



Engineering *Our* Future

May 2008

Texas Tech University College of Engineering



Texas Governor Rick Perry announces funding that has attracted a team of world-class nanophotonics researchers.

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Dean's Report

This is a time of great pride for the College of Engineering! The college's research efforts are helping to make our nation a better place. Let me share with you some examples.

One, pulsed power and power electronics research is saving lives through its work to defeat the electronics associated with improvised explosive devices. Second, with the arrival of our new team of researchers this summer, Texas Tech will become one of the best in the nation in the cutting edge field of nanophotonics, a field that will make lighting less energy intensive (page 4). Third, our newest Horn Professor, Dr. Dan Cooke, is applying his passion for innovative and "intelligent" programming languages to help NASA send a vehicle to Mars (page 6).

Meanwhile, our faculty are dedicating themselves to student success. A team of faculty led by Dr. Walt Oler reviewed the first year experience of our engineering students. Our departments and the university have embraced their ideas, including an integrated "Introduction to Engineering" course for all majors, comprising an honors section, as well as a committee of faculty from engineering and the College of Arts & Sciences to monitor and improve our students' success in introductory math, physics, and chemistry courses. We are also implementing block scheduling so that groups of freshmen get to know each other by taking the same classes.

We are also excited to offer the ConocoPhillips Academic Success Bridge program (page 16) that will allow students to complete two courses toward graduation while getting a jump-start on building their academic skills.

There were 630 graduates this academic year, almost double the number we had in the early 1990s.

Our Job Fair is the largest in the university and continues its growth not only in participating students but also in recruiters represented (page 16).

Pride in our alumni is especially strong after the Distinguished Engineers luncheon last month. Approximately 350 guests enjoyed recognizing Duffer Crawford (B.S.Ch.E. '41) for his technical contributions to the Manhattan Project among other endeavors, and Tom Zachman (B.S.C.E. '74) for his technical and managerial contributions to Fluor Corporation where he is senior vice president (page 3).

As we complete another academic year, we look forward to the future as a national leader in engineering education and research.

**Texas Tech University
Dean, College of Engineering
Pamela Eibeck, Ph.D., P.E.**



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Duffer Crawford and Thomas Zachman Named Distinguished Engineers

The Texas Tech University College of Engineering named Duffer B. Crawford and Thomas J. Zachman as recipients of its 2008 Distinguished Engineer Award on April 4 at a luncheon on the Texas Tech campus. The Distinguished Engineer Award was established during the 1966-1967 academic year to recognize the most outstanding alumni of the Texas Tech University College of Engineering. Since that time, 189 graduates of the College of Engineering have received this honor. Recipients of the award must be distinguished in their profession, an inspiration to their peers, and have demonstrated a continuing interest in areas outside the field of engineering.

Born in Ranger, Texas in 1919, Duffer Crawford is a 1941 chemical engineering graduate of Texas Technological College. He worked for a variety of organizations in his highly successful career, from the Manhattan Project to significant liquefied natural gas breakthroughs



Crawford, B.S.Ch.E. '41

at M. W. Kellogg Corporation. Crawford holds patents in low-temperature processes and continuous production of diverse materials. Since retiring from M. W. Kellogg, he has worked as a cryogenic consultant, specializing in review of new technology as it applies to the liquefied natural gas industry.



Zachman, B.S.C.E. '74

Tom Zachman was born in Wichita, Kansas in 1952. He received a Bachelor of Science in Civil Engineering from Texas Tech University in 1974. After graduation, Tom joined the Fluor Corporation in Houston, Texas as a civil/structural engineer. While at Fluor, he advanced in increasing positions of responsibility into engineering management and project management. In 2003, Tom was appointed Vice President of Operations for the Fluor Energy and Chemicals business in Houston with overall responsibility for domestic and international projects in oil and gas upstream, refining, and chemicals. **E**

U.S. News & World Report Ranks Graduate Engineering Programs

U.S. News & World Report magazine recently issued its 2009 rankings of graduate engineering programs from around the nation.

Three College of Engineering graduate programs received rankings, including: the Department of Petroleum Engineering, ranked 10th in the Petroleum category; the Department of Industrial Engineering, ranked 30th in the Industrial/Manufacturing category; and the Department of Electrical and Computer Engineering, ranked 65th in the Electrical/Electronic/Communications category.

“This recognition validates my belief that our programs, faculty, students, and graduates are among the best in the nation,” said Pamela Eibeck, dean of the College of Engineering. “It is an important component in our visibility with potential students – especially graduate and international students – and we see it as a step toward improving our standings in all areas.” Congratulations to the faculty and staff of each of these departments.

The graduate rankings, available in the April issue of the magazine, were calculated based on a weighted average of 10 indicators including student selectivity, research activity, faculty resources, and assessments by peers and recruiters. The graduate rankings can be found at the *U.S. News & World Report* Web site, www.usnews.com/grad. **E**



News

College of Engineering Receives \$9 Million for Nanophotonics Research

The College of Engineering held a news conference on April 2 to announce a \$9 million package—\$2 million from the Texas Emerging Technology Fund (TETF), \$5.35 million from AT&T, and a \$2 million commitment from the university—to attract a team of world-class faculty researchers in the field of nanophotonics. These researchers will be part of the university's Nano Tech Center, co-directed by Drs. Henryk Temkin and Mark Holtz. The collaborative funding will be used to enhance nanophotonics research, and supports the development of new technologies, including those that will impact tomorrow's communications industry.

