



College of Engineering Today

March 2007 Edition

WELCOME TO THE COLLEGE OF ENGINEERING E-NEWSLETTER!

News

[Faculty Recognition](#)

[Grants and Contracts](#)

[Student Accomplishments](#)

[Alumni Recognition](#)

[Events of Interest](#)

[Calendar of Events](#)

[Is Your News Listed Here?](#)

NEWS

Chemical Engineering Assistant Professor **Brandon Weeks**, PhD has been awarded the prestigious National Science Foundation (NSF) CAREER award. The award represents exceptional recognition from his external peers as well as from the NSF. The National Science Foundation established the CAREER program in 1994 in recognition of the critical roles played by faculty members in integrating research and education, and in fostering the natural connections between the processes of learning and discovery, according to the NSF Web site. Competition for the award is limited to assistant professors in a tenure-track position, and success rate is approximately 15 percent.



[\[Learn More\]](#)

Fluor Corporation Enterprises, Inc. has named Texas Tech University as a "partner university," the highest designation and their upper tier when considering support and recruitment. There are nine partner universities in the U.S. Fluor's recruitment emphasis is for top students in the chemical, civil, electrical and computer, engineering technology, and mechanical engineering disciplines. Toward that end, the company's funding is directed to engineering and construction schools, student association programs and events, and career centers. Thanks, Fluor! <http://www.fluor.com>



Senior **Dana Rosenblatt** is this year's recipient of the McAuley Distinguished Engineering Student Award. The award, provided by members of the College of Engineering Dean's Council, is named in memory of James A. McAuley, an active member of the Dean's Council a Distinguished Engineer, an educator, and a strong influence in the lives of those who knew him. Rosenblatt earned her bachelor's of science degree in mechanical engineering, and will graduate in May 2007. She worked as a student assistant in the TTU's Nano Tech Center, supported under a National Science Foundation Research Experience for Undergraduates grant. Her objective is to work toward a graduate degree in mechanical engineering at TTU.

Six engineering students are preparing for a summer studying in **Norway** and earning a certificate in **Entrepreneurial Studies**. Civil engineering students Andres Finney, Marc Balderas, and Kirsten Singleton, electrical engineering student Bryce Bradford, industrial engineering student Zane Judkins, and mechanical engineering student Riley Knox will take an entrepreneurship class for six weeks in the spring semester on campus, and then head for Norway where they will take two classes in international entrepreneurship management and marketing during the first summer session. Classroom instruction will be augmented by site visits to various companies in Norway.

http://www.ib.ba.ttu.edu/TTUstudent/study_abroad/Undergraduate/Summer_Programs/Norway/Honorfoss/engineering_program.htm



Manous

Wight

The College of Engineering hosted the 19th annual **Engineering Ethics Day** with presentations by two speakers. On February 13, Dean Eibeck welcomed Col. Joe Manous Jr, PhD, professor of environmental engineering at United States Military Academy at West Point, and David Wight ('64 BSPE), retired president and chief executive officer of Alyeska Pipeline Co. Each spoke about the importance of ethics in not only their professional lives but also in their private lives. Col. Manous said that the Golden Rule everyone learned as a child isn't a bad way to live as an adult and as a business professional, and Mr. Wight reminded those in the audience that "you own your ethics." Thank you to the Dean's Council Ethics Day Committee members for

arranging a thought-provoking afternoon: Alan Smith, Mike Stinson, and Jimmy Williams. Civil Engineering Professor Jimmy

Smith and Coordinator Patti Harper handled all the details to make every aspect of the event run smoothly. Sixty-seven percent of students attending the session were from Engineering Technology.

Engineers Week brought visibility to engineering and to the college from current students as well as potential students.

[\[Learn More\]](#)

A team of researchers from the Wind Science and Engineering Research Center was in Florida after the Feb. 2 tornado to study the damage. Their work could lead to changes in construction standards and guidelines that could better safeguard people during high winds. **Larry Tanner**, research associate in Civil and Environmental Engineering, was on-site to document the damage caused by the tornado to structures including mobile homes and recently built houses with in-home shelters. He also conducted research in the new Enhanced Fujita Scale, devised in part by TTU engineers, and implemented by the National Weather Service as a more accurate system for measuring tornado intensity than the former Fujita Scale. This story was highlighted on CNN News ("CSI for Tornadoes") as well as local Lubbock television news.

