Building TIPS for Texas

How Terry Fossum Advanced Texas A&M’s Leadership in Biotech Innovation

By Melissa Chessher

Terry Fossum’s journey to create the Texas A&M Institute for Preclinical Studies began in 1997 during a conversation with world-renowned heart-surgery pioneer Michael E. DeBakey. A representative from DeBakey’s company, MicroMed, had contacted Fossum for help in creating studies for a ventricular-assist device. At that time, the world knew Fossum as chief of surgery for Texas A&M University’s College of Veterinary Medicine and the author of the definitive text on small-animal surgery. “I was primarily a clinician, doing soft-tissue surgery,” Fossum remembers. “And then Dr. DeBakey and the CEO of the company flew up to meet with us.”

The brain trust that existed in Texas A&M’s vet school impressed DeBakey, and he told Fossum that a lot of other companies would feel the same way. “Dr. DeBakey is a very assertive guy he kept telling me that we have an incredible amount of animal expertise here,” says Fossum. DeBakey started making referrals, and sure enough, other companies soon found Fossum. In 2001, Fossum’s expertise and skill as a surgeon earned her two distinctions. She became the clinical director and founder for the Michael E. DeBakey Institute and the Tom and Joan Read Chair of Veterinary Surgery. She also continued to work with the companies DeBakey sent her way. “And what I kept hearing from these companies was that it was really great that we could do their early preclinical work, but that it would be even better if we could also do their Good Laboratory Practice so that they could move seamlessly into those studies.”

So after years of hearing about the need for GLP, Fossum decided to hire a GLP consultant to evaluate the program. “She suggested that we needed buy-in from the higher administration — and a new facility,” Fossum says.

Fossum spent several years seeking funding for the institute and continuing to perform studies for other companies. In May 2007, The Texas A&M University System Board of Regents formally approved the institute, and in December 2009 Fossum officially opened the doors to TIPS, a one-of-a-kind, multi million-dollar research powerhouse poised to elevate Texas A&M’s leadership role in biotech innovation.

In His Sights: Research by Dr. Raul Cuero utilizes a natural compound to block cancer-causing ultra-violet radiation.

By Bryce Hairston Kennard

The hard streets of Buenaventura, Colombia, didn’t provide Raul Cuero with the usual range of toys available to children from more prosperous families—but there were plenty of lizards, cockroaches and insects. Humble as those amusements were, they ignited a lifelong interest in biology and nature that led to extensive research with Martian soil, plant organisms and cancer. If you have heard of Cuero recently, it is likely in connection with developing a breakthrough discovery that could lead to the prevention of skin cancer in humans and animals.

Aided by funding from NASA, the professor of microbiology in the College of Agriculture and Human Sciences is seeking a patent for a natural compound that blocks cancer-inducing ultra-violet radiation. He describes the discovery as a way to help researchers and scientists “educate an important scientific quest about the ways we can survive to the beginning of earth, when there was a great UV presence in the atmosphere. The principal ingredients to this compound, which are natural, were found using the earth’s biosphere.”

For his role in supervising the evacuation and temporary relocation of Galveston students to the PVAMU campus, Cuero is rarely seen these days without his lab coat. To say he’s busy is an understatement. Developed after eight years of research and trial and error, Cuero’s newest protect against skin cancer. Additionally, the technology will provide further protection for NASA astronauts and other space-travelers in the beginning of earth, when there was a great UV presence in the atmosphere. The principal ingredients to this compound, which are natural, were found using the earth’s biosphere.”

Complex Technologies

PVAMU Microbiologist Raul Cuero’s Latest Target: Skin Cancer

By Bryce Hairston Kennard

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Those who have followed Cuero’s career over the years (he’s been at PVAMU since 1998) are hardly surprised at this latest cutting-edge development. Researchers from Harvard University, Berkeley and MIT often seek Cuero’s insights and assistance in developing new, yet complex technologies. His partner in the cancer UV research is David McKay, a NASA scientist.

Sheer determination is a big part of Cuero’s success story. After receiving a bachelor’s degree in biology in Colombia, the young student was offered a scholarship at Heidelberg College in Tiffin, Ohio. He later earned a master’s degree in plant pathology from Ohio State University and, through another scholarship, earned his doctoral degree in microbiology at the University of Strathclyde.

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Known by his confident, occasionally “bouncy” stride across the PVAMU campus, Cuero is rarely seen these days without his lab coat. To say he’s busy is an understatement. Developed after eight years of research and trial and error, Cuero’s newest discovery has seized the attention of both researchers and commercial interests. Because the UV-blocking compound is extracted from a natural, nonpathogenic microorganism, it is vastly different from existing synthetic formulas which can spur toxic side effects. Cuero says that his method also is easy to produce and can be extracted at a low cost. Experts in the field explain that it is simple to apply by most people and extremely versatile. Cuero believes that the process will allow the development of pharmaceutical, medicinal and/or other compounds for protection against skin cancer. Additionally, the technology will provide further protection for NASA astronauts and other persons from radiation while simulating and performing space trips.