Texas Governor Rick Perry, AT&T senior vice president-Western Region Legislative and Regulatory Affairs John Montford, and Texas Tech Chancellor Kent Hance joined Dean Pamela Eibeck in welcoming the research team to Texas Tech.

The \$5.35 million from AT&T will establish two endowed chairs, the Edward E. Whitacre, Jr. Chair in Electrical and Computer Engineering and the Linda F. Whitacre Chair in Electrical and Computer Engineering. The positions will be filled by Hongxing



Jiang and Jingyu Lin, respectively, currently professors at Kansas State University. The contribution will also create the Edward E. Whitacre Jr. Endowed Scholarship, to recruit outstanding undergraduate and graduate students to major in engineering at Texas Tech. Recipients will be chosen based on achievement in academics and leadership. Finally, a portion of the AT&T funds will be used to expand the engineering school's nanophotonics lab and purchase equipment.

“Continuing excellence in research is one of the strategic aims of the Texas Tech University System,” said Hance. “The funding received from the TETF and the gift received from AT&T firmly establishes Texas Tech as an innovator in nanophotonics, enabling the university to educate students in the critical areas of computer and electrical engineering.”

“The Emerging Technology Fund continues to draw the brightest minds in research and innovation to our state, spurring the commercialization of university research, and ultimately positioning Texas as a strong competitor in the global marketplace,” said Perry. “Continued expansion of our research and development capabilities will create more jobs and generate substantial capital investments, further diversifying and enriching our economy.”

Dean Pamela Eibeck announces the hiring of new nanophotonics faculty researchers at an April 2 news conference





Nanophotonics research team (L-R) Dr. Hongxing Jiang, Dr. Jingyu Lin, Dr. Zhaoyang Fan, with Dr. Pamela Eibeck

Additionally, Jiang and Lin, who will arrive in May, will move the headquarters of their corporation, III-N Technology, Inc., to Lubbock. The third member of the research team, Zhaoyang Fan, arrived in January. Lin and Jiang have collaborated on research for more than 20 years, developing products in solid-state lighting, biological and chemical agent sensing, and the harvesting of energy. These researchers have more than 185 publications, eight U.S. patents, 14 patents pending, and receive an average of \$1.5 million in competitive funding annually related to the study of nanophotonic devices.

III-N Technology Inc., was founded in 2001 to commercialize the research team's innovations, including light-emitting diode (LED)-based residential and commercial lighting products that can be plugged directly into standard power outlets.

"This research provides immeasurable benefits to our state and nation, and the funding provides tremendous opportunities for the Texas Tech students and faculty," said Montford. "We're pleased to be a part of this unprecedented announcement for the College of Engineering, and we look forward to continuing our deep commitment to this city and this great university."

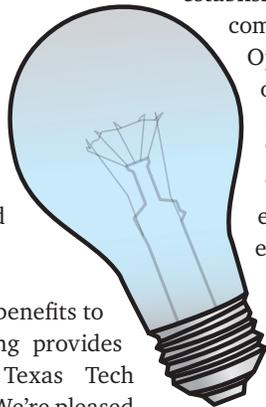
Nanophotonics involves the creation and manipulation of advanced materials at the nanoscale that can produce and sense light. The research has

significant implications for defense applications, telecommunications, homeland security, and the future of commercial and residential lighting. Nanophotonic devices have the potential to revolutionize light sources, resulting in enormous energy savings to the nation.

At Gov. Perry's request, the Texas Legislature established the TETF in 2005 to enhance the research and commercialization of emerging technologies in Texas. TETF will help Texas Tech establish a first-class research team in the highly competitive area of nanoscale opto-electronics.

Opto-electronics is the science and engineering of converting light energy into electrical energy, and vice versa. Holtz said the Texas Tech research will lead to "new discoveries which will find immediate use in miniature, efficient, and bright light sources, as well as extremely sensitive light detectors." Each of these has applications that are important to the nation's wellbeing and the state's economic development in the high tech area.

"Texas Tech already conducts groundbreaking research in nanoscale opto-electronic materials," said Eibeck. "Yet bringing these new professors to Texas Tech, along with their research teams, and dramatically growing our university's capabilities through the combined efforts of the TETF, AT&T, and the university, will firmly place us at the head of the pack in this promising field." **E**





Faculty

Dr. Dan Cooke Named Paul Whitfield Horn Professor

Dr. Dan Cooke, professor of computer science, has been named one of Texas Tech's four new Paul Whitfield Horn Professors. Dan is a professor and past department chair of the Department of Computer Science. Dr. Cooke is internationally recognized for his development of a new programming language, SequenceL. He and his research colleagues have applied the language to NASA's guidance, navigation, and control for the manned Mars space mission. Cooke has published over 90 journal and conference publications and has received over \$2.3 million dollars in research funding.

Daniel Cooke joined Texas Tech in 1999. He earned his bachelor's degree from Sam Houston State University, his master's from Texas A&M University, and his doctorate from the University of Texas at Arlington. Cooke has done extensive work with NASA, including serving as program manager of the space agency's National Strategic Initiative for Intelligent Systems. He has received three awards from NASA, including the agency's Exceptional Achievement Medal, and has been honored by numerous professional organizations. He serves as director of Texas Tech's Center for Advanced Intelligent Systems and was chair of the Department of Computer Science from 2001-2005.

