance correlates with our expectations," says Barber. "We expect all of our children to be successful and we do whatever the system has to do to help our students succeed." ■



*Alamo Elementary School in South El Paso involves parents as part of the teaching team in this kindergarten class. Samantha Navarro works on a math computer program with assistance from her mother, Priscilla, and her teacher, Susan Light.*



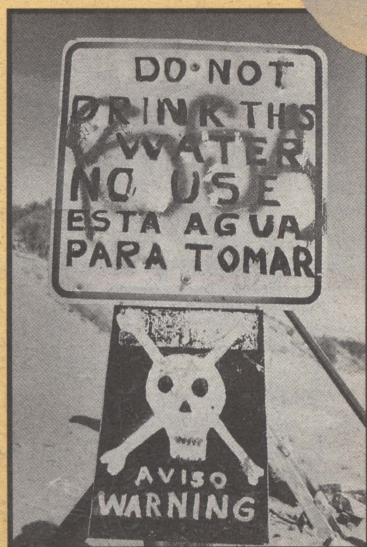


# ENVIRONMENTAL RESEARCHERS SOLVE TODAY'S PROBLEMS

by Denise Bezick

# Today

*A sign near a water pump in East El Paso's Sparks neighborhood warns residents about the poor quality of the neighborhood's groundwater.*



The desert is a harsh environment by any measure, but fill a 600-square-mile stretch with nearly two million people and it becomes almost inhospitable.

Squeezing enough water from the dry, barren land to meet the needs of such a large population becomes an engineering challenge, and disposing of the community's human and industrial waste without damaging the environment is a never-ending endeavor.

**T**his is life on the El Paso-Juarez border.

The Rio Grande that cuts through El Paso and neighboring Ciudad Juarez on its way to the Gulf of Mexico has been called one of the most endangered rivers in the nation.

In southeast El Paso County, human waste from septic tanks sitting in shallow groundwater contaminates what otherwise might have become an impoverished community's fresh drinking water supply.

In the winter, temperature changes on the desert floor trap natural and man-made air pollutants in a huge smog cloud that hovers just above the ground.

And El Paso officials warn that the more than 500,000 people who live in El Paso and their 1.2 million neighbors in Juarez are sucking up the drinkable groundwater beneath the cities so quickly that it will be gone in about 40 years.

Negotiations for the North American Free

Trade Agreement have recently focused international attention on these and other environmental challenges that industrialization and rapid population growth have thrust upon the U.S.-Mexico border. And it is these pressing and persistent problems of everyday life in the region that drive burgeoning environmental research at UTEP.

UTEP began to focus serious attention on environmental issues about six years ago when the U.S. Department of Energy awarded the university a \$400,000 five-year grant to improve its environmental research infrastructure. UTEP developed the Energy Center education and outreach project, which soon included the southwest field office of the Texas Energy Extension Service.

Since then, the EPA, the U.S. Department of Energy and other agencies have poured more than \$6 million into UTEP-sponsored environmental research and outreach efforts, and the funding continues at the rate of about



\$2 million a year.

UTEP professional and student researchers in geology, nursing, engineering, biology, chemistry, metallurgy and other fields use that money – most of it administered through the university's three-year-old Center for Environmental Resource Management (CERM) – on projects that directly and immediately benefit residents of El Paso and other communities along the U.S.-Mexico border.

With support from a consortium of universities called the Southwest Centers for Environmental Research and Policy, UTEP sponsors regional environmental conferences, teaches municipal emergency crews to handle hazardous waste spills and brings Mexican and U.S. environmental groups together to discuss common problems and goals.

Despite the enormity of the border environmental problem and the wide variety of solutions being studied at UTEP, all of the university's programs have a common thread, says CERM associate director Wesley Leonard.

"All of the projects have immediate applications," Leonard says. "We at UTEP are trying to use our conferences, our grant money and our research to find solutions to today's environmental problems."

## Water, wells and wellness

Because the search for clean water is one of the most pressing issues facing this desert community, much of UTEP's efforts are directed toward water purification, conservation and use.

CERM's infant Binational Water Program is, for the first time in history, making inroads toward coordinating water use on both sides of the U.S.-Mexico border. The UTEP-sponsored program brought together key water policy-makers from Texas, New Mexico and Mexico for a historic meeting in 1991. Another meeting was held this summer.

While working toward such long-term solutions, UTEP also is spending hundreds of thousands of research dollars to make immediate improvements in living conditions and water quality in the region.

Javier Garcia, who bought a small plot of land just east of El Paso in the Lower Valley town of Socorro about three years ago, is witnessing the effect first hand.

Once every few weeks, the middle-aged father looks out the window of his modest trailer and smiles as UTEP engineering students don orange gloves and poke plastic containers into four

(...continued on pg. 10)

### On-site wastewater treatment system

**1.** Household wastewater flows from the house to the **settling basin**, which is buried in the back yard.

Solid waste settles to the bottom of the basin, and liquid waste floats to the top.

**2.** Water from the top of the settling basin runs from the basin into a **bed of rocks** in a second underground tank.

Bacteria on the surface of the rocks consumes waste in the water during an anaerobic filtering process.

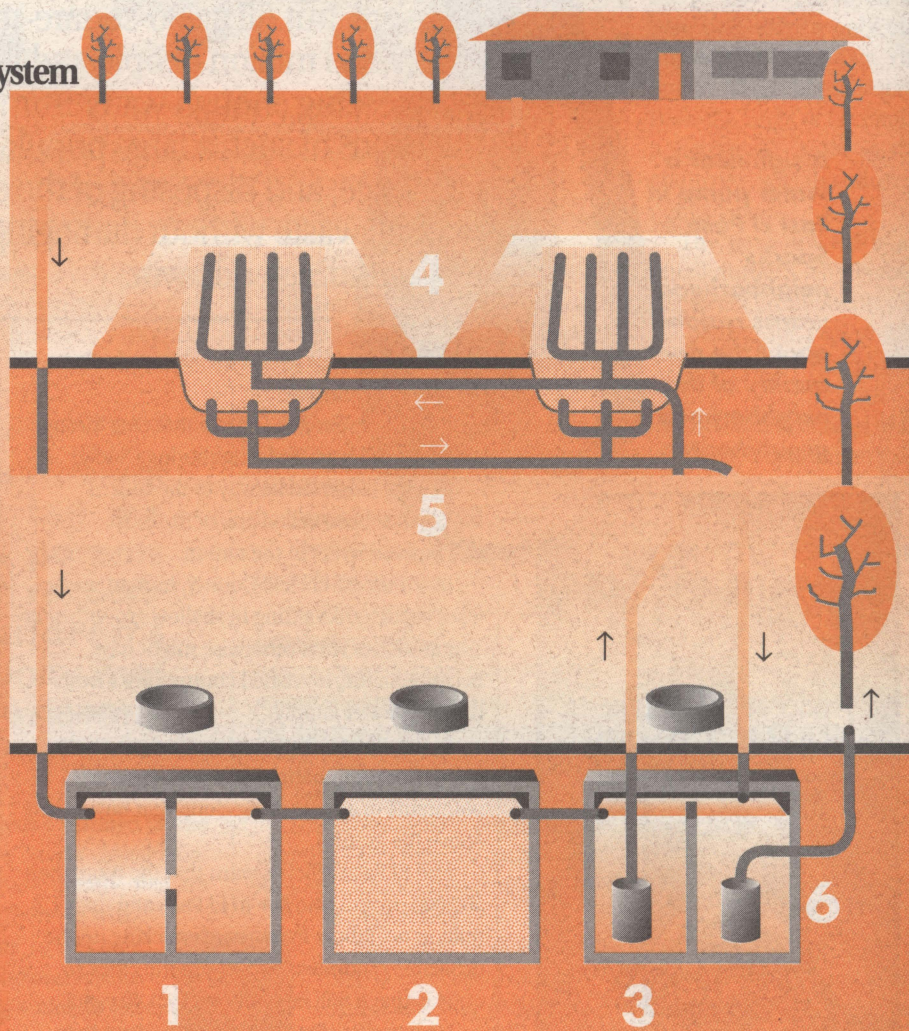
**3.** Partially purified water from the rock tank flows into a **clear water well**.

**4.** Water from the clear well is pumped above ground and released through a network of pipes onto a **bed of sand**.

As it trickles through the sand, more contaminants are removed.

**5.** Purified water collected on the plastic bottom of the sand bed trickles into a **second clear water filter**.

**6.** It is then pumped above ground to **water plants, trees and flowers**.





**P**rofessor Anthony Tarquin views modern engineering as a discipline driven not so much by mathematical and scientific principles as by economics. Students in Tarquin's civil engineering classes receive a heavy dose of economics in lessons concerning the mechanics of engineering.

"Engineering," says the 23-year UTEP veteran, "is a matter of figuring out something you can do by getting the most out of your money. There are always different ways to engineer things. Our job is to try to find the least expensive way."

Tarquin's personal economic picture brightened a bit this spring when he was named one of two winners of a \$3,000 Burlington Resources Foundation teaching award – an honor he characterizes as teaching's equivalent of the Academy Award. He received the UTEP Distinguished Achievement Award based on recommendations from fellow faculty and current and former students.

One former UTEP civil engineering student, Peter Chan, and his wife, Mei, recently paid what is perhaps the ultimate compliment to a professor. The El Paso professionals have contributed a substantial amount of money to establish the Anthony Tarquin honorary award to be given annually to an outstanding civil engineering student.

One of Tarquin's biggest boosters is Charles Turner, chairman of the civil engineering department, who has worked with the West Virginia native for more than two years. He describes Tarquin as open-minded, flexible, up-front and a pleasure to work with.

Of Tarquin's involvement with students, Turner comments, "He likes to get students involved in his research projects out on-site and doing data analysis. He's willing to work with students and spend time with them."

"What he gets his thrills from are real world applications (of engineering). He likes to see his students better themselves and go out and apply their engineering skills in the real world. He stays in touch with local firms to try to tap into the job market for his best graduates."