<http://www.wind.ttu.edu/Events/News/n20070205.pdf>

http://www.orlandosentinel.com/news/local/state/orl-storminspect07_107feb07,0,378513.story?coll=orl-home-headlines

FACULTY RECOGNITION

The Carnegie Foundation for the Advancement of Teaching selected Texas Tech as one of 76 U.S. colleges and universities for its new Community Engagement Classification. The "service learning" course, **Professional Communications for Engineers**, was singled out as an example and was highlighted in a recent online story by TTU's Office of Communications and Marketing. The class taught by Center for Engineering Outreach Senior Director **Dean Fontenot** as part of industrial engineering curriculum provides a forum for engineering students to develop interdisciplinary design projects for area community agencies while polishing their professional communication and presentation skills.

Mujahid Akram, assistant professor in Engineering Technology, was awarded a fellowship in the 2007 TTU Teaching, Learning, and Technology Center CORE Faculty Fellows Program. He will be part of a group that is developing online courses for engineering technology.

Alan Barhorst, professor of mechanical engineering, was awarded a Center for Integrated Nanotechnologies (CINT) fellowship from Sandia National Labs for last fall's semester. He is applying his mechanical system modeling tools to understand the contact and impact-based exchange of nanoscale particles in Bachand's Kinesin motormolecule driven microtubule-based transport systems. **Oliver Harrison** will work as the graduate research assistant.

Department of Chemical Engineering Professor **Uzi Mann** has been invited to write a chapter on Chemical Reactor Technology for the 7th edition of the *Kirk-Othmer Encyclopedia of Chemical Technology*. The chapter will appear in Volume 21, which will be published this year. Dr. Mann was also invited by the American Society of Mechanical Engineers, which manages the American Institute of Chemical Engineers continuing education program, to teach "Principles and Practices of Chemical Reactor Design and Operations" as part of the society's continuing education program. The course covers an effective methodology (based on dimensionless approach) to design and analyze chemical reactors, and is tailored to practicing engineers.



Kishor Mehta, Civil Engineering Horn Professor, has been named a Distinguished Member of the American Society of Civil Engineers (ASCE) 7 Standard, Minimum Design Loads for Buildings and Other Structures committee. The committee members establish design loads for all constructed projects in the country. Dr. Mehta was chair of the committee that established design loads for wind from 1977 through 1995. His designation as Distinguished Member of the ASCE 7 Committee is recognition of improving design standards for wind. Dr. Mehta will provide input to future changes in the wind load criteria on a continuing basis based on research in TTU's Wind Science and Engineering Research Center.

Future Energy: How the New Oil Industry Will Change People, Politics and Portfolios by Bill Paul and published by John Wiley & Sons, Inc. has recently been published. **Naz Karim**, chair of Chemical Engineering, and **Tim Maxwell**, professor in Mechanical Engineering, were interviewed for the book and provided insight on their respective disciplines for the author.



Karim



Civil Engineering instructor **Joel Robinett** ('86 BSCE) was named 2007 Engineer of the Year at the February 22 Texas Society of Professional Engineers banquet. He is also a partner at MWM Architects, Inc. in Lubbock.

Shameem Siddiqui, assistant professor of petroleum engineering, is co-author of "Improvements in the Selection Criteria for Representative Special-Core-Analysis Samples," which was published in the December 2006 issue of the Society of Petroleum Engineers journal, *SPE Reservoir Evaluation & Engineering*.

GRANTS AND CONTRACTS

Proposals:

Drs. Stephen Ekwere-Osire, Mechanical Engineering associate professor, and **Javad Hashemi**, COE associate dean of research, submitted a proposal for \$383,133 to the National Science Foundation (NSF) for "Probabilistic Mechanism of Fracture of Cortical Bone-Cement Interfaces."



Dr. Rattikorn Hewett, Computer Science professor, submitted a proposal for \$237,608 to NSF for "Security Risk Analysis in Information System Design."