Cuero says that once launched, the technology also can serve as an alternate agent to protect humans against the side effects of irradiation used in cancer treatments, and can be used to help protect animals exposed to harmful amounts of UV radiation.

Continued on Page 6
Notes from the Chancellor

Michael D. McKinney, M.D.

Great professors not only teach students, they instill a love of learning. Outstanding leaders at a state agency not only address the challenges within a particular field, but set the highest of standards for public service.

Last month I was honored to recognize 18 outstanding professors and agency professionals from across The Texas A&M University System with the Regents Professor Award and Regents Fellow Service Award. They exemplify the A&M System’s culture of excellence.

A strong faculty is the foundation of excellence for the A&M System, which is why recruitment and retention of the best and the brightest remains so important. We were happy this past November to welcome Dr. David M. Lee, 1996 Nobel Prize winner, to the physics department at Texas A&M University. His hiring is a testament to the academic master plan and our commitment to the “culture of excellence” as outlined in Vision 2020 — and to Texas A&M’s goal of becoming one of the nation’s top 10 public universities over the next decade.

The A&M System Academic Scholars Enhancement program, launched in 2008, is intended to attract and retain faculty members who are, or who have demonstrated the potential of becoming, members of the National Academy of Engineering, the National Academy of Sciences, the American Academy of Arts and Sciences, or the Institute of Medicine. Among the hires for this program are Texas AgLife Research’s Dr. James C. Sacchettini; Texas A&M’s Dr. Tadgh P. Begley; Dr. Dudley Herschbach; Dr. Frederico Capasso, Dr. Karen Wooley and Dr. Lee; and the Texas A&M Health Science Center’s Dr. Darwin Prockop and Dr. Scott Begley.

Dr. Karen Wooley and Dr. Lee; and the Texas A&M Health Science Center’s Dr. Darwin Prockop and Dr. Scott Begley. So far, these system funds have supported more than $2.5 million in research grants and fellowships.

The A&M System faces the same economic conditions as all of the citizens of Texas and the same budget constraints as all state agencies. Recently the governor, lieutenant governor and speaker of the house sent a letter asking us to make 5 percent cuts (about $91.7 million) systemwide in general revenue and general expenditures in science and engineering. For 2008, Texas A&M’s research expenditures increased by 6.99 percent to $582 million. The NSF ranked Texas A&M at No. 22 in 2008, based on the university’s 2007 research expenditures of $544 million.

A&M-Commerce receives Texas Higher Education Star Award

Texas A&M University-Commerce and Mesquite Independent School District received a Texas Higher Education Star Award Dec. 5 at the 9th Annual Star Awards Ceremony in Dallas. The award recognized the schools’ partnership geared toward providing quality educational opportunities for all students. A&M-Commerce and Mesquite ISD began its partnership in 1991 with a focus on addressing the need for quality teachers in Texas, increasing the number of minority graduates with teaching certificates and increasing the number of students graduating with a bilingual or English as a second language teaching certificate.

Tarleton creates research lab to benefit Texas public schools

Tarleton State University has created the Tarleton Research Laboratory on Educational Facilities, which is funded through a grant from Huckabee & Associates, and is designed to assist Texas public schools with various aspects of facility planning, construction and management. The laboratory will use a partner in between public schools and architects by being available to review, collect and interpret facilities data deemed imperative by Texas public school administrators.

Gates Foundation makes $1 million contribution to Texas A&M Borlaug Scholars Fund

A $1 million endowment contribution from the Bill & Melinda Gates Foundation to honor Dr. Norman Borlaug will help the Texas A&M College of Agriculture and Life Sciences train future international agricultural leaders. The foundation’s contribution to the memorial Borlaug International Scholars Fund will be used to build productive partnerships between students, scientists and farmers in developing countries and U.S. land-grant universities. This gift was the first major donation to the memorial fund, which was established through the nonprofit Texas A&M Foundation.

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Texas A&M Health Science Center hosted ribbon cutting for first building on new Round Rock campus

The Texas A&M Health Science Center held a ribbon cutting in December for the first building on its Round Rock campus. The new 134,000-square-foot facility will be used for clinical teaching and includes a simulation center equipped with computer-programmed manikins, student life and student support service, administrative offices, and clinical research space for the Texas A&M Health Science Center/Scott & White Diabetes Institute.

Texas A&M University-San Antonio and Texas A&M University-Central Texas, posted the largest gains, with 62.57 percent and 57.6 percent, respectively. Texas A&M University had its largest student body ever, pushing enrollment to nearly 49,000. A&M System universities also saw gains in minority enrollment, with enrollment among Hispanic students up 10.4 percent and African-Americans, 7.6 percent.

