

ECS HAPPENINGS

March 2011

Special points of interest:

- WT student wins international competition
- Engineering camp—“Infinite Possibilities” set for June 12-17
- ECS students give back to the community
- Hunt wins National Award
- What’s Happening in the ECS Labs

A Note From Our Department

From Dr. Freddie Davis: Industry and professionals throughout the region and the community at large have been very supportive of mechanical engineering, engineering technology and computer science programs. We take pride in providing a quality education and a personal interest in each and every one of our students.

In July 2010, the Texas Higher Education Coordinating board granted WTAMU the authority to offer a program in Civil Engineering. “While most of the Civil Engineering students are in their first or second year and therefore have not declared themselves as either civil or mechanical,” Dr. Davis states, “We anticipate an enrollment growth similar to what WT experienced with the Me-

chanical Engineering program.” “We already have three Civil Engineering faculty on board, and are planning to hire more as we prepare for enrollment growth and ABET accreditation.”

The computer science curriculum was revised in 2007 to provide a robust education in computer science. West Texas A&M University is one of a select few university partners in the IBM Academic Initiative. There are a number of opportunities related to computer science, including minoring in math and obtaining teacher certification in computer science.

Engineering technology provides opportunities for students seeking a bachelor of science or a master of science degree. Engineering

technology has been a mainstay of technology education in the Texas Panhandle for decades, offering two options industrial distribution and manufacturing.

Mechanical engineering, initially offered in 2003 and ABET accredited since 2006, has seen rapid growth in enrollment, faculty research and internship opportunities. The curriculum features a broad-based mechanical engineering education with electives that enable students to focus in a variety of specialties. Employment of graduates is near 100% and students taking the Fundamentals of Engineering examination have a first time pass rate of over 80%.

Story cont. on Page 4.



Oliver Mulamba

WT Alumnus Wins Research Award

West Texas A&M University (WTAMU) recently hosted the 8th Annual Student Research Symposium for the Texas A&M University (TAMU) System. Undergraduate and graduate students from all of the TAMU system schools participated in the poster and oral presentations and competed for prizes for best post-

ers. This conference provided an opportunity for networking between students from other TAMU Universities and unique cultural entertainment. Oliver Mulamba, who graduated from WTAMU with a mechanical engineering degree in 2009, took first place in the engineering competition and first place in the overall re-

search competition. Oliver was awarded a Pathways Fellowship for graduate school at TAMU, will finish his Masters degree in the Spring 2011, and begin work on his Ph.D. following graduation. His research is at the interface of several scientific and technological areas involving physical, **cont page 2**

Infinite Possibilities Theme of 2011 Engineering Camp

The Department of Engineering and Computer Science at West Texas A&M University is proud to announce that their Third Annual Summer Engineering Camp will be held June 12th through 17th on the campus of WTAMU. The camp is open to students aged 14 and up, including those who maybe graduating in May 2011. Camp sessions are designed to introduce the campers to a variety of engineering experiences as well as exposing them to the possibilities a career in engineering could provide. This year's camp will again have a focus on renewable energy and the theme of the camp is "Infinite Possibilities".

An added feature this year is our Facebook page – [Engineering Outreach/Camp WTAMU](#), which is devoted to the Engineering Camp and Outreach activities. Those visiting the page and hitting **LIKE** will receive updates about the camp, reminders about deadlines, and news as it happens during the camp along with photos from the camp.

The camp is being funded, in part, by generous contributions of area businesses like Education Credit Union and Bell Helicopter, as well as some grant funding. All applicants to the camp **MUST** have a valid Social Security number and must provide the number upon acceptance to the camp. Part of the camp underwriting is through grant funding and a SSN is required to utilize these funds.

The cost of the weeklong camp for those attending will be \$150. A \$50 deposit is required with the [application](#) to the camp and the remainder of the funds must be paid by May 15, 2011. Checks should be made out to WTAMU with Engineering Camp in the memo line. Cancellations received before May 15, 2011 will receive a full refund, those received after this date but before June 1st will receive a refund of fees paid minus \$50. No refunds will be given after June 1st, 2011. ECS does have a limited amount of funding for scholarships to the camp. Students desiring a full or partial scholarship will need to fill out the provided [scholarship form](#). If a scholarship is awarded, part or all of the money paid by the camper will be refunded.

For questions or more information about the camp, call Rhonda Dittfurth at 806-651-2510 or email at rdittfurth@wtamu.edu

In The ECS "Labs"

RESEARCH: Dr. Emily Hunt and Dr. Matt Jackson are working on a research project for B&W Pantex in precision coating.

Dr. Roy Issa is designing a beef carcass spray mist cooling system for the USDA.

Dr. Freddie Davis and Dr. Emily Hunt are working in research on linked –class problem based learning in Engineering.

Dr. Byung Chang is working on a research project with TxDot analyzing bridges with super heavy loads.

Dr. Kenneth Leitch and Rhonda Dittfurth are working on a project in conjunction with Dr.

Trudy Hanson of the Communications Department to improve Engineering students communication skills.

Dr. Emily Hunt is working with the Defense Threat Reduction Agency to counteract WMD using nanotechnology.