A dedicated researcher, Tarquin is developing a reputation as a top environmental engineer specializing in on-site wastewater treatment systems. Tarquin serves as a consultant with the City of El Paso as well as several private firms, including Petro Truck Stops and Phillips 66.

For the last couple of years, the civil engineer has received two Texas Water Commission grants to design and install low-cost, on-site wastewater treatment systems for El Paso residents not connected to city sewerage. Tarquin's project employs a small septic tank to collect a home's wastewater, removes contaminants by running water through a series of simple filters and circulates it back into the residence to flush commodes or into the yard to irrigate trees, shrubs and grass.

Student Roman Bustillos, who has worked with Tarquin on the project, offers testimony to his professor's no-nonsense approach to teaching.

"What makes him a good teacher is that he doesn't let us BS him," Bustillos says. "He demands that your reports are as concise as possible because that is what would be expected in the business world."

For all of his professional pragmatism, Tarquin's philosophy betrays the bit of dreamer in him.

"I have high hopes – and I may be dreaming – that we can revolutionize the way wastewater is treated in the desert environment," he says wistfully. "The trend has been toward centralized wastewater treatment plants, where effluent from houses is collected in a sewer system connected to the treatment plant. In an area where we're water-short, why should we be collecting water off site and piping it to a central plant when it could be treated on site, thus cutting down water demand?"

Tarquin says environmentally-related engineering is a great interest for students to pursue at UTEP because environmental problems along the border are only going to get worse before they get better. The population is growing, he says, and the community lacks adequate financial resources to address its needs.

Because of the growing attention being focused on environmental concerns worldwide, students are coming out of the woodwork to enroll in environmental engineering courses, according to Tarquin, who received his first fellowship to study the environment in the 1960s. Tarquin says interest in ecological concerns has been cyclical, peaking in the 1970s, dropping in the 1980s and climbing again.

Tarquin believes UTEP is ripe for an advanced degree in environmental engineering.

When he's not writing, researching or teaching, Tarquin relaxes by taking in a drag race (a passion since he was a young man), fly fishing in New Mexico and Arizona, remodeling homes or following the stock market using a computer program he designed.

"The university environment is a great environment because you're around intelligent people and have the opportunity to do things you think are important, whether teaching, doing research for a company or researching *colonias*. There's a lot of leeway."

## Anthony Tarquin: Award-Winning Professor Engineering the Future

by Robert McCorkle



**"Anytime you hear people say we're running out of water or we're running out of oil ... what they really mean is we're running out of something at the price we can afford to pay for it. You can solve almost anything if you want to pay for it."**

**FACULTY**

**PROFILE**



(...continued from pg. 8)

white concrete tubes that stick about two feet above Garcia's barren backyard.

If it weren't for the students, UTEP civil engineering professor Dr. Anthony Tarquin and those funny-looking tubes, Garcia says his house probably wouldn't have water for drinking, showering or flushing the toilet.

The Garcia family is one of six families in four service-starved rural neighborhoods that benefit from UTEP research on self-contained, on-site wastewater treatment systems.

Tarquin is using about \$200,000 in grants from the Texas Water Commission's On-Site Wastewater Research Council to design an alternative to a simple backyard septic tank that will not only store household wastewater but also purify it for reuse in irrigation or in toilets.

The system – a septic tank followed by a bed of gravel and a bed of sand through which liquid waste is filtered – is ideal for use in *colonias* like the one in which the Garcias live, where groundwater has been contaminated by seepage from septic tanks that sit just a few feet above the water table. In many of these neighborhoods, rates of hepatitis and other intestinal ailments match those in the Third World.

"In the Lower Valley, people who don't have city water use the groundwater in their homes," Tarquin says. "It is important that the water that goes back into the ground is of high enough quality so that if someone reuses it, they don't get sick."

Tarquin says his ultimate goal is to bring the

cost of the system down to about \$1,000 or \$1,500 and make it so simple that home owners will be able to install it themselves.

Garcia says the setup – installed two years ago so Garcia could get permission to pipe water into his home – was a godsend.

"I moved here to get away from the traffic and the smog in Juarez, where I used to live," Garcia says. "Never in my life did I think that I wouldn't have water and that I wouldn't be able to use the toilets. When I moved here, I lost about \$2,000 trying to put in a septic tank, but it never worked. In a way, I'm happy about how things worked out. This system that I have now is the best system I have ever seen in my life."

This May, Tarquin supervised construction on the newest phase of the treatment project at a home in a far east El Paso County neighborhood: a completely enclosed filtration network that will collect household wastewater, purify it to drinking water quality, tint it blue, and return it to the home for reuse in toilets.

"Almost half of the water used in a home is flushed down the toilet," Tarquin says. "If we can cut water use by using the water over again, we've made major inroads into water conservation."

On a larger scale, Tarquin and civil engineering department chairman Dr. Charles Turner are using an EPA grant to help the El Paso Water Utilities test new methods for purifying and reusing the six million gallons of wastewater that flow every day into the city's northeast wastewater treatment plant.

The professors and a handful of UTEP students are diverting a small portion of the wastewater from the plant's filtration system to test a series of high-tech membrane panels that are filled with holes so small that a water molecule can barely squeeze through.

They want to know if the panels – which were shown in earlier UTEP testing to effectively purify drinking water from the Rio Grande – can remove carbon, heavy metals, nitrates, phosphates and other pollutants from wastewater more cheaply and more efficiently than the older, more complicated filtration network the plant now uses.

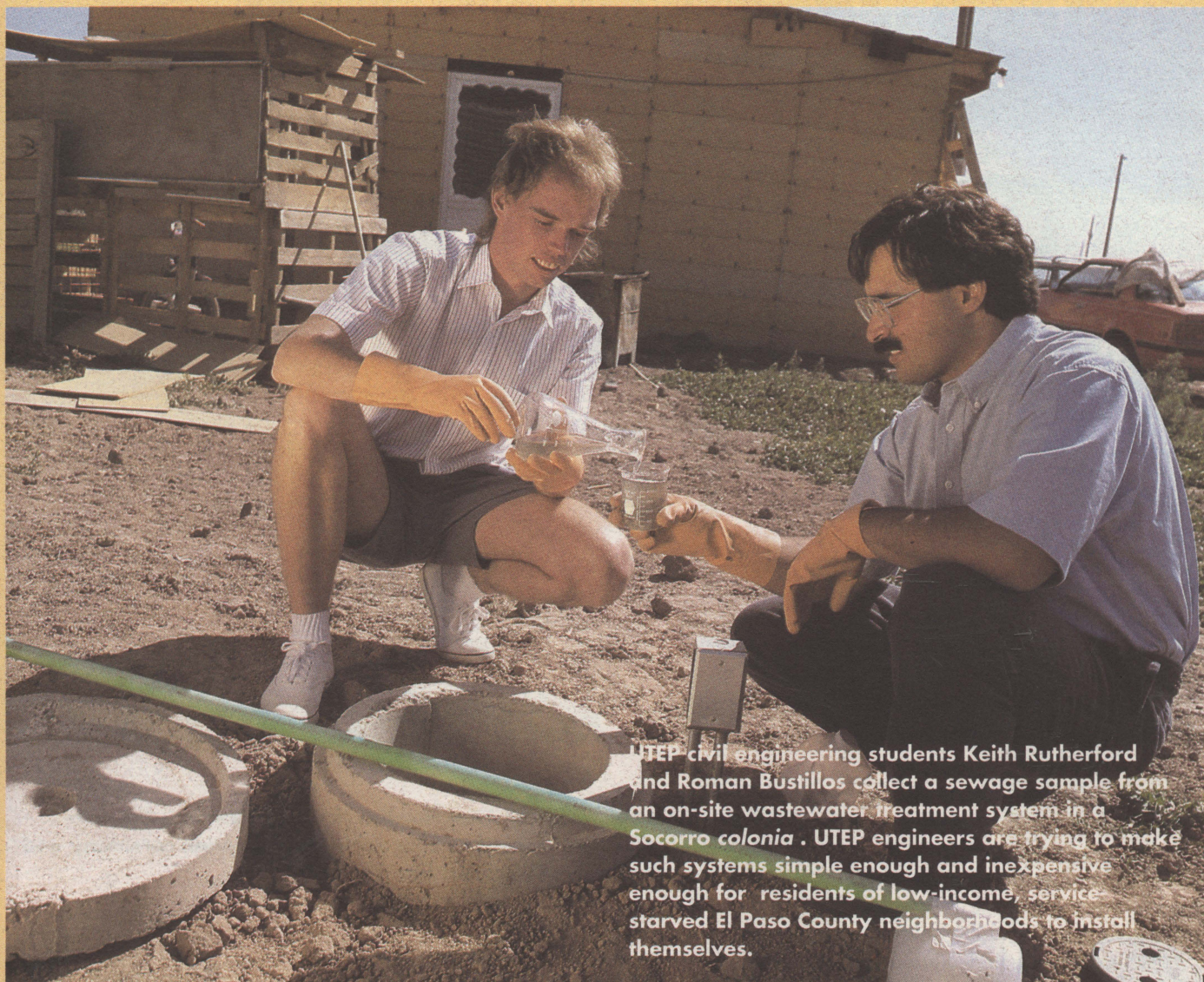
John Balliew, environmental compliance manager for the El Paso Water Utilities, says the membrane research will help the city's water department identify alternative drinking water supplies, formulate water policy and upgrade its wastewater treatment facilities to meet increasingly stringent EPA requirements.