Texas A&M named new member of NSF Top 20 list

Enrollment within The Texas A&M University System hit a record high last fall, surging to nearly 115,000 students throughout its 11 universities, a 5.35 percent increase from 2008. The system’s newest independent universities, Texas A&M University-San Antonio and Texas A&M University-Central Texas, posted the largest gains, with a 62.57 percent increase in San Antonio and 57.6 percent in Central Texas.

In addition, Texas A&M faculty have scored a total of 180 successful grants from the National Science Foundation, including the largest award ever — $10 million — for a project to study the age of the universe and the role of inflation in the universe’s early development.
A&M gets New Vice President for Research

By Susan Wolff

Jeff Seemann has always been driven to change. And if his first few months as Texas A&M University’s vice president for research are any indication, he’s also adept at making change happen. Before he arrived, A&M had a tradition of being transplanted from the smallest state in the Lower 48 (Rhode Island) to the biggest. Seemann was busy networking contacts in industry and government with his new colleagues at the university, state agencies and The Texas A&M University System. From the start, alliance-building became a key part of his job and critical to Texas A&M’s goal of becoming one of the nation’s leading research universities.

“At a glance, Texas A&M was easy — this university is on a scale and that is unparalleled,” Seemann says, settling into his new environment in the Williams Administration Building and handling nonstop rounds of meetings, trips (including a recent one to China) and visits with the university’s world-class research faculty. “Everything I’ve experienced since being here only reinforces the tremendous sense of excitement and opportunity at being present at the right place at the right time.”

The interest in being a part of the action goes back to Seemann’s sophomore year at Oberlin College, where he seized an undergraduate research opportunity suggested by a professor who became his mentor. “As a senior, I went to the professor and told him I wanted to do what he was doing — teach, research — all of it. He said, ‘Then here is your chance.’”

Seemann was offered a choice—a safe tenure-track slot at Oberlin College, where he would be able to work with some of the most highly regarded plant biologists in the world. He stayed to complete his doctorate in biological sciences. Then came another chance to seize the moment. He was offered a post-doctoral position in Australia to work with other researchers in plant biology. No hesitation — he headed down under for the next two years.

After Australia and another post-doctorate at Stanford, Seemann was offered a choice — a safe tenure-track slot at a large university or a position at the Biological Sciences Center, Desert Research Institute, University of Nevada System — where funding for his salary was subject to project renewal. But the “not so safe” option meant working with world-class researchers. Seemann took the risk. After three years, he moved to the University of Nevada, Reno and quickly found himself as the head of the Department of Biochemistry in both the School of Medicine and College of Agriculture. He considers his top accomplishment growing the number of undergraduates in his department’s biochemistry major from 30 to 300 students. It also was during his time at Reno that he became intrigued by the evolving opportunities at land-grant universities.

Convinced that the way forward was to partner with other institutions, Seemann moved to the University of Rhode Island to become dean of the College of the Environment and Life Sciences, and director of the Rhode Island Institute of Ocean Sciences and Rhode Island Cooperative Extension. In his eight years there, both undergraduate and research programs in the college grew. He also helped move forward construction of a $60 million Center for Biotechnology and Life Sciences and was appointed a founding co-chair of the state’s new Science and Technology Advisory Council.

One of the many enticements offered by Texas A&M, he says, was not just expanding the frontiers of research, but taking part in a rich history. “Texas A&M is grounded in tradition and enriched by tradition more than any university I have known — traditions that inspire both great deeds and a great campus community at the same time.”

And he knew College Station would be a good place for his family: his wife Cassandra, and four daughters, Gwen, Jocelyn, the oldest, is finishing graduate school at Texas A&M, (class of 2013) and Devon and Tara attend A&M Consolidated. Jocelyn, the eldest, is finishing her undergraduate degree in Nevada, but might consider graduate school at Texas A&M.

“This community is a wonderful place to live, and this university has not only fantastic academic opportunities for students, but it molds young men and women into engaged citizens with true service and leadership qualities. My family and I feel privileged to be here,” he says.

And he’s ready for whatever comes. “My life has been filled with unique and exciting opportunities that include both challenges and change. But I have never been so excited and energized as now. I have the chance to work with the best and brightest faculty, staff, students, and administrators to help make a great university even greater. Who wouldn’t want that job?”

Susan Wolff is assistant director of communications and public relations in the Division of Research and Graduate Studies at Texas A&M.

TIPS Program Saves Lives of Teen Drivers

Car crashes are the number-one killer of teenagers in America — the magnitude of which is equal to one 737 commercial airplane full of teenagers crashing each week for an entire year. Teens in the Driver Seat, an innovative program developed by the Texas Transportation Institute is devoted to reducing that level of carnage.

Since the program began seven years ago, the number of teen drivers involved in fatal crashes has dropped 33 percent in Texas, more than in any other state. That is due in part to how TDS complements the state’s graduated driver licensing laws.