The Horn Professorship was established in 1966 to recognize scholarly achievement and outstanding service to Texas Tech. The honor is named for Texas Tech's first president, Paul Whitfield Horn. Since its inception, 76 members of the faculty have been appointed Horn Professors, and 37 remain in faculty.

Other active Paul Whitfield Horn Professors from the College of Engineering include:

- Dr. Magne Kristiansen**
Electrical and Computer Engineering
- Dr. Kishor C. Mehta**
Civil and Environmental Engineering
- Dr. Henryk Temkin**
Electrical and Computer Engineering
- Dr. Greg McKenna**
Chemical Engineering
- Dr. Sunanda Mitra**
Electrical and Computer Engineering **E**





Andrew Jackson Receives Whitacre Fellowship, SERDP Award With Team

Dr. Andrew Jackson, associate professor of civil and environmental engineering, has been named an Ed and Linda Whitacre Faculty Fellow for 2007-2010.

The Ed and Linda Whitacre Faculty Fellowship was created to recognize a College of Engineering faculty member with an excellent research history and even greater research potential.

Jackson has been responsible for \$1.9 million in external pro-rated research funding from 14 grants and contracts since 1998. During four of those years, his pro-rated share of external research funding exceeded \$300,000.

In addition to the receipt of the fellowship, Jackson is the principal investigator for the competitively funded Department of Defense (DOD) research venture in perchlorates that the Strategic Environmental Response Development Program (SERDP) for DOD named as the 2007 Project of the Year in the Environmental Restoration Focus Area. Jackson collaborated with Drs. Gregory Harvey, Todd Anderson, Ken Rainwater, Moira Ridley, Sandy Dasgupta, Srinath Rajagopalan, Balaji Rao, Greta Orris, and Julio Betancourt. The award was presented at the Partners in Environmental Technology Technical Symposium and Workshop in Washington, D.C. on December 6, 2007.

Andrew received a Bachelor of Science in Biology from Rhodes College, and a Master of Science and a Ph.D. in Environmental Engineering/Science from Louisiana State University.

Jackson excels in professional service as well. He serves as Associate Editor for *Air Water and Soil Pollution*. He serves on the editorial board of *Environmental Toxicology and Chemistry*. He is a member of the steering committee for the International Conference on Environmental Systems. He regularly serves on a National Science Foundation review panel to evaluate Small Business Innovative Research proposals. **E**





Faculty Awards

Dr. Sindee Simon Receives Barnie E. Rushing, Jr. Award

Dr. Sindee Simon, professor of chemical engineering, is the 2007-2008 recipient of the Barnie E. Rushing, Jr. Faculty Distinguished Research Award.

The award, presented by the Texas Tech Association of Parents, is to recognize outstanding research or scholarly activity by a member of the Texas Tech faculty and to encourage high quality research and publication by the faculty of the university.

The Barnie E. Rushing, Jr. Award was presented at the Texas Tech Association of Parents spring scholarship breakfast.

Simon came to Texas Tech in 1999. She earned a bachelor's degree in chemical engineering from Yale University and a Ph.D. in chemical engineering from Princeton University. She previously has worked for AT&T Bell Laboratories' Engineering Technical Center and Beech Aircraft Corporation.

She is a Fellow of both the Society of Plastics Engineers and the North American Thermal Analysis Society. Simon has over 65 refereed publications, has offered over 100 conference presentations, and her works have been cited over 600 times.

The research that Simon has focused on at Texas Tech includes the physics of the glass transition and structural recovery, melting and the glass transition at the nanoscale, and the cure and properties of thermosets.

Previous active recipients of the Barnie E. Rushing, Jr. Faculty Distinguished Research Award from the College of Engineering include:

Dr. Magne Kristiansen (1979-80)
Electrical and Computer Engineering

Dr. Sunanda Mitra (2001-02)
Electrical and Computer Engineering

Dr. Kishor Mehta (2002-03)
Civil and Environmental Engineering

Dr. Valery Levitas (2004-05)
Mechanical Engineering

E





President's Excellence in Teaching Award Presented to Dr. Mohammad Saed

Dr. Mohammad Saed, associate professor of electrical and computer engineering, was awarded the President's Excellence in Teaching Award for 2007-2008. The award is given to a faculty member for excellent undergraduate and graduate classroom teaching, advising, and contributions to general engineering education.

Saed received a Bachelor of Science in Electrical Engineering from Middle East Technical University, and a Master of Science and Ph.D. in Electrical Engineering from Virginia Polytechnic Institute and State University. **E**



Dr. James Simonton Named Alumni Association New Faculty Award Winner

The Texas Tech Alumni Association has named Dr. James Simonton, assistant professor of industrial engineering, the Alumni Association New Faculty Award winner for 2007-2008. This award is given based on student evaluations, innovative teaching activities, initiation of research/creative activities, and interaction with students. Recipients of this award must have fewer than four years of faculty experience.

Simonton received a Bachelor of Science in Textile Technology and Management, a Master of Science in Systems and Engineering Management, and a Ph.D. in Industrial Engineering from Texas Tech University. **E**



Dr. Yanzhang Ma Among Most Cited Authors for Physics Journal

Dr. Yanzhang Ma, assistant professor of mechanical engineering, has received the Most Cited Paper—2004-2007 Award from the journal *Physics of the Earth and Planetary Interiors*.