"We are trying to experiment with these membranes for various tasks to see how well they work in El Paso," Balliew says. "We know the membranes are a



**Members of El Paso's Hazardous Materials Task Force have benefited from UTEP-sponsored hazardous materials management training funded by the Southwest Consortium for Environmental Research and Policy.**





UTEP civil engineering students Keith Rutherford and Roman Bustillos collect a sewage sample from an on-site wastewater treatment system in a Socorro colonia. UTEP engineers are trying to make such systems simple enough and inexpensive enough for residents of low-income, service-starved El Paso County neighborhoods to install themselves.

possible alternative that could be slightly less expensive and that might produce a better quality of water. But every source of water is different, and you can't be sure what will work until you test it on the water you want to treat. Because UTEP professors and students can do this for us, we don't have to go out and hire chemists and other private-sector professionals to do these short-term studies."

And there's another advantage. The northeast treatment plant treats wastewater that is reused on golf courses and in industrial cooling systems or re-injected into the Hueco Bolson aquifer to extend the life of the city's water supply. The membrane network can be adapted to purify the water only as much as required for each reuse option.

For example, Turner says, phosphates and nitrates are considered drinking water pollutants, and they must be removed from water that is being returned to the aquifer. But those chemicals are good for fertilizing grass, so they can be left in water that is headed for golf courses, thus eliminating a treatment step.

"We can tailor the water to whomever is using it," Turner says. "It can be very cost-effective."

## Grant boosts research

Wesley Leonard of CERM says UTEP is continually seeking funding to further research like Tarquin's and Turner's. He says he also expects UTEP to delve more deeply into research on hazardous waste thanks to a new \$500,000 grant from the EPA. That money will be used to create an Environmental Research Center within CERM that will focus on the study of hazardous waste cleanup.

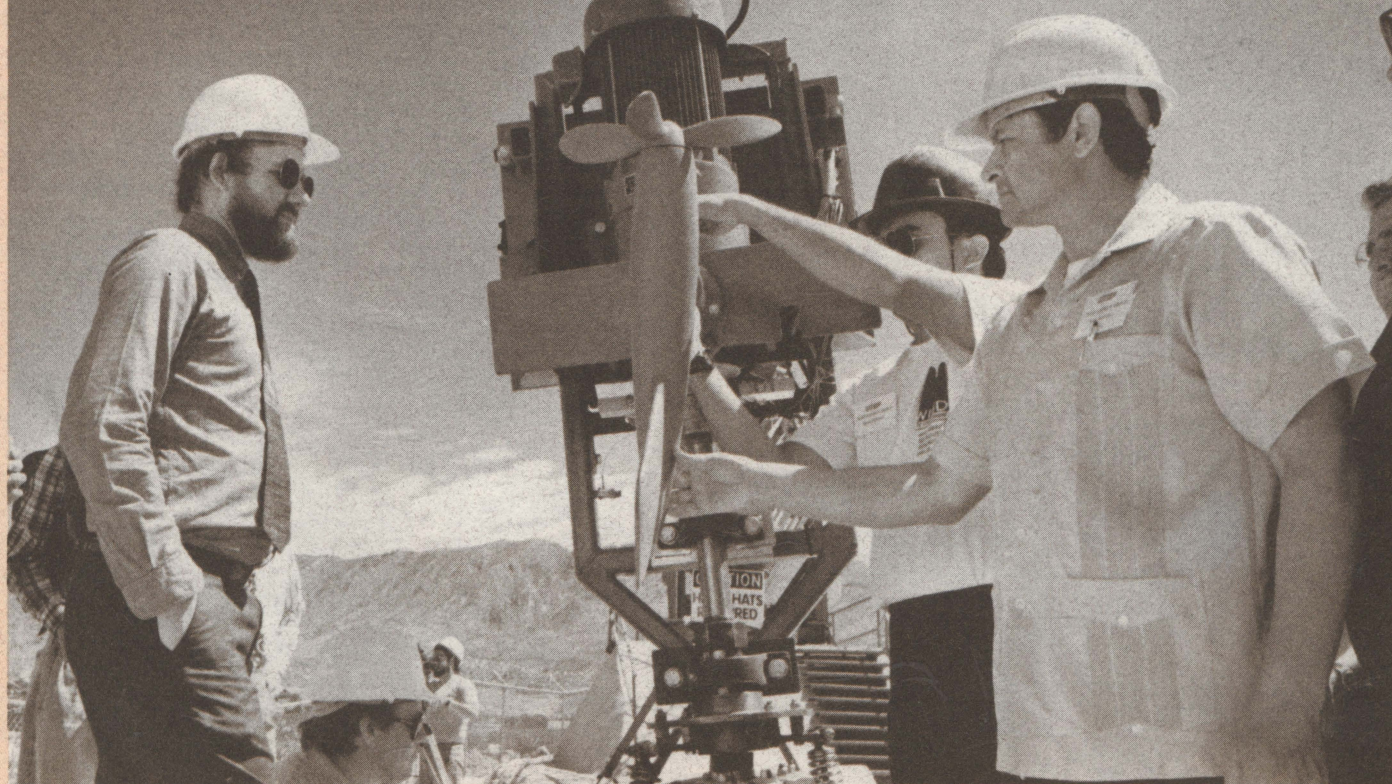
An important component of the center is a commitment to train minority researchers for work in environmental health and engineering and to study why many of the nation's worst environmental problems occur in low-income neighborhoods with large minority populations.

Grants and contracts administered through CERM already support more than 50 undergraduate and graduate researchers, and that number will certainly increase, Leonard says.

"This is an up-and-coming field," Leonard says. "Today's hot topics are environmental topics." ■



# UTEP Christens Wind Turbine



In the shrub-dotted foothills of the Franklin Mountains on the northwest edge of UTEP's campus, a windmill tower slowly rises from a horizontal perch a few feet above the ground to a vertical position, reaching 60 feet toward the clouds.

UTEP engineering professors and students at the Wind Test Site crowd into a nearby instrument shack and peer at colorful computer screens to monitor wind direction, wind speed and the position of the turbine's rotor blades in relation to the wind.

More than two dozen students and four professors are using the unusual two-bladed wind turbine—UTEP's newest piece of environmental research equipment—to design and test equipment that could make the generation of electricity from wind more efficient, promoting the use of renewable energy instead of environment-damaging fossil fuels.

Data gathered at the UTEP test site will be used by wind turbine manufacturers and researchers at the National Renewable Energy Laboratory who are testing a new breed of two-bladed wind turbines that are expected to replace three-bladed models on wind farms in California and elsewhere.

"We have been interested in renewable energy in the College of Engineering for more than 10 years," says Dr. Andrew Swift,

**UTEP engineering professor Juan Herrera (far right) inspects the rotor assembly of UTEP's new wind turbine during a dedication ceremony and open house at the new Wind Test Site this spring.**

UTEP's wind turbine expert and one of the project's investigators. "Despite the current limitations, wind energy is the most cost-effective and most promising alternative to electricity from fossil fuels."

But for wind energy to compete with fossil fuel energy, researchers must determine which of many wind turbine designs is most efficient and develop strong but inexpensive blades, towers and other machinery that will cut the cost of wind energy production from 7 cents per kilowatt hour to the 4.5 cents per kilowatt hour that we pay for electricity from fossil fuels.

At the UTEP Wind Test Site—one of only a handful owned and operated by universities—researchers will test a two-bladed system that allows a wind turbine's blades to flex toward the windmill tower as they rotate. Experts expect the next generation of wind turbines to use this system because it relieves the wind stress that can damage the expensive blades.

The first tests will be conducted under contract with R. Lynette and Associates, a wind turbine manufacturer from

Redmond, Wash., with support from the Texas Governor's Energy Office, the Department of Energy, the National Renewable Energy Laboratory and the El Paso Electric Company. Research will become fodder for student theses and other papers.

"A lot of students will get training out here," mechanical and industrial engineering professor Juan Herrera said on a recent visit to the site. "A wind turbine incorporates mechanical, electrical, aerodynamic and other kinds of engineering at one place."

UTEP mechanical engineering master's student Ed Carreño says the chance to be in on the wind turbine project convinced him to stay at UTEP for his graduate studies after getting an undergraduate degree here in 1992.

Carreño will help design and test an R. Lynette and Associates teetered rotor spring assembly. He says he hopes the research eventually will lead to a job at a company that works with renewable energy.

—Denise Bezick



## UTEP Research Answers Environmental Questions



**How does lead exposure in pregnant Hispanic women affect their babies?** Melinda Tinkle, Maria Amaya and Gail Ackall in the College of Nursing and Allied Health began this spring to track 2,000 low-income pregnant women in an effort to find out.

### **Why are frogs disappearing from the Rio Grande valley?**

Biologists Carl Lieb and Robert Case are collecting samples and examining them for signs of pesticides and other chemical pollutants.



**Can smog in El Paso be reduced by locating polluting industries in areas where wind will blow the pollution away?** Jack Smith is studying air temperature and wind direction – data that might help determine the answer.

**How do environmental factors affect the degradation of stainless steel waste containers?** CERM researchers are looking into it.



**Can high-tech membrane panels be used to turn Rio Grande water into drinking water?** Charles Turner thinks so. His research indicates the panels would produce drinkable water in El Paso and even better water when used upstream at Elephant Butte Reservoir in New Mexico.

**How much treatment does Juarez's raw sewage need before it can be safely used to irrigate fields southeast of town?** UTEP researchers are working with Alfredo Cervantes Aceves at the Autonomous University of Ciudad Juarez to develop a database to help manage wastewater collection, treatment and reuse.



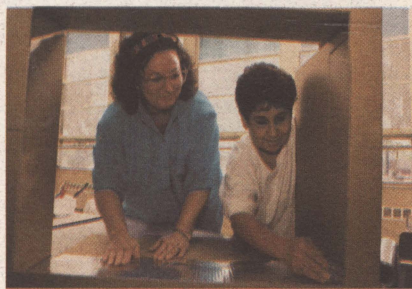
**What's new in solar pond technology?** UTEP's solar pond was the first in the world to use the sun's energy to deliver industrial process heat and the first in the United States to generate electricity. This year, energy from the pond will be used to convert food waste to ethanol fuel.