A peer-to-peer safe driving program for teenagers that began in 2003 in San Antonio, TDS is now in more than 300 schools in Texas, and about a dozen more in Connecticut, California and Georgia.

“Law enforcement, parental involvement and good policies are all essential to keep teens safe, but teen involvement and peer influence are also important,” said Russell Henk, TDS director and TTi senior research engineer. “That’s what TDS is all about.”

The program behind the program is that teens communicate with and influence each other in frequent and significant ways. Accordingly, TDS teens are involved in every aspect of the program, including the development and delivery of safety messages.

The program has been a great success, and in November, TDS won the prestigious Roadway Safety Foundation and the Federal Highway Administration.

“Staying Safe / TTI’s Teens in the Driver Seat is now offered in more than 300 Texas schools.”

By Samantha Holland

Texas A&M’s Department of Chemical Engineering, has been awarded a $1.4 million grant from the National Science Foundation. The team also includes two other chemical engineering assistant professors from Texas A&M, Dr. Arul Jayaraman and Dr. Carl Laird, and Dr. Martin L. Yarmush of the Harvard-MIT Division of Health Sciences and Technology. Their research will focus on the development of a new computational framework to enable investigation of the role of cell populations on signal transduction.

Dr. Scott Cotler, assistant professor in the veterinary pathology department at the Texas A&M College of Veterinary Medicine & Biomedical Sciences, has been awarded a research grant totaling about $100,000 for Angelman syndrome research. Angelman syndrome is a developmental disorder, affecting 1 in 12,000 individuals in the United States. It is characterized by mental retardation, speech impairment and motor dysfunction.
New Leaders Continue Expansion Plans in Killeen and San Antonio

By AMY ALBERT

The two newest stand-alone universities in the Texas A&M University System head into the new year with new leaders and new campuses on the horizon. The Board of Regents approved Dr. Maria Hernandez Ferrer as president of Texas A&M University-San Antonio and Dr. Robert Kirby was named interim president of Texas A&M University-Central Texas.

In addition to the new leadership, both universities soon will be building new campuses to accommodate growing enrollments. In spring 2010, A&M-San Antonio will break ground on its new campus, located on 750 acres south of Loop 410 between Pleasanton Road and South Zarzamora Street. Expected to be completed in 2011, the new campus will provide enough space for the university’s rapidly growing student enrollment, which has increased nearly 63 percent in the past year to more than 2,300 students.

That number is projected to expand to 18,000 by 2025, as the university transitions to a four-year university. “It is an honor to work with so many wonderful people in the community, our faculty and staff, and our legislators that have supported the university’s growth and vision from the beginning,” says Ferrer, president. “These successes are the first of many milestones we will accomplish, as A&M-San Antonio will always bear the face of higher education in San Antonio forever.”

A&M-Central Texas is growing rapidly, with enrollment increasing 15.7 percent since fall 2008. To keep up with this growth, a new campus will be built on 662 acres donated by the U.S. Army last summer, located at the intersection of SH 291 & SH 195 in Killeen.

“Each tangible transition step has been an exciting one indeed,” says Dr. Tracey Teaff, interim provost and vice president for academic and student affairs at A&M-Central Texas. “However, the most rewarding and exciting news is that this university, despite undergoing difficult change, is developing a true sense of mission and faculty, staff and students are growing as a university family.”

To encourage that sense of unity and pride, each university has unveiled its own school colors and mascots. A&M-San Antonio chose the Jaguars as its new mascot, and black, silver and “Madla Maroon” (in honor of the late Sen. Frank Madla) as its colors. A&M-Central Texas dubbed its new mascot the Warriors, and selected school colors of navy blue, maroon and silver.

Rapid Growth in Killeen
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A&M-Commerce Reaches Out to Dallas Youth

By ASHLEY JOHNSON

Dallas ISD students, many of whom will be the first in their families to go to college, are one step closer to achieving their dreams of a college education this year thanks to a five-year, $3.2 million partnership between Texas A&M University-Commerce and Dallas-based Education is Freedom.

“This partnership with EIF is a way of extending our mission to bright, ambitious and highly capable students who might otherwise not have the chance to pursue their dream of a college degree,” says Dr. Dan Jones, A&M-Commerce president.

The partnership benefits students participating in the rigorous EIF college-readiness programs offered at three high schools and five middle schools, including James Madison High School, North Dallas High School, W.H. Adamson High School, Billy Earl Dare Middle School, Thomas A. Edison Middle School, Hector P. Garcia Middle School, Thomas J. Rusk Middle School, and Westside Middle School.

“Together, we set the stage to recruit 50 students to A&M-Commerce every year for the next five years. This endeavor coincides with the university’s commitment to becoming a Hispanic Serving Institution in three years, a designation that brings scholarships for tuition and fees through the Pride Promise Guaranteed Tuition Program, as well as the Honors College.