Drs. John Mankowski, Electrical and Computer Engineering assistant professor, and **Magne Kristiansen**, Electrical and Computer Engineering Horn professor, submitted a proposal for \$164,000 to the Swedish Defense Agency for "Coaxial Vircator Optimization."

Mechanical Engineering faculty **Drs. Derrick Tate, Atila Ertas, and Timothy Maxwell** submitted a proposal for \$48,578 to EarthCo Building Systems for "Compressed Earth Block Building System."

Awards:

Tim Dallas, Electrical and Computer Engineering associate professor, is the principal investigator for a three-year \$270,000 National Science Foundation (NSF) Research Experience for Undergraduates Site in Micro and Nano Device Engineering. This is one of only five new sites chosen by the NSF engineering directorate out of 105 proposals. This program will greatly expand TTU's national exposure in cutting edge technologies while promoting excellence in undergraduate research and education. **Jordan Berg**, Mechanical Engineering associate professor, **Ayrton Bernussi**, Electrical and Computer Engineering assistant professor, **Richard Gale**, Electrical and Computer Engineering professor, and **Brandon Weeks**, Chemical Engineering assistant professor, are senior personnel on the project. The other principal investigator is Toni Sauncy from Angelo State University. <http://www.texmems.org>

Dr. Hamed Sari-Sarraf, Electrical and Computer Engineering associate professor, is co-PI on three awards totaling \$83,223 from Cotton Incorporated for "Real-Time Cotton Fiber Characterization," "Data Mining in the Cotton Fiber Quality Databases,"

and "Evaluation of Sensing Devices for Fabric Shrinkage and Fabric Smoothness Measurements."

STUDENT ACCOMPLISHMENTS

TTU's College of Engineering held its annual **Honors Convocation** on February 24. Seventy-four seniors with GPAs of 3.5 or higher were honored. Seventeen of those students had a 4.0 GPA. Congratulations!

For the first time in 12 years, TTU's **J. H. Murdough Chapter of the American Society of Civil Engineers** hosted the Texas-Mexico Region Steel Bridge competition. The event was held over two days – January 12 and 13. Ten regional universities competed in designing and building a bridge to specifications including construction time, weight, deflection, aesthetics, and stiffness. The TTU team's standing increased significantly over past year's competitions.

Two engineering students have been nominated for the **Barry M. Goldwater Scholarship** and Excellence in Education Program: senior **Kevin McBride** (chemical engineering) and sophomore **Julie Rice** (computer science). The program was established by Congress in 1986 to honor Senator Barry M. Goldwater, who served our country as a U.S. senator for 30 years. Its purpose is to provide a continuing source of highly qualified scientists, mathematicians, and engineers by awarding scholarships to college students who intend to pursue careers in these fields. Awards are announced the end of March. <http://www.act.org/goldwater/>

Computer science students in the **Association for Computing Machinery** student chapter raised funds to provide a Nintendo Wii game system for the use of patients in Covenant Children's Hospital Pediatric Oncology Clinic. Stephanie Thompson, Child Life Coordinator at Covenant, recounted the positive feedback from parents and patients when they have a distraction to pass the time during treatments. Timothy Smith is president of the chapter, and Joshua Gentry is vice president.

Society of Petroleum Engineers held their paper contest on February 17. Results are:

Undergraduate Division: first – Maanisaad Shahriar; second – Travis Gray; third – Lonnie Grohman. Graduate Division: first – Matthew Amao; second – Laski Tesalonika; third – Simeon Eburi. They will go to Louisiana State University at Baton Rouge in April to compete in the regional competition. Congratulations!



Master of Environmental Engineering student **Rebecca Thomason** teaches the "Design, Engineer, and Build" Super Saturday course for second and third graders, in conjunction with TTU's Institute for the Development and Enrichment of Advanced Learners. For four Saturdays, Rebecca presents a lesson that introduces various engineering disciplines by making soda geysers, static electricity generators, or edible cars. Sometimes the budding engineers take a field trip to see the civil and mechanical engineering wind tunnel or the NASA water recovery lab. Rebecca sees these seven- and eight-year-old kids make a connection with engineering that may chart their future as adults. <http://www.depts.ttu.edu/ode/pdf/Super.Sat.Fall.07.pdf>