# Energy Center Teaches Sun-Smart Conservation



**The Energy Center's Rod Mercado explains how solar ovens work to John Wesley from the Apache Indian tribe's San Carlos (New Mexico) Housing Authority during a Southwest Indian Housing Authority Convention in El Paso.**



**Teachers from the El Paso Independent School District learn to make solar box ovens at a workshop given by the UTEP Energy Center staff.**

**T**he sun beats down on El Paso with more force than on any other city in the continental United States, and that, say the folks at UTEP's Energy Center, could mean big bucks in energy savings to the region's residents.

Yep, you read that correctly. Energy Center program coordinator Steve Cook says solar-efficient building and energy-efficient light bulbs and appliances could make a home in the searing hot Chihuahuan Desert a cool, comfortable conservation paradise.

And it can happen without eliminating the comforts that are part of an energy-extravagant life, says Cook.

Cook and three other UTEP Energy Center program coordinators spread the message every year to thousands of people along the U.S.-Mexico border as part of a state contract that makes UTEP home to the southwest field office of the Texas Energy Extension Service. UTEP operates satellite offices at UT Permian Basin and UT Pan American, and workers field hundreds of questions yearly from school kids working on research projects and business and home owners who want to become more energy efficient.

While preaching conservation and discussing the earth's dwindling resources, they tout passive solar heating, which capitalizes on the fact that the sun heats whatever is in the path of its light. For example, Cook says, a builder could use the direction a house faces, smart window placement and insulation to maximize the sun's impact on things you want to heat — like bath water — and minimize its impact on things you don't want to heat — like your living room in the summer. It works without fancy solar panels, complicated gadgetry or personal inconvenience.

"I'm like a salesman," Cook admits, walking through the Energy Center's solar demonstration building and pointing to tools and models he uses to teach home owners to heat a pool without spending a lot of money or build a wall that doesn't leak air.

"For instance," Cook says, "you use a 75-watt light bulb in your bedroom. I'll show you an 18-watt compact fluorescent bulb that gives off the same light but uses a fraction of the electricity. It might cost you a little more up front. Not only do you get that money back in electricity savings, but back at the power plant, they are using less fossil fuel, which causes air pollution."

Still, energy conservation is only a portion of what drives the Energy Center crew to deliver its message to people in 53 Texas counties and elsewhere in the United States. Human need dictates the rest.

Program coordinator Rod Mercado logs tens of thousands of miles a year touring impoverished *colonias* between El Paso and Brownsville and teaching people with no electricity and little money to use free solar power to cook, heat bath water and purify drinking water.

Mercado carries with him a solar cookbook that includes recipes for tamale pie, chilaquiles and turkey and stuffing. And he pulls from his pocket photographs of families cooking in simple cardboard solar box ovens in dusty neighborhoods all along the Rio Grande.

Recently, Mercado, Cook, El Paso solar home builder Mike Cormier and energy extension coworker Cheri Dalton presented their spiel to more than 50 members of the Southwest Indian Housing Authority during an energy conservation seminar at their quarterly conference in El Paso.

Tribe members went home with information about energy-conserving appliances, including solar cookers that they said would give residents of remote, impoverished villages a cheap alternative to the butane-powered stoves and wood cookfires they now use.

"Most of our people are on fixed incomes," says Martha Garcia, a New Mexico tenant representative of the Navajo Housing Authority. "We're always talking about ways to be more efficient. But it is more than just a financial consideration. As Indian people, you know that you shouldn't be wasteful and that you should preserve the earth's natural resources for your children and grandchildren."

El Paso's Tigua Indian community already is using some of the techniques they learned from the Energy Center.

The Tigua housing authority, which manages 113 resident-owned homes, serves tribal families that don't qualify for public housing and that can't qualify for a loan to buy their own home.

Mercado and Cook conducted energy audits in five houses, discovered common problems that lead to high energy bills and identified inexpensive solutions. They taught neighborhood residents to seal electrical outlets, weatherize windows, clean water heaters and fix leaky faucets by inviting them to the housing authority's office, which needed the same treatment, and putting them to work.

Not only was the seminar cost effective, it was empowering, says Eva Doyle, the housing authority's occupancy counselor.

"In the Indian housing community, people feel there isn't much they can do to maintain their homes," Doyle says. "With Rod (Mercado) and Steve (Cook), they learned what they can do for themselves."

—Denise Bezick



# HIGH LIGHTS

## EX-PEACE CORPS WORKERS AT HOME IN THE CLASSROOM

Thanks to the Peace Corps Fellows/USA Program at UTEP, former overseas volunteers are using their unique personal experiences and foreign language expertise as a launching pad for new careers as teachers and health care workers in the El Paso area.

UTEP's first two Peace Corps recruits—Jim Dewane and Richard Dierkes—have completed the first year of a new program administered through the College of Education's alternative teacher certification program. Dierkes, now an elementary school teacher, was named the new teacher of the year by the Socorro Independent School District.

UTEP, which recently learned of a new \$196,000 grant from the DeWitt Wallace-Reader's Digest Fund that will fund 80 Peace Corps education fellows slots, is busy interviewing former Peace Corps workers to admit to the program this summer. In addition, UTEP signed a pact in May with the Peace Corps to offer a master's degree in public health to returning volunteers.

The public health fellows will work with border community health and social service agencies while they are enrolled in the master of public health (MPH) program offered by the University of Texas-Houston Health Science Center's School of Public Health through a satellite program at UTEP. The Peace Corps public health fellows pro-

A mechanical engineer by academic training, Dierkes chose El Paso because he wanted to maintain his Spanish fluency and because he had come to love the desert environment after a South American bike tour took him through the arid part of Argentina.

Dewane, a biologist from Manitowoc, Wisc., opted, too, for the UTEP-based



*Former Peace Corps volunteer Richard Dierkes finds his bilingualism improves communication with his fourth grade students, many of whom are Spanish-speakers, at Escontrias Elementary School in Socorro.*

gram is only the second of its kind in the nation.

Dierkes, a 29-year-old Philadelphia native who served in South America, teaches at Socorro's Escontrias Elementary School and attends education classes at UTEP. Like all program participants, he must complete 18 semester hours of university course work to acquire his Texas teacher certification.

program because he wanted to maintain his Spanish—a foreign language he learned while doing public health and construction work in the Peace Corps in Ecuador. "Teaching had always been in the back of my mind, and this seemed a way to become certified quickly," notes the bilingual instructor at Canutillo Elementary School.

## PSYCHOLOGY PROGRAM TO OFFER UTEP'S FOURTH PH.D.

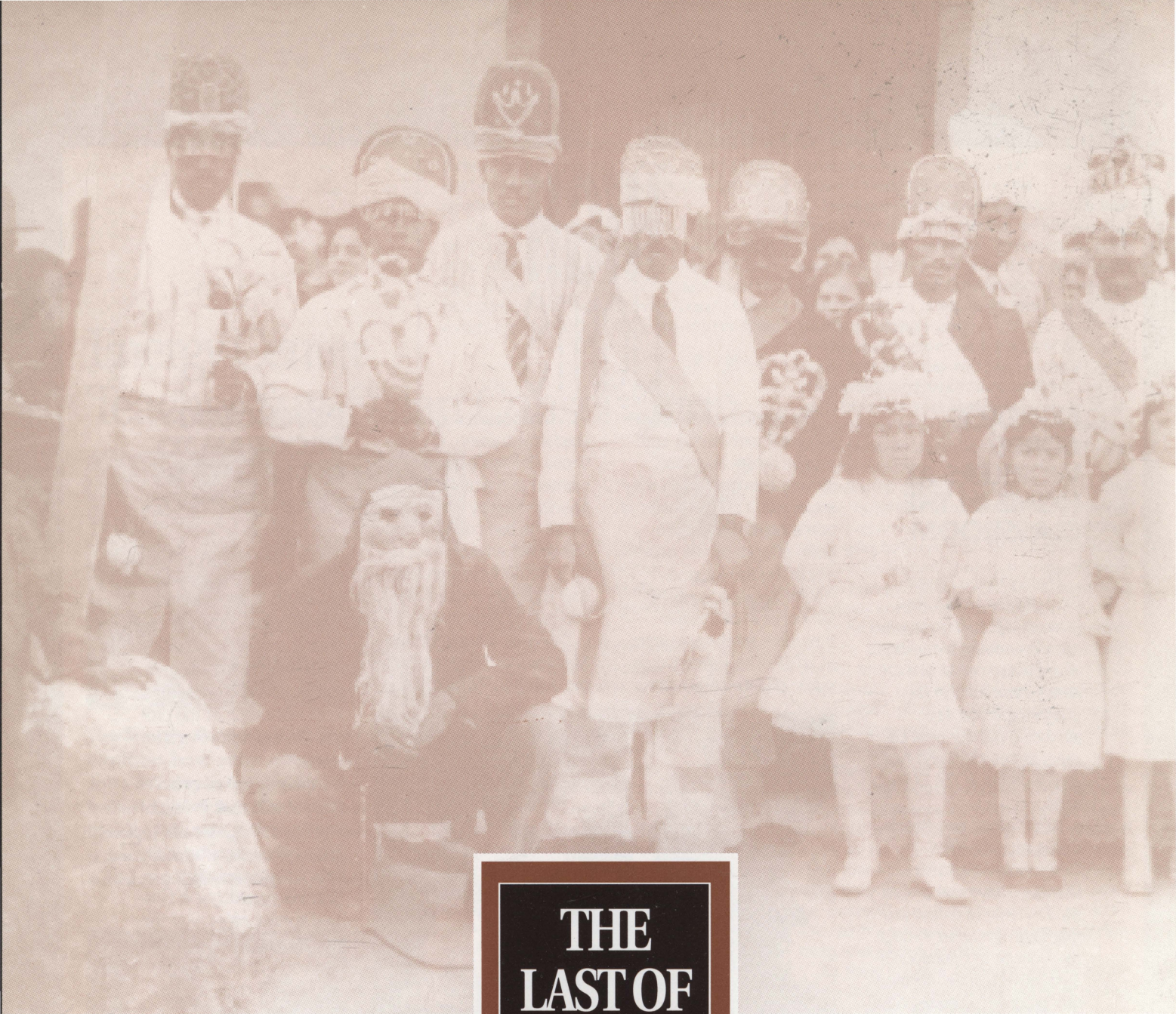
The Texas Higher Education Coordinating Board has given UTEP permission to offer a unique doctoral degree in applied psychology which will have a bilingual and bicultural emphasis. Final ratification of the program is expected this summer.