“i salute A&M-Commerce and EIF for putting together a very thoughtful, comprehensive partnership that plants the idea and gets kids excited about college at an early age, then provides a game plan to get there,” says Dr. Michael Hinojosa, Dallas ISD superintendent.

Ashley Johnson is coordinator of publications and media development at Texas A&M University-Commerce.
Building a New Campus from the Ground Up

By Holly Huffman

With every new building completed at Texas A&M University-Texarkana’s new campus at Bringle Lake, the university moves a step closer to its goal of becoming an education destination of choice for Northeast Texas students. The latest construction project, the University Center, is poised to become the cornerstone of the rapidly expanding campus. When the doors of the 183,000-square-foot facility open in August, it will house most campus operations including the student union, book store, student services, classrooms, university administration, and library.

Upper East Texas is arguably the most underserved region in terms of higher education resources in the state of Texas,” says Dr. Carlisle B. Rathburn III, president of A&M-Texarkana. “Nearly two-thirds of the students in this region who wish to pursue a bachelor’s degree leave.” Rathburn says that figure is nearly double the state average.

“We are building a brand-new university to meet and exceed the expectations of our new students and the region,” says Rathburn. “The new campus is a symbol of this new university, seated in the success of our past and fueled by the energy of our community, region, state, and most importantly – our students.”

In 2003, the state legislature granted the university permission to become a comprehensive regional university with freshmen and sophomore classes – as long as the expansion included a new campus. It currently shares space with Texarkana College.

Former university president Dr. Stephen Hensley and other campus officials immediately sought support from the city and its residents, leading to the donation of 375 acres of donated land by Bringle Lake. The bulk of the land came from the city of Texarkana, with 75 acres donated by the Tatum and Anita Arnold Foundation.

The first construction project on the new campus was a three-story, 42,000-square-foot Science & Technology Building. The $17 million structure opened last summer and already is in use for students taking math, computer science, electrical engineering, and biology classes.

After the University Center is complete, attention will turn to student housing, to be built in phases. Phase one of the University Village will consist of a 300-bed facility that is expected to be ready for occupancy by fall 2011.

This fall, A&M-Texarkana will welcome its first freshmen and sophomore students in the 39-year history of the institution. Nearly 300 high school students already have either committed or applied to be a part of the university’s historic class.

A&M-Texarkana has received approval to offer its first doctoral program in educational leadership this fall. Officials also are considering degrees in performing arts, visual and landscape architecture, and mechanical engineering. The university recently established a Science, Technology, Engineering and Math College with new computer science and electrical engineering programs after learning local industry leaders were lacking qualified job applicants in the fields.

Two decades from now, Rathburn envisions a sprawling campus that is home to 8,000 students, boasts a $15 million research budget and is nationally recognized for its student success, student life programs and student leadership development. Ultimately, Rathburn wants the name A&M-Texarkana to be synonymous with student success and value.

Holly Huffman is a communications specialist for the Texas Forest Service.

Staff Spotlight

A&M-Corpus Christi professor receives National Science Foundation Award

Dr. Suzette Chapin, a professor or biomedical sciences at Texas A&M University-Corpus Christi, was one of 10 honorees nationwide selected to receive the National Science Foundation’s 2009 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring. Chapin was honored at a White House ceremony, and will receive a $10,000 grant. The NSF program identifies outstanding mentoring efforts from the university’s and community’s women, minorities and persons with disabilities who are underrepresented in science, technology, engineering, and mathematics.

WTAMU dean receives Distinguished Service Award

Dr. James Clark, dean of the College of Science and Engineering at West Texas A&M University, was recently awarded the Distinguished Service Award from the American Association of State Colleges of Agriculture and Renewable Resources. The award, which has only two previous recipients, recognizes outstanding members who have contributed significantly to the organization.

PVAMU coach named to Hall of Fame

Cynthia Lynn Cooper-Dyke, head women’s basketball coach at Prairie View A&M University, was recently inducted into the Women’s Basketball Hall of Fame. Cooper-Dyke has won championships in college, the Olympic Games and the Paralympics. Cooper-Dyke led the Panthers’ women’s basketball team to unprecedented success as she took over a program four years ago that never had a winning season.

A&M-Commerce music professor wins 12th ASCAP Award

Ole Hanson, professor at Texas A&M University-Commerce, won his 12th consecutive American Society of Composers, Authors and Publisher award for his contributions to music. The award is based on his most recent performances “Declaration for Trombone and Piano,” “Tarantella for Trombone and Piano,” “Soliloquy for Solo Clarinet,” “Piano Sonata,” and “Canto for Solo Bassoon.”

Texas A&M professor elected to Institute of Medicine

Dr. Joanne Lupton, distinguished professor of nutrition and food science at Texas A&M University, has been named a member of the National Academy of Sciences’ Institute of Medicine. Lupton was one of 65 new members and five foreign associates elected to the Institute of Medicine. She is a distinguished professor of nutrition and food science at Texas A&M University, and is a member of the Institute of Medicine.