The award was given for the article, "In situ X-ray diffraction studies of iron to Earth-core conditions," written by Drs. Yanzhang Ma, Maddury Somayazulu, Guoyin Shen, Ho-kwang Mao, Jinfu Shu and Russell J. Hemley. *Physics of the Earth and Planetary Interiors* presented the awards to the top 50 most-cited articles published in the journal between 2004 and 2007.

The article can be read online through Science Direct. **E**





Faculty Awards

George T. and Gladys Abell-Hanger Faculty Award Winner Dr. Sanjaya Senadheera

Dr. Sanjaya Senadheera, associate professor of civil and environmental engineering, is the recipient of the George T. and Gladys Abell-Hanger Faculty Award.

The award is presented to a faculty member for excellence in advising, undergraduate and graduate classroom teaching, and contributions to general engineering education. **E**

Dr. Sudqi Alayyan Named Dr. Charles Burford Faculty Award Winner

Dr. Sudqi Alayyan, associate professor of engineering technology, was named the winner of the Dr. Charles Burford Faculty Award for 2007-2008.

The award is presented to a faculty member for excellence in undergraduate classroom teaching, contributions to general engineering education, and undergraduate advising. **E**

Lockheed Martin Award Presented to Dr. Timothy Dallas

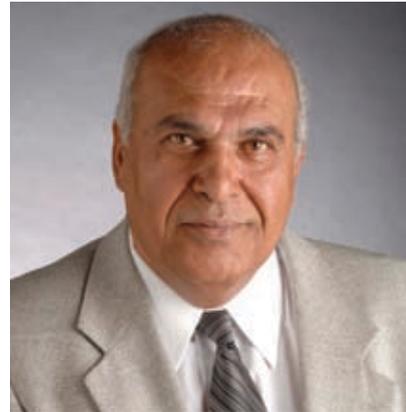
Dr. Timothy Dallas, associate professor of electrical and computer engineering, was awarded the Lockheed Martin Award for 2007-2008.

The award is presented to a faculty member for excellence in graduate classroom teaching, graduate advising, and contributions to general engineering education. **E**

Dr. Hamed Sari-Sarraf Receives Halliburton Teaching Excellence Award

Dr. Hamed Sari-Sarraf, associate professor of electrical and computer engineering, received the Halliburton Teaching Excellence Award for 2007-2008.

The award is presented to a faculty member for excellence in graduate classroom teaching, graduate advising, and contributions to general engineering education. **E**



College Facts

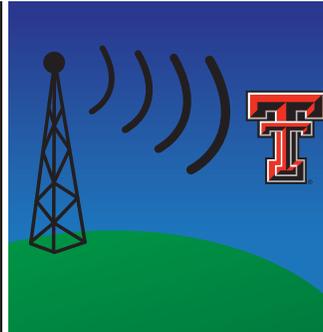


Dr. Ernst Kiesling, professor of civil engineering, was quoted in the April 4, 2008 issue of *USA Today* regarding uniquely engineered structures built to withstand tornadoes. "Builder touts domed homes as protection against storms"



The Petroleum Engineering program has nearly doubled in the last three years, now with over 400 students.

Dr. Mary Baker, associate professor of electrical and computer engineering, will offer Introduction to Engineering by interactive TV to students at Midland College next fall.



WALL STREET JOURNAL

Dr. Lloyd Heinze, chair and professor of petroleum engineering, was quoted in the February 21, 2008 issue of *The Wall Street Journal* on petroleum engineering graduates' opportunities and salaries. "A Gusher for Oil Grads"

The College of Engineering endowment has doubled in the past four years to over \$50 million.





Alumni

Environmental Engineering Alumnus Breaks Record in Triple Ironman

College of Engineering alum Gina Vandiver makes sure that the water you drink is safe.

Vandiver lives in Longview, Texas and works as a water and wastewater-handling consultant for cities and towns in East Texas. After graduating from Texas Tech University in 2003 with a Bachelor of Science in Environmental Engineering and a Master of Environmental Engineering, she went to work for alumnus Terry Winn (CE '73) at Winn Professional Engineers. Winn's firm specializes in planning, design, and construction management services for civil and environmental engineering projects.

The projects and experiences during her time in the Department of Civil and Environmental Engineering at Texas Tech, including her senior project, have had a tremendously positive effect on her professional success, Vandiver acknowledges.

However, it is not the safety that she brings to municipal water systems that has recently drawn attention to Vandiver's activities.

At the finish line of the 2007 Virginia Triple Iron Competition, Gina is greeted by the race director and her crew chief.



Gina Vandiver, M.E.E. '03



In 2007, Vandiver was the top finisher among both male and female Americans at the Virginia Triple Iron Triathlon, held Oct. 5-7 at Lake Anna State Park in Spotsylvania County, Va. She swam 7.2 miles, biked 336 miles and ran 78.6 miles in 44 hours, 55 minutes and 54 seconds to break the course record for women by six hours and 52 minutes. The Virginia event is the only one of its kind in the United States.

This event was not her first triathlon, but she is still a newcomer in the amateur triathlon world.

While a student at Texas Tech, and in subsequent years, Vandiver competed in several sprint triathlons. A sprint triathlon consists of a 0.5-mile swim, a 12.4-mile cycle, and a 3.1-mile run.