Students will be required to learn to use both English and Spanish in their work. They will perform basic research with applications in Spanish-speaking and bilingual communities, and they will complete a research internship at El Paso hospitals, Juarez *maquiladoras* or local social service agencies.

UTEP spent the last decade developing the academic expertise and acquiring the laboratory equipment essential to the psychology Ph.D. program, psychology chairman Harmon Hosch said.

"There is a tremendous need in this region for bilingual and culturally sensitive psychologists," he added. "This unique program is the only one (nationally) that includes a cultural and a language component." Students can enroll in the program in the fall of 1993.





## THE LAST OF THE MANSOS

**O**n a cloudy February morning in 1993, three of us gringo anthropologists wandered around Ciudad Juarez in search of descendants of the Manso Indians. The Mansos, the original inhabitants of the El Paso-Juarez area, were a semi-sedentary people who lived along the banks of the Rio Grande subsisting on fishing, hunting, gathering and farming.

The Spanish explorers of the 1580's encountered a friendly people at the Pass of the North. Don Juan Oñate, the first colonizer of New Mexico, reported that his party was greeted in 1598 by the Indians with the words *manso* and *micos*, which meant *mansos y amigos*, or peaceful ones and friends. In 1659, Fray García de San Francisco y Zúñiga established the Mission of Nuestra Señora de Guadalupe for the conversion of the Manso Indians.

Unfortunately, little information about the Manso culture survives

today. The historical record suggests that the Manso tribe died out in the 1770s, yet, in the 1880s, American ethnographer Adolph F. Bandelier located Mansos in Juarez who had retained some of the language and tradition, although they were very Hispanized.

During the summer of 1966, Nick Houser spent many fruitless weekends attempting to locate Manso descendants. He queried numerous elderly people in the old *barrios* about the original Indians of Juarez and received laughter or polite denials of such knowledge. Then, one hot day in San Lorenzo, a Juarez neighborhood that was formerly a small town, he directed his inquiry to an old man seated in the shade of a large cottonwood tree. The old man told the shocked anthropologist that he was Manso and proud of it! This man was Natividad Camargo, who lived near the Church of San Lorenzo.

*By Nick Houser, Howard Campbell and John Peterson*





*This Manso family portrait taken around the turn of the century in San José Colonia, Cd. Juárez, shows the family of Pedro Lujan, who is holding his child, Luz. The elderly woman seated next to the family patriarch is Kirina Lujan who was wounded by Apaches when she was a young woman growing up in Mexico. Photo courtesy of Josefa Lujan.*

Now, almost three decades later, Nick led us through Juarez in search of Manso descendants, but the familiar old neighborhoods, ranches and fields had been replaced by housing projects, shopping malls and the industrial sprawl of Juarez's foreign-owned *maquiladora* factories. Nick felt more like a confused Rip Van Winkle than a competent guide. Our hopes perked up as we saw ahead of us a large old adobe hacienda.

The current resident, Ignacio "Nacho" Favelas García, a wiry 63-year-old farm hand, greeted us and spoke of the history of the area. He pointed out the location of the old San Lorenzo church, and told us how Pancho Villa had carried a load of gold bars across the Rio Grande near present-day Ascarate Park. We surveyed the ground near the old site and found Spanish colonial pot shards as well as what resembled prehistoric El Paso plain ware. UTEP archaeologist John Peterson surmised that frequent shifts in the course of the Rio Grande (especially from violent floods) and the river's constant scouring of the valley land may have destroyed former buildings, and he deduced that the current structures and the present-day San Lorenzo church are quite recent.

In our broken Spanish, we asked Nacho about the Mansos. Had he ever seen Indians in these parts? Did he know where Natividad Camargo lived? "Sí, Nati, como no. El vive donde están aquellos árboles." (Yes, Nati, of course. He lives over there by that stand of trees.)

We drove Peterson's road-worn suburban over to the spot indicated by Nacho. Skeptical, we stopped to ask a woman washing her car if she had heard of Natividad Camargo.

"Yes, he lives here," she said. "Pásenle" (come on in). We walked past the side of an old whitewashed adobe house into a ramshackle back yard.

**Perched on a stump in front of chicken coops and piles of firewood was Natividad Camargo, the only person we have been able to find in Juarez who remembers the Manso ways and identifies himself as a member of the Manso tribe. The dark-skinned 86-year-old man was solidly built and wore an old tattered coat and felt hat against the cool spring air.**

Nick approached Natividad and told him that he had visited him 20 years ago and viewed his old Manso jacal (mud and stick hut) and pottery.

"Oh yes," replied Natividad, "You are the man from the University of Arizona." Though now blind, the old man has a prodigious memory. We immediately hit him with a barrage of questions about the Manso Indians.

As his sons, grandchildren and wife hovered about attentively, he recalled days gone by.

Natividad explained that the rustic Indian jacal built by his grand-

*A photograph recorded this group of Manso Guadalupana dancers assembled in front of the San José Chapel, Ciudad Juárez, circa 1915. A masked Manuel Carbajal squats next to the three malinches, from left to right, Juana Carbajal, Aurelia Lujan and Isabel Bernal. Photo courtesy of Marianita Ochoa.*



*Manso Indian Natividad Camargo*



parents had been destroyed by the rain. The Mansos constructed their jacales with low door frames as a security measure: anyone (especially marauding Apaches) entering the jacal would have to stoop over and then would be vulnerable to attack. When Houser saw Natividad's jacal in the 1960s, it still contained a number of large Indian *ollas*, or pots.

Pointing to the east, Natividad showed us where the Manso and Suma Indians had lived down by the banks of the Rio Grande. He said his father, Jesús Camargo, had known some of the words of the Indian language, as did neighbors Pedro and Nicolás Estrada. Apparently the Camargo family is of hearty stock. Natividad's father lived to be 93 and showed no signs of slowing down. At the time of his birth, local people used to live to 100, Natividad noted.

Mr. Camargo recalled the dances and games played by the Indians when he was young. Smiling, he described how the Indians held fiestas in which they danced in a circle and gambled. At these fiestas, the Indians used to sing funny songs. Then Natividad sang aloud:

*Una indita se empachó de  
tanto comer maíz crudo  
Del empacho le sacaron un indiole taparrabudo.*

(Because she ate too much raw corn, an Indian woman fell sick with *empacho* [a disease caused by supernatural forces, causing a lump to form in the stomach]. When the *empacho* was removed it contained a big Indian man dressed in a loin cloth.)

Natividad then sang another old, humorous Indian song:

*Yo tenía una vieja, la quería tanto  
la subí al tapanco, y le soné la hueja  
Qué maldita vieja, qué palos me ha dado  
que todito el lomo me tiene quebrado.*

(I had a woman, I loved her so that I took her up on a platform and hit her on the head. What a cursed woman, such blows she has given me that she even broke my back).

Natividad's father had been a farmer and grew corn, beans, chile and tomatoes. After the harvest in November, the Indian would thank the supernatural forces for their generosity. The old Manso recalled that the Indians would ask the priest to give a sermon, but since they did not know the word for sermon they asked him "to go up to the altar and shout."

His father hunted not only with a gun but with a bow and arrow. Natividad remembered that once a year the Indian men, armed with clubs, would form a line and walk in one direction through their fields, killing all the rabbits and other wild animals that might impede their

farming or whose meat could be eaten. This is reminiscent of the rabbit drives of the Pueblo Indians of New Mexico.

It is likely that Natividad's Indian ancestry is not only Manso but also Suma. The latter group, by the mid 1700s, had mostly abandoned El Paso region mission settlements to join the Apaches in the mountains to resist the encroachment of the white man. Anthropologist Adolph Bandelier, while visiting El Paso del Norte (Ciudad Juarez) in

November 1883, recorded the following in his diary:

"I called on Padre Ortiz. He told me that the Zumas (Sumas) were wiped out by the smallpox epidemic in 1780, all dying but one, Camargo, who himself died 14 years ago, leaving only one son." (The Southwestern Journals of Adolph F. Bandelier 1883-1884, edited by Charles H. Lang and Carroll L. Riley, University of New Mexico Press, 1970).

As we thanked our informant and said our goodbyes, we marveled at the resilience of this man born in 1906, before the Mexican Revolution. He is the only known person in the area who identifies himself as a Manso Indian. What a shame that

his people, the original inhabitants of the El Paso/Ciudad Juarez area, are all gone! Hopefully, the present day inhabitants of the region will take note of this proud heritage and the old adobes that are all too quickly being replaced by housing complexes and factories.

As we drove off to search for more evidence of Indian occupation along the west bank of the Rio Grande, Nick Houser told a story about Natividad which illustrates the pride and sensitivity of this man. In the early 1970s, he was offered money for the Manso pots and other arti-

facts that he kept in the old jacal which no longer exists. At first he refused but then began to cry as he told of his respect for late American President John F. Kennedy, who he admired for his empathy for the poor. Natividad decided that he would donate the Manso legacy in memory of President Kennedy to the Tigua Indian Cultural Center in El Paso on the condition that he receive a letter of acknowledgment from the Kennedy family. A local lawyer, Tom Diamond, accepted the task of informing the Kennedy family of this offer, and several weeks later Natividad received a typed letter from Robert

Kennedy with a hand-penned note indicating that the Kennedy family, including Mrs. John Kennedy, appreciated the donation in memory of the late president.