Texas A&M Physicist Earns Fermi Prize for Research Excellence

Dr. Dimitri Nanopoulos, distinguished professor of physics at Texas A&M and one of the world’s leading researchers in high-energy physics, has been selected by the Italian Physical Society as one of two recipients of its 2009 Enrico Fermi Prize in recognition of his contributions to theoretical international work in the field of string theory. Nanopoulos, who ranks as the fourth-most frequently-cited high-energy physicist of all-time, was recognized “for the discovery of fundamental phenomenological properties of grand unification and superstring theories.”

Baylor College of Dentistry faculty member named president of two dental organizations

Professor and chair of diagnostic sciences at the Texas A&M Health Science Center Baylor College of Dentistry, was installed to a two-year term as president of the International Association of Oral Pathologists in June 2008, and assumed the presidency of the American Board of Oral and Maxillofacial Pathology in October 2009. The board determines the standards for the specialty of oral and maxillofacial pathology and constructs and administers the examination for certification.

Natural Cures

Continued from Page 1

Blake Petty of The Texas A&M University System’s Office of Technology Commercialization also sees great potential in the field of personal skin care. “Dr. Cuero has a long and successful history of commercialization. He is a champion of our efforts to translate academic excellence into marketplace products benefiting the public at large, and we are anxious to assess the commercial potential for his work in UV protection,” says Petty.

Cuero says that this technology will even be useful in protecting astronauts as well as space crafts against the dangerous UV radiation that occurs during space trips. The discovery would be an important technology for carrying out experiments on planets such as Mars, which has high

For Starters: The Science & Technology Building opened last summer as the first structure completed at the new Bringle Lake campus.
Students from across the Coastal Bend who ride school buses each day are traveling a little healthier this year thanks to a new pollution prevention program at Texas A&M University-Corpus Christi. In recent months, the university’s Pollution Prevention Partnership has helped reduce children’s exposure to harmful diesel exhaust by installing diesel oxidation catalyst mufflers and strike plate closed crankcase filtration systems that reduce emissions of air pollutants from exhaust pipes and crankcase in older school buses.

Although emissions reduction equipment is standard on newer buses, a significant percentage of school bus fleets include older models equipped with diesel engines manufactured between the years of 1990 and 1999, prior to the introduction of higher emission standards. “Children are especially sensitive to air pollution because their respiratory systems are still developing,” says Gretchen Arnold, director of the Pollution Prevention Partnership. “Many studies suggest that while traveling on newer buses, a significant percentage of school bus older school buses.

According to the Environmental Protection Agency, the 24 million children who ride on school buses nationwide are more susceptible to air pollution from diesel vehicles because they breathe 50 percent more air per pound of body weight than adults. While school buses are idling, students waiting to board are exposed to harmful exhaust fumes. However, the danger can be even greater inside the buses.

“Recent studies indicate that air pollutants can accumulate inside the cabins of older school buses in even greater concentrations than outside,” says Arnold. “These emissions have been directly linked to such serious health problems as asthma, bronchitis, pneumonia, retarded lung development, and skin cancer.”

A&M-Corpus Christi students from engineering, environmental and nursing programs performed the conversion testing, measuring emissions of particulate matter, nitrogen oxides and hydrocarbons, among others, before and after the project. The new equipment reduced exhaust emissions by 20 percent for particulate matter, 40 percent for nitrogen oxides and zero percent for the common monoxide.

Arnold points out that equipment obtained by the Clean School Bus Project will expand the capabilities of the Pollution Prevention Partnership’s AutoCheck program that measures and reduces emissions from gasoline-powered vehicles to include diesel automobiles.

Building TIPS in Texas

Continued from Page 1

The state-of-the-art facility allows TIPS to forge new research territory for a university: capitalize on the school’s collective expertise, build relationships with industry that explore the development and applications of medical devices and medicines, and deliver on those frequent demands for GLP. The Federal Drug Administration requires that safety data for a drug or device be done in a GLP-compliant manner, an expensive proposition that basically translates to precise documentation from the calibration of equipment to the recording of data.

One of the problems for small companies in Texas is that there were few places where they could get the large animal GLP work done,” Fossom says. “This was really necessary infrastructure because these companies were leaving the state to get that work done.” That argument helped win the support of Gov. Rick Perry, who in July 2007 awarded a $6 million grant to the institute from the state’s Emerging Technology Fund. Beyond GLP, TIPS offers something most research organizations lack: a world of knowledge just steps from the facility. “We don’t just do the study,” Fossom says. “We help them figure out what the study should be, what the animal model should be, and we find all this expertise. We have companies interested in nanotechnology, and we have researchers interested in animation support or a great biochemist, we have that right here.”