Enjoying these smaller-scale events, Vandiver began competing in longer and more difficult events until she competed in the 2006 Virginia Double and 2007 Virginia Triple Iron competitions.

Vandiver was the youngest female ever to compete in the 2006 Virginia Double Iron Triathlon; she swam 4.8 miles, biked 224 miles, and ran 52.4 miles in 31 hours, 13 minutes, finishing before all other female competitors.

"The events are like a family affair; everyone is there to cheer everyone else on," Vandiver reflects, "It really helps you push yourself to the next level."

During the preparation for the Virginia Triple Iron, she would often train very early in the morning, go to work, and then continue training well into the evening. Maintaining a pace like that could be very difficult these days, she admits, as she is currently planning a wedding for the end of May.

"I would like to compete in a cycling-only event some time in the future, perhaps the Race Across America (RAAM)," she says. The event is a cycling race from Oceanside, Calif. to Annapolis, Md. covering 3,000 miles, with a 12-day time limit.

Gina enjoys the competition and the challenge that the triathlon events pose, but she also enjoys the challenge that she faces every day in making sure that your water is clean, clear, and safe. **E**



Civil Engineering Alumnus Dr. Earnest Gloyna Honored by University of Texas

On January 23, 2008, Earnest Gloyna, D.E., P.E., D.E.E., former Dean of the University of Texas College of Engineering, received The Presidential Citation for 2007 from The University of Texas at Austin.

According to The University of Texas, “The award was created in 1979 to recognize extraordinary contributions of individuals who personify the university’s commitment to the task of transforming lives.” Other recipients of the 2007 award include Hector De Leon, an Austin attorney, and the late Mrs. Lyndon Baines “Lady Bird” Johnson. Dr. Gloyna, Mrs. Johnson, and Mr. De Leon will have Presidential Citation Endowed Scholarships named in their honor.

Dr. Earnest Gloyna earned a Bachelor of Science in Civil Engineering from Texas Technical College in 1946, and was named a Distinguished Engineer for the College of Engineering in 1971. **E**



Dr. Earnest Gloyna, B.S.C.E. '46

Edwin E. “Butch” Davis Named Engineer of the Year by TSPE

Mr. Edwin E. “Butch” Davis, P.E. was selected as the Texas Society of Professional Engineer’s (TSPE) Engineer of the Year for 2008. The TSPE Engineer of the Year Award is the highest honor given to an individual TSPE member. The award is given to engineers whose sustained and unusual contributions have improved the public welfare and the advancement of his/her profession.

Davis presently serves as a Vice President of Parkhill, Smith & Cooper, Inc., responsible for Civil Operations in the Lubbock and Amarillo Offices.

He earned a Bachelor of Science in Agricultural Engineering in 1975 from Texas Tech University. Butch was previously honored as the 1985 Young Engineer of the Year by the South Plains Chapter of TSPE and the 2005 Transportation Manager of the Year by the Texas Public Works Association. **E**



Engineer of
the Year
2008



Students

Petroleum Engineering Student Knocks Out More than Just a 4.0

Story by: Kevin Cullen
Photo by: Kerry Lentz

Kayla Combs may be the number three boxer in her weight class in the United States, but her talents extend beyond the boxing ring.

Along with being one of the top female amateur boxers in the country, Combs, a junior petroleum engineering major from Bloomfield, N.M., has a 4.0 GPA, works a part-time job, and recently made the Lubbock Renegades' Rebel Dance team.

It is this ability to excel in everything she does that amazes the people closest to her.

"She is special as a person, in general," said Edward Hernandez, Combs' boxing trainer. "She is going to be a winner in anything she does; it's not just boxing. Boxing is a sport that's probably filling some kind of void that she has, and she has been successful at it. But in everything she does, this girl, she's going to be a winner; she's going to be successful."

Combs' father, Mike Combs, who still lives in Bloomfield, N.M., said Kayla Combs has been successful her whole life and has never been afraid to try anything.

"Kayla is a machine," he said. "She is outstanding in school. She has been this way all of her life. When Kayla was eight years old, she asked me one time, 'Dad, what would you think if I asked you to (let me) play football?' and I said, 'What? Girls don't play football' and she said, 'Well, I can,' and we got her on a football (team). I'm telling you, she has always been outstanding in school; she was in the Honor Society - good Lord this kid - and I'll be honest with you, I don't know where she got it from. She just excelled in school, and sports came along, and I have never held her back from anything."

Kayla Combs said she is the only athlete in her family and, like her father, has no idea where she got her athletic ability.

"I played volleyball, did track, and I did cheerleading," she said. "I'm pretty much the only one in (athletics). People didn't really take me seriously (at first) in boxing. A lot of older people - guys - really didn't



Petroleum Engineering Student Kayla Combs attempted to qualify for the 2008 U.S. Women's National Team, but lost in the semi-final round

take me serious. 'Girls shouldn't be boxing' is what it was."

Upon moving from New Mexico to Lubbock, Kayla, then ranked number eight in the nation in the 125-pound weight class, contacted Hernandez about joining his boxing club, The Lubbock Warriors, which trains at the Boys and Girls Club. He said he was skeptical at first about training her.

Kayla Combs said she saw the training regimen of the Warriors and decided she wanted to be a part of the team.