Undergraduate students have the opportunity to work with researchers in advanced micro- and nano-devices, May 29 to August 3, 2007. Participants will be able to visit industrial and national lab partners, developing contacts for future internship possibilities. Application deadline is March 15. Contact Tim Dallas, Director MANDE REU Site, 806.742.4753, or http://texmems.org/texmems_MANDE.htm

ALUMNI RECOGNITION



Dean's Council member **Jim Lowder** ('58 mechanical) and his wife, Betty ('78), were selected by the Lubbock Area United Way as recipients of this year's Rita Harmon Volunteer Service Award. The couple, who have lived in Lubbock for about 50 years, were honored for their years of volunteer work in the educational arena.



Kyle Jackson ('99 civil) recently passed the Texas Professional Engineering exam in civil engineering, and is now licensed in the State of Texas. His work at Parkhill, Smith & Cooper focuses on transportation projects, primarily for the Texas Department of Transportation.

Staff from the engineering firm Parkhill, Smith & Cooper (PSC) hosted high school students at the Ninth Annual Groundhog Job Shadow Day at South Plains College in February. The students had the opportunity to see PSC's energy-efficient "green" office building and learn more about the engineering field. **Mike Moss** ('83 civil) from PSC said that he hopes many of the students who participated will go on to become engineers. http://www.lubbockonline.com/stories/020207/loc_020207066.shtml

Fred Underwood ('63 mechanical) was appointed by Governor Rick Perry to the State of Texas Transportation Commission. Pending confirmation, Underwood will serve on the five-member commission that oversees the statewide activities of the Texas Department of Transportation. Underwood is president and chief executive of the cotton bale storage facility, Trinity Co.

EVENTS OF INTEREST

The **South Plains Chapter of the Texas Society of Professional Engineers** held its annual Engineers Week Banquet on February 22. Dr. Sterling Shumway, TTU alumnus and associate professor in the College of Human Sciences, was the featured speaker.



Chambers

- Civil Engineering instructor **Joel Robinett** ('86 BSCE) was named 2007 Engineer of the Year. He is also a partner at MWM Architects, Inc. in Lubbock.
- **Chris Chambers** ('95 BSME) was named 2007 Young Engineer of the Year. He is the owner of Chambers Engineering, a consulting engineering firm in Lubbock.
- **Sean Quresh**, a 3.88 GPA senior at Frenship High School, won the 2007 Future Engineer Essay Contest. He is interested in all disciplines of engineering, and plans to attend Texas Tech (or UT!) in the fall.

The **Chemical Engineering** seminar series, "New Frontiers of Chemical Engineering" continued with... [\[Learn More\]](#)

The **Wind Science and Engineering Research Center** presented seminars on wind-related topics:

- "Six-degree of Freedom Trajectory Modeling of Windborne Debris" by Dr. Peter Richards from Auckland University, New Zealand on February 23.
- "Risk Issues in the Built Environment (Soliloquy, Sopition, or Social Sensibility?)" by National Academy of Engineering member Dr. Ross Corotis, Denver Business Challenge Professor of Engineering at the University of Colorado at Boulder, on February 23.
- "Current Trends in Wind Energy" by Tom Ashwill, PE, on February 28

Texas Tech University will host **TEXMEMS IX** on September 17, 2007. For more information, contact Tim Dallas, conference chair and Electrical and Computer Engineering associate professor, 806.742.4753; <http://www.texmems.org>

CALENDAR OF EVENTS

- March 30: Distinguished Engineers Luncheon – 11:30 a.m. to 1:00 p.m. – Student Union Ballroom. RSVP to Diana Harrison, 742-3451

IS YOUR NEWS LISTED HERE?

If not, submit it through your department's editor:

Civil and Environmental	Andrews, Glenna
Petroleum	Blackmon, Joan
Computer Science	Digby, Mysti
Mechanical	Hernandez, Carmen
Chemical	Hudson, Jan
Engineering Technology	McMurray, Jodi
Electrical and Computer	Willingham, Sandi
Industrial	Wilson, Terry

The COE e-newsletter will be posted online on the first week of the month. News submission deadline is the 28th of the month for inclusion in the following month's e-newsletter.

[Back to Top](#)

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