Riding back to El Paso through the chaotic streets of boomtown Juarez, we all felt enriched by this encounter with the last of the Mansos.

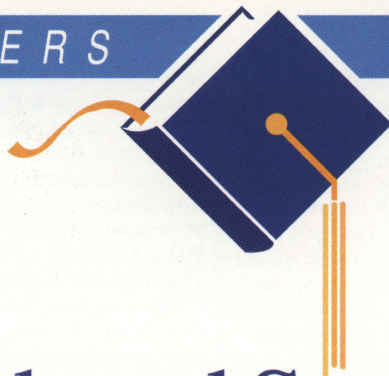


*Manso Indian worshipers pose inside the San José Chapel on the Feast Day of Guadalupe on Nov. 12 in a photograph thought to have been taken in 1920. The gentleman with the white beard who is standing in the back left corner of the room is Alvino Rodriguez. He spoke the Manso dialect and was in charge of the ceremonial drum. Families represented in the photo are Rodriguez, Carbajal, Velarde, Lara, Maese, Bernal and Cuarón.*



*Natividad Camargo shares the past with UTEP anthropologist Howard "Manny" Campbell.*





# Helen and Edward Stern

by Gail Miller

Dr. J. Edward Stern and his late wife, Dr. Helen M.C. Stern, made many remarkable contributions to this community during the 40 years the Sterns have called El Paso home. The couple's most recent, generous and substantial gift—two endowed professorships for UTEP faculty members—illustrates the Sterns' lifelong twin interests in science and the humanities.

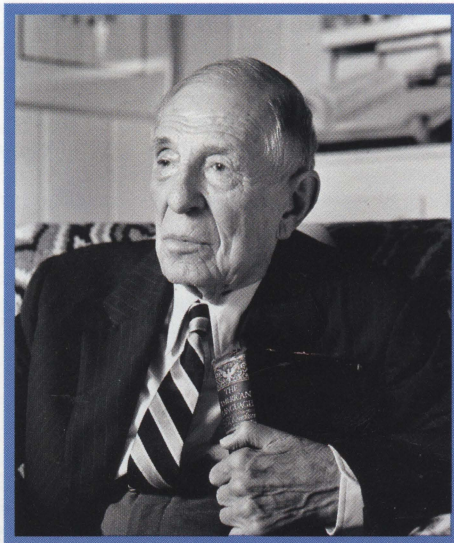
The Sterns' first involvement with the city's university began when the couple studied Spanish in the early 1950s at Texas Western College. Dr. Edward Stern emerged from the program bilingual. Because of the competence and kindness of TWC's faculty, he says he was able to conduct discussions in Spanish with his many patients from Mexico's interior.

In the 1980s, the Sterns decided to add substance to their vision that the city's university would "one day be a great university for El Paso, the United States and the entire Western Hemisphere" through the creation of a permanent endowment to UTEP.

In the spring of 1993, UTEP officials joined family and friends of the Sterns to celebrate the creation of the first of two endowed professorships. The gifts assure that the university will always be able to pursue scholarship and/or research that focuses on the basic and applied neuropsychiatric sciences and related or associated fields.

"The second professorship is called the Helen M.C. Stern and J. Edward Stern Endowed Professorship, and it's in honor of my wife, Helen, who died last year," explains Dr. Edward Stern from his El Paso home. "It will go to a professor in the Department of Psychology. This was Helen's field."

Helen Melissa Campbell Stern was born in Kansas and moved to Southern California at age 2. Raised in Garden Grove, Calif., Helen's first educational experience took



Dr. J. Edward Stern

place in the two-room schoolhouse in nearby Alamitos, followed by high school in Anaheim. She attended the University of California at Berkeley for both undergraduate and graduate studies, receiving a Ph.D. in psychology in 1939.

J. Edward Stern was born on Long Island 86 years ago. After high school, he completed a bachelor's degree at Columbia College, followed by a medical degree at Columbia Medical School. During his internship at the Mt. Sinai Hospital of New York, and in subsequent years, Dr. Stern did extensive work in internal medicine, neurology, psychiatry, psychosomatic medicine and various forms of electroneurodiagnostics. Much of his training was acquired through self-study because the fields of electroneurodiagnostics and psychosomatic medicine were uncharted territory in those years.

Dr. Louis Neal Irwin, UTEP professor and chairman of the Department of Biological Sciences, has been named the recipient of the first Stern endowed professorship. Irwin's background reflects Dr. Edward Stern's background in neuroscience.

Edward Stern founded the Neurodiagnostic Department of Providence Hospital in 1957 and introduced the science of electroencephalography (EEG) to El Paso. Irwin served as a staff scientist in the Neurosciences Research Program at MIT some 30 years later.

Both the biology and the psychology professorships have had a significant impact on UTEP. The first one helped the university win a multimillion dollar grant from the National Institutes of Health for a biomedical research center. Dr. Harmon Hosch, chairman of the Department of Psychology, commented that the professorship in that department undoubtedly contributed to the pending approval of UTEP's new doctoral program in psychology.

Helen and Edward Stern met in 1943 while serving in the Navy at the Naval Medical Department in Oakland, Calif. They later married in New York City where Edward had established a practice on Park Avenue.

Seeking relief from a severe skin allergy that had plagued Edward Stern since childhood, the couple moved to El Paso in the late 1940s. Edward opened a private practice in neurology and psychiatry, and Helen began work as an assistant professor of psychology in UTEP's Department of Philosophy.

Helen also worked as a clinical psychologist with the Army and the Veteran's Administration, established a private clinical practice and became an acknowledged and highly respected specialist in the diagnosis of schizophrenia.

In 1957, Edward became the medical director of Providence Memorial Hospital's neurology program. In recognition of the key role he played in the program's development, the hospital recently named the department the J. Edward Stern Neurodiagnostic and Balance Center. ■



# ALUM NOTES

## 40's

**Vernie A. Stembridge, M.D., (B.A. '43)** professor and chairman emeritus of pathology at Southwestern Medical School, Dallas, has retired after 53 years with the U.T. System. At a recent retirement ceremony a "festschrift" (a collection of articles by a noted scholar published in his honor) was presented in recognition of the impact of his work in the field of pathology. Stembridge, UTEP's Distinguished Alumnus in 1978, has been the recipient of numerous awards, including the Ward Burdick Award of the American Society of Clinical Pathologists, The George Caldwell Award for Outstanding Service from the Texas Society of Pathologists, the Dallas County Medical Society's Max Cole Leadership Award and a listing in *Who's Who in America*.

**Dover Roth, M.D., (B.A. '47)** received his doctorate from Harvard University. He has been appointed Medical Director of Benesys, Houston, a psychiatric managed care provider.

## 50's

**J. Mack Adams, Ph.D. (B.S. '54)** founder of one of the country's first college computer science programs at New Mexico State University, has retired after 28 years. In addition to teaching, the associate dean of NMSU's College of Arts and Sciences received an NSF grant to establish the NMSU Mini Center which offers students computer education workshops, was co-founder of TCI Software Research, Inc., and worked at Sandia National Laboratories.

**James H. Lundy Jr. (B.S. '54)** has retired from Cyprus Miami Mining Corp. after 42 years of service in engineering and plant management. Currently living in Claypool, Ariz., he is still involved in small consulting projects. He is married to the former Jacqueline Maddox, a retired Miami public school teacher, and they have three children and seven grandchildren.

**Ernest Alvillar, (B.M. '56; M.Ed. '64)** an elementary school band director for EPISD for thirty years now teaches fourth grade at Riverside Elementary School in the Gadsden School District. His wife, **Lucila**, returned to UTEP in the 70s to study education and is a substitute teacher in El Paso.

**Howard McCord, (B.A. '57)** has authored twenty-six books of poetry, fiction and criticism and has read at more than 200 colleges and universities in 22 states. Director of the Creative Writing Program at Bowling Green State University from 1971 until 1980, he now directs the Ph.D.-Creative Emphasis program there.

**Hector Holguin, (B.S.C.E. '58)** has been named "Outstanding West Texan of 1992" by the Texas Chamber of Commerce. Holguin is chairman and chief executive officer of El Paso Accugraph Corp., a computer software company he founded 21 years ago. His company, which conducts business in 31 countries, markets an innovative computer software package that replaces the drafting table.

**Olga "Cookie" Mapula, (B.A. '58; M.A. '73)** is one of six El Pasoans to be honored for their accomplishments by being inducted into the El Paso Women's Hall of Fame. Mapula, honored for her contribution of public service, is a founding member of La Fe Clinic and Mothers Against Drunk Driving. She has served on the board of directors of many civic groups.

## 60's

**Dr. Catalina "Hope" Garcia, M.D., (B.S. '61)** a Dallas anesthesiologist, received the Latina Excellence Award in Science sponsored by Johnson and Johnson, at a luncheon hosted by *Hispanic* magazine. Garcia earned her M.D. at the U.T. Southwestern Medical School.

**Patrick A. Bowman, LTC/USA (Ret), (B.S.E.E. '62; B.S. '62)** is Manager of Programs for the Dallas-based E-Systems, at their Greenville, Texas, Division. He works in the area of Airborne Manned Reconnaissance for the U. S. government. During his military service he earned his master of science degree in operations research systems analysis at the Naval Postgraduate School and received the Bronze Star and three Meritorious Service Medals.

**Luis Fresquez, (B.S.E.E. '63)** earned a master of science degree from Georgia Institute of Technology and served in the Marine Corps for 20 years. He was recently named vice president and chief information officer for the 34 million member American Automobile Association.

**Judith Hail Daniels, (B.S. '64)** completed her masters degree in social work at

the University of Alabama and has recently been promoted to welfare supervisor. She will be trainer/coordinator at the Department of Human Resources. She resides with her husband and children in Huntsville, Ala.