The institute is housed in a 112,000-square-foot collection of three buildings that includes an area for incubating commercial start-ups. But it’s the battalion of advanced imaging equipment that will make a scientist’s jaw drop. “I think this is the second in the world that they’re putting up,” Fossom says of the Siemens 128-slice PET/CT. PET (position emission tomography) imaging is primarily used for cancer, identifying primary tumor and metastases and seeing how the tumor responds to therapy for example. But other applications are increasing, including monitoring cardiac function. There’s also a fixed cardiac catheterization lab with a 3D reconstruction and stent package. “I don’t think there’s another veterinary-related facility that has one,” Fossom says. Dr. Larry Wiese, founder and CEO of Therapheresis Inc., a healthcare equipment and supply company in California, first heard about TIPS when the daughter of one of his business partners was applying to vet school at Texas A&M. Wiese says the equipment and facility interested him immediately; he met with Fossom last August. “It’s the only facility of its kind,” he says.

Wiese’s company is working with TIPS to create a study to test a system for the treatment of cancer by selectively removing components of the blood. “We view them as neighbors. TIPS as something we can use as a platform to develop different filters that remove different things from the blood,” Wiese says. He also considers the center’s unique set of capabilities that takes advantage of all the research territory for a university: capitalize on the school’s collective expertise, build relationships with industry that explore the development and applications of medical devices and medicines, and deliver on those frequent demands for GLP.

The federal award was instrumental in maintaining air quality in the region that meets national ambient air quality standards,” says Arnold. “Expanding the program’s capability to diesel feet will be important to keeping the air clean in the future.”

Born to the Trade

Before the creation of TIPS, Fossom’s expertise earned her frequent invitations to lecture around the globe. In the past year, she has traveled to Portugal, Spain, Turkey, France, and Italy and usually gives about two six-to-eight-hour lectures on the practical matters of animal surgery a month. “With TIPS running I’m trying to cut back,” Fossom says. “I’m starting to say no, but it’s hard. The veterinary profession is very small and you get to know these people and it’s harder to say no to people you know.”

Born in Wyoming, raised in Idaho, Fossom grew up on a working ranch. “I knew I was going to be a veterinarian. But I didn’t know I was going to be a small-animal surgeon, I thought I’d be a horse doctor,” she says. A few years ago, Washington State University invited Fossom to give their “white coat ceremony” address to the incoming class of veterinarians. “One of the things I told them was that they need to be open to research,” she says. “Vets are very well trained for research because of our comparative background. We do a lot of bench work with the multiple components of the blood.”

Fossom’s interest in the unique set of capabilities that takes advantage of all the research territory for a university: capitalize on the school’s collective expertise, build relationships with industry that explore the development and applications of medical devices and medicines, which is what I find interesting when I sit down with these companies because even if it’s not necessarily my area of expertise, I have a pretty good idea of what they’re talking about.”

That expertise paired with the collective brainpower of Texas A&M makes TIPS powerful. “If we look at just the studies that we are in negotiation with right now, we could theoretically be 75 percent capacity by the end of next year,” Miller says. “I think we’re going to be busier than we ever imagined. In five years, my prediction is that we’ll have to expand.”

Melissa Chester is an assistant professor and head of the magazine department at the S.J. Quinney College of Law at the University of Utah.

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Texas A&M Kingsville’s New Citrus Center
Better research, better crops
BY JULIE NAVEJAR

Construction is underway on Texas A&M University-Kingsville’s new $7.2 million Citrus Center in Weslaco, which will allow the expansion of research that has benefitted the Rio Grande Valley’s $200-million citrus industry for 60 years.

The 25,000-square-foot building, scheduled for completion this fall, is designed specifically to allow faculty to integrate research programs, said Dr. John da Graca, director of the center. “There also is room for future growth and flexibility for new technologies. The facility will be one we hope will attract future faculty, visiting scientists and students.”

The new center will be adjacent to the current facilities at 312 N. International Boulevard in Weslaco. The first floor will have meeting rooms and classrooms, administrative offices, and sample intake and diagnostic labs. The second floor will house faculty and research technicians’ offices, graduate student space and labs.

Da Graca said several research projects currently are underway at the center, such as the development of new varieties by means of natural and induced mutations, embryo rescue and gene transfer. A patent application has been submitted for a new grapefruit variety.

Researchers also are studying the use of micro-budded trees as part of the strategy against greening disease, an insect transmitted disease currently causing serious losses in Florida.

“The center has always moved with the times and now uses cutting-edge technologies in our research, but always with the benefit to the Texas citrus industry in mind,” said da Graca. “The citrus industry will continue to face some of the same challenges it has always dealt with like established and new pests and diseases, weather events and market changes, but the staff at the Citrus Center will be ready to deal with whatever comes our way.”

Julie Navejar is a communications specialist for Texas A&M University-Kingsville.

SURVEYING THE DAMAGE
Hundreds of dead trees, some more than 100 years old, flank Sealy Street in Galveston in the aftermath of Hurricane Ike.