"There are, I think, about three other gyms (in Lubbock)," she said. "I called around, and I came here. I looked at their practices, and I saw how hard that they practice, and I thought to myself, 'Can I do that?' So I came in and talked to coach (Hernandez). They really didn't want girls on the team because they had just kicked off about eight of them. He gave me a two-week trial period, and they put me through some tough workouts, and I ended up making it on the team."



She quickly made an impression on Hernandez when he saw her first tournament in Lubbock.

“I told her, ‘Don’t leave this up to the judges to have to give you this fight,’” he said. “She gets out there, I mean first round, and she jumps on this girl and knocks her out. She did exactly what I told her, and she stopped that girl. Then she went into the championship round, and I knew that conditioning-wise we were ahead (of her opponent). I told Kayla, ‘This girl is going to be real strong that first round. What we are going to do is push her to the limit that first round.’ She is smart and she listened. That is what impressed me. She did everything I asked of her.”

Her first two fights with the Warriors were knockouts.

“That’s where I knew that the physical conditioning was a benefit to her,” Hernandez said. “I said, ‘girl, this is what is going to win championships for you.’”

Kayla Combs said she estimates she has won 60

trophies, as well as three or four belts and a couple jackets throughout her boxing career. Her current ranking of third in the nation is one of her proudest accomplishments, as well as the Ringside National Title she won in 2003.

“She is everything,” Mike Combs said. “She is the perfect kid. She has never been rebellious. We can always talk about anything. I raised my kids to be open-minded, and she is. Like I said, she is everything a daddy could want. She is an awesome kid; I’m real, real proud of her. That is my baby girl. She’s a rock ‘em, sock ‘em robot.”

Kayla Combs said she wants to make the U.S. national team at least once before she turns professional in boxing.

“I want to finish up this engineering (degree) and get a job in that - have something to fall back on,” she said. **E**

Excerpts from “Golden Girl: Tech student aims for Golden Gloves championship” by Kevin Cullen. *The Daily Toreador*, Feb. 22, 2008. Reprinted with permission.

Pi Tau Sigma Student Chapter Wins National Awards, Will Host Event

The national convention of *Pi Tau Sigma* was held February 15-17 in Atlanta, Ga. Two national awards are given at the convention each year, and Texas Tech University won both awards: the Outstanding Service Award and the Outstanding Chapter Award.

Sanjana Datta was awarded the Ed and Faye Griggs Scholarship. Additionally, Texas Tech was chosen as the site for the 2010 *Pi Tau Sigma* National Convention.

Pi Tau Sigma officers are: Meredith Macha, president; Troy Mills, vice president; Amanda Gordon, secretary; Seth Berry, treasurer; Billy Clark, Michael Morse, Richard Borge, initiate coordinators; Travis Turnbull, Web master; Dana Rosenblatt, Oliver Harrison, graduate advisers. **E**

Pi Tau Sigma students with awards (L-R) Sanjana Datta, Amanda Gordon, Billy Clark, Seth Berry, Troy Mills, Meredith Macha



Courtesy: Pi Tau Sigma

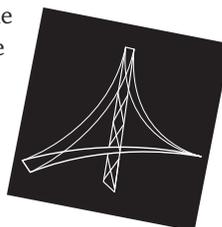


More News

ConocoPhillips Partners with Texas Tech for Student Success

The Texas Tech University College of Engineering is pleased to announce a \$500,000 five-year partnership with ConocoPhillips Company. This partnership establishes the ConocoPhillips Academic Success Bridge Program for engineering students at Texas Tech University.

The program will provide study skills training, academic preparation, tutoring, mentoring, scholarships, and other academic support services to entering freshmen engineering students. These resources will excite and encourage students to pursue careers in engineering and will give them the confidence to succeed. The Bridge participants will also have opportunities to interact



with engineers, scientists, and other technical professionals as they look to their own future.

The ConocoPhillips Academic Success Bridge Program aims to increase the enrollment and retention of engineering students including first generation college students, minority students, and/or students from lower socioeconomic backgrounds.

Nationally, only 38 percent of all entering engineering majors complete an engineering degree in six years. At Texas Tech University, the goal is to graduate 50 percent of our entering freshmen within six years. Entering freshmen are most likely to stay in engineering if they have the tools for academic success and they have a clear vision of the engineering profession and feel a part of the college community.

More information on the “Bridge” program can be found at www.coe.ttu.edu/bridge. **E**

College of Engineering Job Fair the Largest on Texas Tech Campus

The spring 2008 Engineering Job Fair was held on February 13 at the Lubbock Memorial Civic Center, with over 1,200 students in attendance.

Participation at the job fair grew by over 200 students from last year’s spring 2007 Job Fair. Over 500 recruiters and 205 companies welcomed College

of Engineering students to apply for co-ops, internships, and full-time jobs.

“Students are able to find a diversity of jobs all in one job fair where they can network and research companies,” Shelli Crockett, director of career services and study abroad in the College of Engineering, said. “This is where the recruitment season starts. About 80 percent of students do internships, and most of them find exactly what they are looking for.” Visit www.coe.ttu.edu/careers for more information on the next Engineering Job Fair, to be held on September 17, 2008 **E**





Engineers Week Highlights Diversity in the World, Diversity in Engineering

The College of Engineering hosted a variety of events during the week of February 17-23 as a part of National Engineers Week. Student demonstrations from many engineering disciplines attracted engineering and non-engineering majors to explore the diversity of opportunities within engineering.