**Nick Binyon (B.B.A. '66)** is the new president and chief executive officer of the Bank of El Paso.

**The Hon. Jay W. Burnett (B.A. '66)** is judge of the 183rd District Court in Harris County, Texas. He was a course moderator at the Advanced Criminal Law course held recently in Houston.

**Armando R. (Muggins) Ruiz (B.S. '66; M.A. '69)** has been elected to a three-year term on the board of trustees of the Association of Community College Trustees. He serves on the board of trustees of the Coast Community College District in Costa Mesa, Calif. and is a full-time counselor at Saddleback College in Mission Viejo, Calif.

**Ronald R. Haugen (B.A. '68)** became a C.P.A. in 1992 and currently works in El Paso.

**Daniel L. Lazenberry (B.S.E. '69)** is working toward a master of science degree in secondary education at the University of Houston at Clear Lake. He has been an instructor of police science at the High School for Law Enforcement and Criminal Justice since 1978.

## 70's

**Jesus Cortez, Ph.D. (B.A. '70; M.E. '73)** earned his doctorate at the University of Washington. He is a professor of Education at the California State University at Chico, where he was honored as that institution's outstanding professor in 1991-1992. Cortez established the Center for Bilingual-Multicultural Studies at CSU-Chico in 1983. He has served on the California Superintendent of Public Instruction's Hispanic Advisory Council, the California Commission on Teacher Credentialing Bilingual Advisory Board and the California Language Development Task Force.

**Cecilia Cervantes (Marmolejo), (B.A. '71; M.E. 1973)** former dean of liberal arts and humanities at the Community College of Denver, was recently named vice president for academic affairs at Western New Mexico University. Her husband, **Hermes Cervantes, Ph. D., (B.A. '68; M.E. '72)**, is a counselor at the Socorro Independent School District and co-author of the first textbook on Bilingual Special Education. Both received their doctorates from the University of Colorado at Boulder.

**Jack DeVore, (B.A. '72)** has been named assistant secretary to the treasury in the area of public affairs and public liaison, by President Bill Clinton. DeVore worked for 20 years as press secretary to U.S. Senator Lloyd Bentsen, who is now secretary of the treasury.

**Shelby Fred O'Neal, Ph.D. (B.A. '72; M. Ed. '76)** is the supervisory psychologist and recently appointed clinical director of the Alcohol & Drug Abuse Prevention and Control Program at William Beaumont Army Medical Center in El Paso. Dr.

O'Neal serves on the William Beaumont Army Medical Center's Impaired Health Care Provider Ad Hoc Committee to recommend treatment for health care workers with chemical dependency problems. Dr. O'Neal has done extensive research on chemical abuse and rehabilitation and is the author of numerous professional articles.

**Enrique "Henry" Baray, J.D., (B.A. '73)** has been named senior vice president and general counsel of Univision Television Group, the largest Spanish-language television company in the United States. Baray received his doctorate in jurisprudence from Harvard Law School and studied at the Hague Academy of International Law in Europe. He was named one of the country's outstanding lawyers by the *American Lawyer Magazine*. Baray will be based in the company's Los Angeles office.

**Evelina Chapa-Loya (B.S. Ed. '73)** earned her master's in education from Sul Ross State University in August 1992 and is currently reading department chair at Eastwood Middle School in El Paso.

**Martha Guerra Lopez, (B.S. '74; M. Ed. '78)** former business education teacher at Bel-Air High School (currently, librarian at Marian Manor Elementary School) was honored in Abilene, Texas, as the 1992 Texas Business Education Secondary Business Teacher of the Year for District 19.

**Ricardo E. Alvillar, M.D., LTC/USAF, (B.S. '75)** was recently promoted to the rank of lieutenant colonel. Alvillar earned his M.D. degree in internal medicine from Baylor College of Medicine and completed a second residency in rheumatology in the Air Force. He is currently stationed in Biloxi, Miss.

**Ralph Anderson (B.B.A. '75; M.B.A. '80)** has been promoted to vice president at the State National Bank, where he will continue his duties as department manager in the residential lending department.

**Oscar Vaca (B.B.A. '76; B.S.E.E. '79)** is on a two year diplomatic assignment for the Federal Aviation Administration as Radar/Automation Systems Advisor for the Spanish Civil Aviation Assistance Group in Madrid, Spain.

**Ruben Natera (B.S.C.E. '78)** is a supervisory civil engineer with the USDA Forest Service in Lufkin, Texas. He was named Engineer of the Year for Managerial Excellence Award-Southern Region in 1992. He is a lieutenant in the Navy Seabees.

## 80's

**Antonette Denise Graves (B.S.Ed. '80)** was a 1980 recipient of the Women of Mines award at UTEP. She has been named "Teacher of the Year" at St. Amant High School, St. Amant, La., where she has been a physical education teacher and track and basketball coach for twelve years. Graves received her master's degree and master's plus thirty in education from Louisiana State University. Her community service includes sponsorship of the Fellowship of Christian Athletes.

**Steve Hostak (B.A. '81)** has joined



de Bruyn, Cooper, Maldonado Advertising, Inc., of El Paso as broadcast director and copywriter. His civic contributions include fundraising for KCOS-TV, production of award-winning radio commercials for Crime Stoppers of El Paso and donating guitar lessons to the El Paso Parks and Recreation Department's program.

**Rosemary Neill** (M.P.A. '81) has been appointed to a six-year term as board member of the Texas Department of Mental Health and Mental Retardation by Governor Ann Richards.

**Ted Karber Jr.** (B.A. '85; M.A. '88) is one of 50 finalists in the prestigious Eugene O'Neill Theater Center's National Playwright's Conference. Karber's entry was a one-woman Texas comedy named *Precious Heart*. The actor/director/playwright has been writing for the stage for more than ten years. He resides in Corpus Christi where he is an administrative assistant to the executive director at the Coastal Bend AIDS Foundation.

**Jeffrey M. Jilg**, Ph.D., (M.S. '88) was awarded his doctorate in computer science from Texas A&M University in 1992. He is currently working on AIX System Management Architecture for International Business Machines in Austin.

## 90's

**Gary Ray Black Jr.**, J.D., (B.A. '90) received a doctor of jurisprudence degree from South Texas College of Law in Houston in May 1993. He graduated Summa Cum Laude and is listed in the 1993 edition of *Who's Who Among Students in American Universities and Colleges*.

**Eric Charles Carcerano**, J.D., (B.A. '90) earned his doctor of jurisprudence degree from South Texas College of Law in Houston, Texas in May 1993.

**William J. Bates**, (B.S.E.E. '93) a May graduate in electrical engineering and ROTC cadet, is soon to be commissioned as a second lieutenant in the U.S. Air Force.

**David Weissmiller** (B.B.A. '93) an ROTC cadet who graduated in May, is slated to be commissioned as a second lieutenant in the U.S. Air Force.

## OBITS

**Douglas Brittin Boice**, M.D., CMDR/USN, (B.S. '70) October 22, 1992. After two years of service in the U.S. Public Health Service, he began his career in the U.S. Navy in 1982. During his Navy career he served at the National Naval Medical Center, Bethesda Md., and Portsmouth Naval Hospital. He was a veteran of the Gulf War. He is survived by his wife, Jan, a daughter, a brother, a sister-in-law and four nephews.

**Howard A. Simonides**, LTC/USA (Ret), December 19, 1992. He was a resident of El Paso for 36 years and was retired from teaching English and German at Andress High School. He is survived by his wife, Eufemia and a son.

**Dora Maria Portillo**, (B.S.Ed '81)

January 22, 1993. A lifelong resident of El Paso, she had served as athletic director at Lydia Patterson Institute and as a coach at Socorro Middle School. Survivors include her father, a sister and two brothers.

**John J. Gorman**, (B.A. '47) January 29, 1993. The WWII and Army Air Corps veteran had retired from the F.B.I. as special agent after 24 years service. He is survived by his wife, Marguerite, two sons, a sister and three grandchildren.

**J. Ernest Sipes**, (MSCE '69) February 6, 1993. He was a registered professional corrosion engineer at El Paso Natural Gas Co. He was a member of the Instrument Society of America, the American Institute of Chemists, and a 30 year member of the National Association of Corrosion Engineers. He served as deacon body chairman at First Baptist Church and was an active member of Gideons International. He is survived by his wife Elizabeth, two brothers and five sisters.

**Eleanor Minta Hoppock MAJ/USA** (Ret.), (B.B.A. '66) February 10, 1992. She graduated from Flight Nurses School in Louisville, Ky, after which she served in the Pacific Theater in WWII, evacuating injured servicemen. During her thirty years in El Paso, she was active in many organizations, among them, El Paso County Historical Society, Drive-a-Meal, El Paso Museum of Art and the Santa Fe Opera Guild. She is survived by two sisters, a niece and two nephews.

**Johnnie E. Riggs**, (B.B.A. '48) February 12, 1993. He had lived in El Paso since 1941. He was an accountant and was actively involved in the Baptist Student Union. He is survived by his sister, Viola.

**Sylvia Joy Coe McCord Beaird**, (attended 1926-1928) February 13, 1993. She taught at Aoy School. She was past president of Pilots Club of El Paso and a long-time member of the El Paso Historical Society. She is survived by her husband O. Presley, two children, eight grandchildren and four great-grandchildren.

**Judith Kraft**, (B.S.Ed. '74) February 14, 1993. She was a retired school teacher from the El Paso Independent School District and had lived in El Paso all her life. Survivors include her husband, Joe and two daughters.

**Cynthia Ann Brandon (Pedroza)**, R.N., (B.S.N. '88) February 18, 1993. She was a lifelong resident of El Paso and member of the Catholic Church. She had worked at Providence Memorial Hospital and most recently had been employed as a travelling nurse. Survivors include her husband Patrick, her parents, a grandmother, a brother, a sister, several uncles and aunts, a nephew and three nieces.