Foresters surveyed the trees again in 2009 after failing to see them sprout new leaves. Tree experts went block-by-block with Federal Emergency Management Agency crews to mark dead and dying trees, after determining they were suffering from salt poisoning.

“When the city announced the tree removal plan the community was wary. No one wanted to lose a tree that stood a chance of survival,” Cahill said. “By partnering with Texas Forest Service, the city had experts and resources at our disposal to help explain the process to the public. Islanders are now looking forward to replanting what was lost.”

More than 4,500 trees have been cut down and the agency now is working with the city to develop a reforestation plan for the island.

Replanting season formally kicked off Nov. 1 as foresters worked with civic leaders to organize four replanting projects, each one in different city parks and another along 25th Street, a main island thoroughfare. Additionally, the state agency is working to develop a grassroots “NeighborWoods” campaign to plant trees along streets in the city right-of-way.

“This is a unique opportunity in urban forestry. We’ve never seen a community take a hit like this,” said Pete Smith, TFS urban forestry coordinator and Galveston team leader. “We really have the opportunity to build an urban forest from scratch. It’s definitely the loss of 19th and 20th century urban forest. But maybe we’re going to create a 21st century urban forest where trees and infrastructure can coexist.”

Holly Huffman is a communications specialist for the Texas Forest Service.

GREENING GALVESTON
Rebuilding the urban forest that might have been destroyed
BY HOLLY HUFFMAN

Hurricane Ike slammed into Galveston Island Sept. 13, 2008, destroying homes and businesses, knocking down power lines and stranding the trees that didn’t topple in a salty storm surge. The impact was devastating — particularly for the trees, some more than a century old and planted before the deadly storm of 1900.

But the greenery is slowly making a comeback, thanks in part to Texas Forest Service.

When TFS first signed on to help the coastal community shortly after Ike made landfall in 2008, the primary goal was to help the city sort through the trees to nourish the survivors and remove the dead.

Foresters surveyed the damage and developed a treatment plan for the landmark live oaks planted along Broadway Boulevard, the city’s major thoroughfare.

Working days, nights and weekends, TFS foresters became fixtures in the island city. They served as counselors and motivators, helping residents focus their efforts and spearhead projects that allowed wood from the dead trees to be used in creative ways, such as public art, and the renovation of an aging whaling ship.

“Loosing so many trees to the storm affected our lives to a degree no one immediately anticipated. The loss spurred a second wave of grieving, especially in our older neighborhoods where mature trees shaded yards, streets and parks,” said Galveston spokeswoman Alicia Cahill.

Texas A&M Press Top 5 Books
Encyclopedia of Texas Seashells: Identification, Ecology, Distribution, and History
BY JOHN W. TUNNELL JR., JEAN ANDRIWS, NOEL C. BARRERA, AND FAITH M. WOODWARD
This identification guide, written by researchers at Texas A&M University-Corpus Christi’s Center for Coastal Studies, features descriptions of 800 Texas seashells.

Traveling the Shore of the Spanish Sea: The Gulf Coast of Texas and Mexico
BY GLOYE W. WIGNHAM
Geoff Wignham’s contemplative travel journal offers breathtaking photographs and commentary on a 200-mile trek of the Texas coast.

How Did Davy Die? And Why Do We Care So Much?
BY JAMES E. CRISP AND DAN KILGORE
More than 150 years ago Davy Crockett ignited controversy with his book, in which he asserts that Davy Crockett did not die on the ramparts of the Alamo but rather before a firing squad in this commemorative edition. James E. Crisp reviews its origins and impact.

History Ahead: Stories Beyond the Texas Roadside Markers
BY THAD W. BEYERMAN AND D. K. UTLEY
Dan K. Utley and Cynthia J. Beeman introduce readers to the rich, colorful, and sometimes action-packed human history behind the text on historical markers.

Exploiting the Edges of Texas
BY WALT AND ISABEL DAVIS
The Davies revisit portions of Dallas Morning News columnist Frank X. Tolbert’s trek along the boundaries of Texas.
If the Texas A&M University System had a student all-star roster, it would likely consist of the 26 members of the Chancellor’s Student Advisory Board. Since its creation in 1982, the CSAB has served as perhaps the most important conduit for student leaders to connect with the Board of Regents, the chancellor and top administrators within the system. Each system university provides two student representatives to the CSAB, which meets twice a year. The group is funded by the Chancellor’s Century Council and assisted by the Office of the Chancellor and the Office of Academic Affairs.

Each time the CSAB convenes, the sense of the true mission of the A&M System—the education of its students to make a better future for the state of Texas—is reinforced through the enthusiasm and excitement that the students bring to their meetings and interactions. At the regular board meeting last September, as CSAB representatives briefed the regents on their activities and goals, it was as if each new voice melded into the next, offering a united front of a brighter future, a dynamic present, and an unwavering link to tradition.