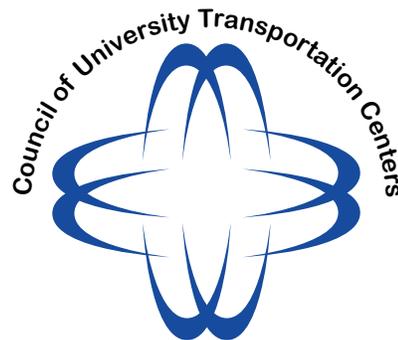
Other Engineers Week activities included employer presentations, celebrations of engineering diversity, Pink Engineering Day, the College of Engineering Honors Convocation, the Iron Ring Ceremony, and many other activities. Visit www.coe.ttu.edu/eweek to see photos from the week. **E**



**ENGINEERS
WEEK® 2008**
February 17-23

TechMRT Accepted into the Council of University Transportation Centers

The Center for Multidisciplinary Research in Transportation at Texas Tech University (TechMRT) has been accepted into the Council of University Transportation Centers (CUTC). According to the organization, "CUTC was established in 1979 to provide for improving university transportation research and education, and sharing information and ideas on university transportation research and research programs. Currently, almost 80 university transportation centers belong to CUTC. Entrance



into this group greatly elevates TechMRT's visibility within the transportation research community and will undoubtedly lead to greater opportunities for TechMRT and its researchers." **E**

The Engineering Job Fair was held on February 13 at the Lubbock Memorial Civic Center, with over 1,200 students participating.





Partnerships

Crosstex Energy Employees Donate \$110,000 to Petroleum Scholarships

Crosstex Energy's board members and employees donated \$110,000 to create the A. Chris Aulds Scholarship at Texas Tech University, a scholarship that will benefit entering freshmen students who major in petroleum engineering in the College of Engineering.



C R O S S T E X

Crosstex Energy established this scholarship to encourage and allow more engineering students to pursue careers in the oil and gas industry. The company believes that a key to the future of the energy industry is the potential leaders in college and university classrooms.

The scholarship is in honor of former Crosstex executive A. Chris Aulds who worked for the company for over 10 years. During his career at Crosstex, he led the Producer Services Group and the Treating and Eastern Divisions, as well as the Public and Industry Affairs Department. Aulds graduated from Texas Tech University in 1984 with a Bachelor of Science degree in Petroleum Engineering. **E**



(L-R) Jim Wales, Crosstex Executive Vice President - Commercial Division; A. Chris Aulds; Pamela Eibeck; and Barry Davis, Crosstex President and CEO

Tom and Bonnie Reeves Scholarship Created in Construction Program

Tom Reeves, a 1963 graduate of the Department of Civil Engineering and owner of Alpha Industries, Inc. in Dallas, Texas, has donated \$100,000 to the the Department of Engineering Technology's construction program.

The donation establishes the Tom and Bonnie Reeves Endowed Scholarship that will provide two students with \$2,000 scholarships each year. The Reeves scholarship will allow the college to attract some of the best and brightest students to prepare for careers in the construction industry.

Dr. Randy Burkett, chair of the Department of Engineering Technology, said, "This is the largest single cash gift that the program has received, and it nearly doubles the department's scholarship endowment."

Tom Reeves worked for Mosher Steel from 1963 to 1984. He founded Alpha Industries, Inc. and was named a Texas Tech Distinguished Engineer in 1984.

"It is our hope that this demonstration of generosity and commitment will set the standard and challenge other individuals in the future to give and support the construction program at TTU," Burkett said, "Which is continuing to grow in numbers and in reputation."

Tom hopes that this endowment will "Challenge other small companies to step up and become excited about the potential created when you challenge educators and students to achieve excellence." **E**





Fluor Alumni Scholarship Endowment Created for Employees

In 2007, Texas Tech alumni at Fluor Corporation expressed interest in establishing a scholarship for engineers at the College of Engineering. A short time later, on April 8, 2008, 50 employees of Fluor Corporation gathered in Sugar Land, Texas to begin a new partnership between the College of Engineering and Texas Tech alumni at Fluor.

This Houston-area alumni event established a new scholarship endowment fund for junior and senior Texas Tech engineering students. Scholarships from the new Fluor Alumni Scholarship Endowment will

be given to students in the five engineering departments from which Fluor recruits - civil engineering, mechanical

engineering, chemical engineering, electrical engineering and engineering technology (construction engineering).

Eight Fluor executives and alumni initially contributed to establish the scholarship, which when matched dollar-for-dollar by the Fluor Foundation will amount to \$53,000. **E**



(L-R) Tom Zachman, Daniel Palomno, Pamela Eibeck



College of Engineering Endowments Established between September 1, 2007 and February 29, 2008