**Avelardo Trujillo Jr.**, (B.A. '69) February 19, 1993. He was a lifelong resident of El Paso and a member of the Catholic Church. He was principal of Mission Valley Elementary School in the El Paso Independent School District. He had been employed by the district for 24 years. Among his survivors are his wife Irene, a daughter, his mother, a brother and three sisters.

**Texas S. Ward**, (B.S.E.E. '49) February 20, 1993. He had practiced law in El Paso

since 1954 and held the office of Justice of the Peace for eight years. He held several positions in the El Paso Bar Association and was past president of the El Paso Trial Lawyers Association. He was a WWII veteran, a member of the El Maida Shrine Temple and served many years on the Administrative Board of Western Hills Methodist Church. A long time supporter of UTEP, he was a part-time lecturer in engineering law and helped to build the Alpha Phi Omega Fraternity Endowment Fund to benefit the university. He is survived by his wife Miladean, two daughters, a son, a sister, and two brothers.

**Phoebe Mutnick**, (assistant Professor of Music) February 22, 1993. She was a pianist for the El Paso Symphony Orchestra, chairwoman of the UTEP Opera Guild and a charter member of the Texas Group Piano Association. She received the Piano Teachers Guild Hall of Fame Award in 1957 and was named to the 1983 National Honor Roll of Guild Teachers. She was a member of the El Paso Music Teachers Association, American Federation of Musicians, Temple Mount Sanai, B'Nai Brith Women and Hadassah. Survivors include her husband Reuben, and two sons.

**Victor Padilla**, (B.S. Ed. '74) March 2, 1993. He taught at San Elizario Middle School, was a member of the Baptist Church and a lifelong resident of El Paso. Survivors include his wife Jo Anne, a son, two step-daughters, a sister and three brothers.

**Irvin Walker (Bus) Gillett**, (attended '17-'18, '19-'23) March 4, 1993. He worked for Jefferson Standard Life Insurance Co. for 56 years. During his years at the university he was captain of the Longhorn Baseball Team, which won the Southwest Conference title for four straight years. He was inducted into the El Paso Baseball Hall of Fame in 1991. He was a vestryman of the Pro-Cathedral Church of St. Clements, president of the Life Underwriters of El Paso and a founding member of the Little League in El Paso. He is survived by his wife Helen, a daughter, two sons, eleven grandchildren and four great-grandchildren.

**Cynthia Boyd Gorbet**, (B.S.Ed. '87) March 5, 1993. She was a lifelong resident of El Paso and a school teacher at Desert Hills Elementary School. Survivors include her husband Charles, two sons, a granddaughter, her mother and two brothers.

**Eddie May Duty**, (B.A. '43) March 8, 1993 in San Diego Calif. She was a teacher in El Paso for 26 years. She was a member of Trinity Methodist Church in El Paso and is survived by two friends, Roberta Hurlbut of San Diego and Mrs. K. Dickerson of El Paso.

**Wallace Edwin (Wally) Blair**, (M.A. '87) March 11, 1993. He sang leading roles with opera companies in Dallas and Ft. Worth and the Metropolitan Opera Studio in New York City. He also sang with the El Paso Civic Opera and the Moulin Rouge, at Ft. Bliss. He served as minister of music at the First Christian Church. Survivors include his mother, a brother, sister, a nephew and two nieces.

**E. C. (Ted) Houghton**, (friend and supporter of UTEP) March 23, 1993. He was

a lifelong resident of El Paso, former president of Price's Creameries and former executive vice president of the State National Bank. He is survived by his wife Marietta, four sons, two daughters, a brother, a sister, and nine grandchildren.

**Burton M. Dukelow**, (B.A. '73) March 27, 1993. He was a retired Army chief warrant officer. He is survived by his wife Lotte, two brothers and a twin sister. **Angelina (Angie) Sanchez**, (B.S. Ed. '69) April 3, 1993. A lifelong resident of El Paso, she had retired from Hawkins Elementary School as a bilingual teacher. She was a member of the Catholic Church and Delta Kappa Gamma Sorority. Survivors include her parents, a brother and sister.

**George C. Park**, Ph.D. (M. Ed. '69) April 5, 1993. He was a chaplain in the U. S. Army and retired from Immanuel Baptist church in El Paso after 23 years of service. After his retirement he moved to Pagosa Springs, Co., where he served the Village Chapel. He is survived by his wife Marian, a daughter and son and seven grandchildren.

**Dorothy Dykes Beall**, (B.A. '51; M.Ed. '61) April 11, 1993. She was a lifelong resident of El Paso and a member of the Catholic Church. A graduate of the Hotel Dieu School of Nursing, she joined the Army Nurse Corps at the beginning of WWII. She served as a counselor and teacher in the El Paso Independent School District for 31 years. Survivors include her husband William, a son, daughter, a sister and several nieces and nephews.

**Yvonne Etnyre Greear**, (retired staff) April 11, 1993. She had lived in El Paso since 1950 and had retired from her position as assistant director for public services at the UTEP Library. She is survived by two daughters, seven grandchildren and eight great-grandchildren.

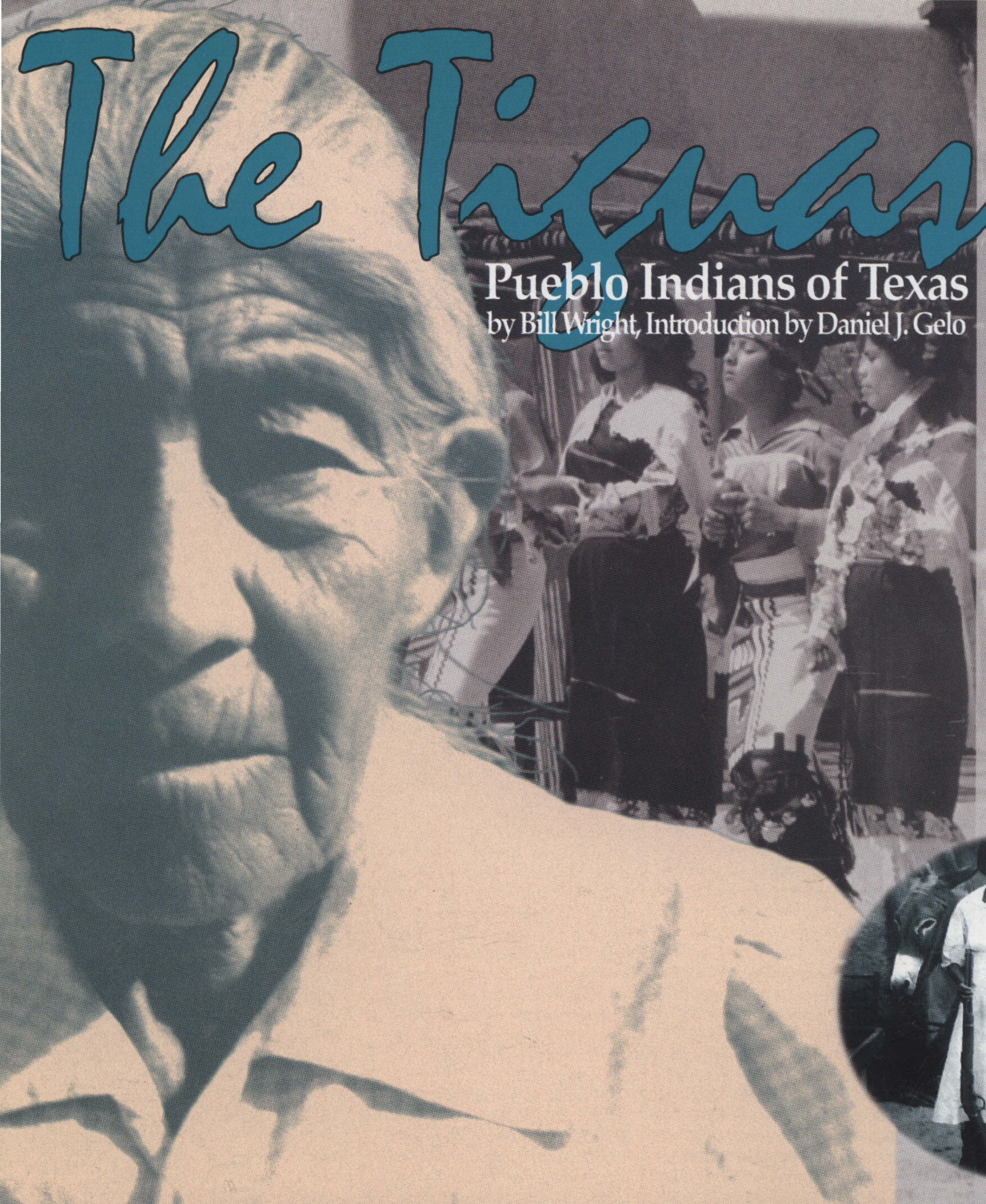
**Evelyn G. Sage**, (B.A. '40) April 11, 1993. She moved to El Paso from Dallas in 1928 and worked for several different companies, including the *El Paso Times*, Southwestern General Hospital, William Beaumont Army Medical Center, Momen-Dunnegan Ryan and Zork Hardware. She volunteered for the Y.W.C.A. Ladies Recreational Group and was a member of Asbury Methodist Church. Survivors include her husband Warren, and two nieces.

**Rita Rhodes Ward**, (M.A. '51) April 18, 1993. She taught at Austin High School for 40 years and, after her retirement, moved to Hurst, Texas. She is survived by her daughter and step-daughter.

**Maurine Manry Jenkins**, (M.A. '49) April 21, 1993. A long time El Paso educator, she retired as assistant principal at Mesita Elementary School. She taught in the El Paso and Ysleta school districts and other Texas school systems. She is survived by two sons.

**James M. Horan**, (B.S. Ed. '71; M. Ed. '73) April 19, 1993. He was a guidance counselor at Ft. Bliss and a deacon at Blessed Sacrament Catholic Church. He is survived by his wife Hildegarde, and two sons.





## Pueblo Indians of Texas

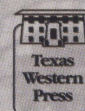
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