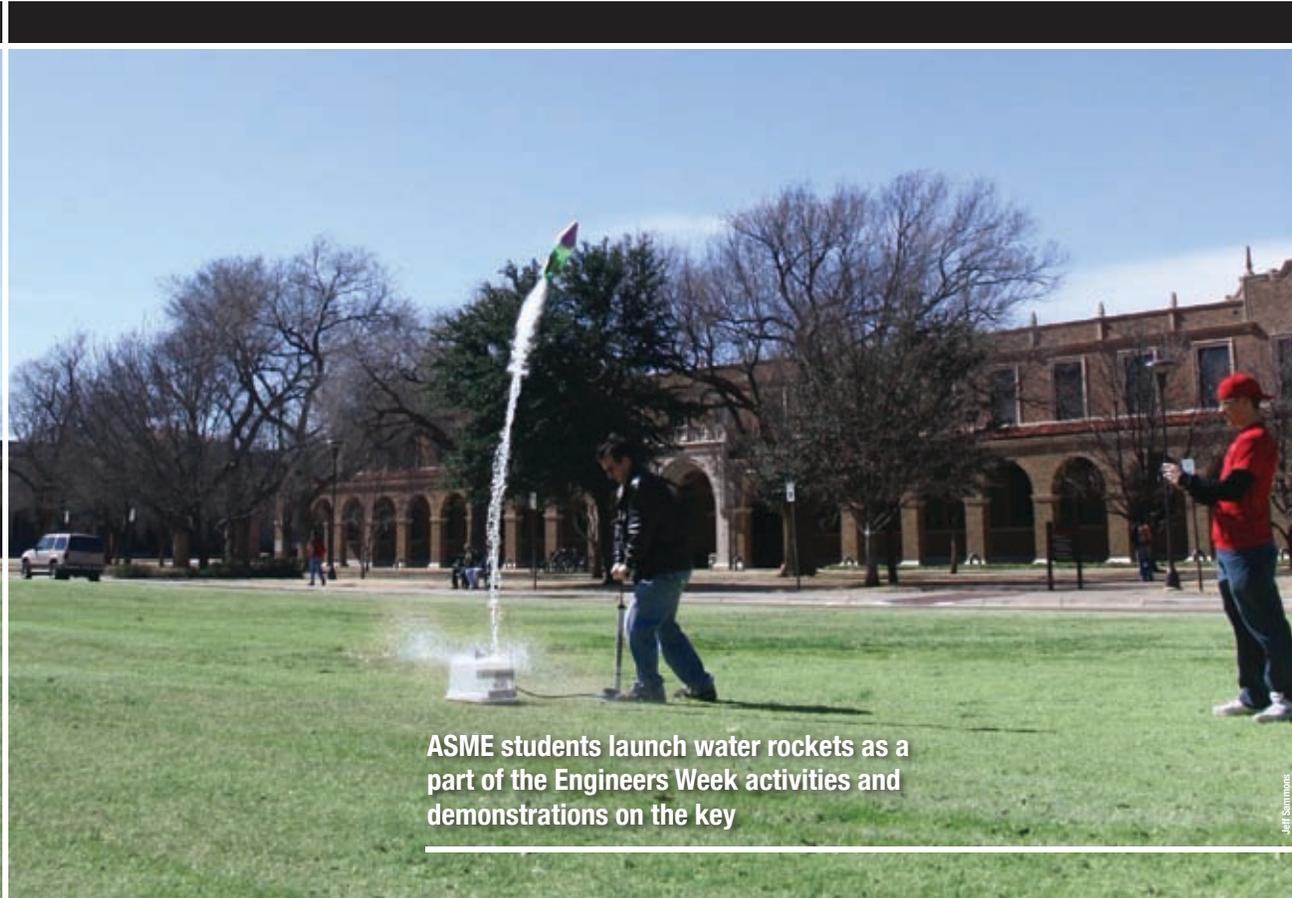
Weiner	Scholarship Endowment
Fluor Alumni	Scholarship Endowment
J. Frank and Patricia Davis	Engineering Scholarship Endowment
Don and Kay Cash	Dean's Scholars Scholarship Endowment
Derr	Professorship Endowment in Industrial Engineering
Industrial Engineering Academy	Scholarship Endowment
Paul S. Boedeker	Scholarship Endowment
Thomas J. and Bonnie K. Reeves	Scholarship Endowment in Construction Engineering Technology
John and Barbara Racz	Scholarship Endowment in Chemical Engineering
A. Chris Aulds	Scholarship Endowment
Buddy Sipes	Faculty Incentive Endowment in Petroleum Engineering
Joe and Jane Gamble	Scholarship Endowment
Kishor C. and Mary Ann Mehta	Graduate Endowment
Philip L. and Jayne M. Frederickson	Scholarship Endowment
Jim H. Posey	Endowment in Petroleum Engineering
J. Frank and Patricia Davis	Scholarship Endowment
Charles W. Gleeson, Charlyn G. Plunk, and Jake Plunk	Scholarship Endowment in Petroleum Engineering
Robert and Jonnie Rawlings	Scholarship Endowment
James E. "Jim" Lowder	Scholarship Endowment
Matejek Family	Faculty Fellowship Endowment
Julie England	Endowment for Women in Engineering
Bob L. Herd	Scholarship Endowment in Engineering
The Edward E. Whitacre, Jr.	Scholarship Endowment
The Linda F. Whitacre	Chair Endowment in Electrical and Computer Engineering
The Edward E. Whitacre, Jr.	Chair Endowment in Electrical and Computer Engineering



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ASME students launch water rockets as a part of the Engineers Week activities and demonstrations on the key

Jeff Sammons

MAY 2008

**Engineering
 Our Future**

Published quarterly by the
 Texas Tech University
 College of Engineering
 Box 43103
 Lubbock, TX 79409-3103
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Engineering Our Future
 May 2008 Issue

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