Dr. Kenneth Leitch and Dr. Roy Issa are working the Texas Rangers by providing technical assistance in an on-going case.

Dr. Robert DeOtte is working a multiple projects with the USDA concerning the livestock industry.

A Special Thank You to **Education Credit Union** for being a **Platinum** Sponsor of our 2011 Summer Engineering Camp!

Thanks also to **Bell Helicopter** for being a **Bronze** Sponsor of our 2011 Summer Engineering Camp!!



Dr. Kenneth Leitch, Rhonda Dittfurth, and Dr. Trudy Hanson present their research on Improving Engineering Students Communication skills at the Spring WT Faculty Poster session

Mulamba cont.

chemical, mechanical, and tribological properties of advanced materials. The outcome of this research is in the development of novel nanostructured materials and nanofabrication processes.

Mulamba defended his Masters Thesis earlier this month. He will receive his Masters degree from A&M University in May 2011. He plans to continue his studies at Texas Tech University in Lubbock where he will pursue a PhD degree in Mechanical Engineering.

WT Computer Science Student Wins International Computing Competition

When you see him hanging out on the West Texas A&M campus, senior Patricio Reynaga looks like any other student. You'd never guess he was the man who outsmarted the best and brightest minds from the U.S. and beyond.

The computer science major and Dumas native got the email earlier this week: he had won IBM's Master the Mainframe 2010 Contest, beating out more than 3,500 students from more than 400 schools, including Cornell, Stanford, and MIT.

"I couldn't believe it.," said Reynaga. "I thought it was a joke."

The online-based mainframe computing contest took about three months, from October to late December. All of the work was done outside of class, and many of the more than fifty increasingly difficult programming and related mainframe tasks took hours to complete.

"I spent most of my Christmas break doing it, that's for sure," laughed Reynaga.

Points were awarded primarily

based on the number of tasks completed. Reynaga won by finishing with the most points. Two other finalists, finishing in the top one percent of contestants, were also WT students: Navdeep Uppal and Vance Morris.

"I love computer science and programming," said Morris, a junior from Amarillo. "It's my passion. To be recognized for that, it's pretty cool."

WT is one of the few schools in the U.S. with a focus on mainframe computing, leaving its students well-suited to succeed in IBM's well-known annual contest.

"We've placed as high as third internationally before," said Dr. Freddie Davis, WT Engineering and Computer Sciences Department Head. "Typically we have more people who make the final round than any other school in the world."

Adds H. Paul Haiduk, WT Computer Science Program Coordinator, as well as the professor who encouraged Reynaga to enter the contest: "We can compete with MIT,



WT Computer Science Coordinator H. Paul Haiduk congratulates senior Patricio Reynaga on his win in the IBM Master the Main Frame competition.

Princeton and Cornell, Stanford."

The contest victory landed Reynaga an iPad, as well as a trip to the IBM mainframe lab in Poughkeepsie, New York.

"It's amazing," said Reynaga of the New York trip. "It's gonna open up a lot of opportunities, that's for sure."

Adds Haiduk, "This opens job opportunities for Patricio anywhere in the world. Where does he want to go, and what does he want to do?"

Patricio says he first started getting into computer science during his senior year of high school. This was his first attempt at the IBM Master the Mainframe Contest.

Dr. Emily Hunt Wins DTRA Award

Dr. Emily Hunt, assistant professor of mechanical engineering at West Texas A&M University, has received a Young Investigator Award from the Defense Threat Reduction Agency (DTRA), a part of the Department of Defense (DOD) and the U.S. Strategic Command. The Young Investigator Award is a coveted, highly competitive program, and each year DTRA presents 10 to 15 awards nationally to researchers in the science and engineering fields. Hunt received the 2010 award for her project on "Energetic Nano-Materials for Bio-Agent Defeat." She will receive \$150,000 a year for two years to continue the research. Hunt's project focuses on creating energetic materials for use against weapons of mass destruction (WMD) facilities and systems. The research supports DTRA's mission to combat the WMD threat and make the world safer. She has done preliminary work on the project through a grant from the National Science Foundation. The work provided a proof of concept for the proposal, and Hunt will continue her research on the nano materials in September in her lab at the University's Killgore Research Center. The research will look at nano materials with explosive, energetic properties in gas and solid forms. WTAMU undergraduates in engineering will assist her in the research. An exceptional element in Hunt's proposal to the DTRA was her plan to use undergraduate students in engineering to help with the research. WTAMU doesn't have a graduate program in engineering so Hunt's students will have research opportunities rarely found at the undergraduate level. "The uniqueness of my proposal and research is that I will be hiring undergraduates to work on my research, and they will be performing at very high levels," Hunt said. DTRA was established in 1998 and helps ensure the United States is ready and able to address present and future WMD threats through combat support, technology development, threat control and threat reduction.

We are on the Web at:

<http://www.wtamu.edu/academics/engineering-computer-science.aspx>

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From page one. Our students are involved in student organizations, campus work, internships, student research, athletics and other activities too numerous to list. Our students frequently have cook-outs, field trips and many other educational and social activities.

The pursuit of these degrees requires dedication and hard work. But those who truly enjoy their chosen field in computer science, engineering technology or mechanical engineering will find West Texas A&M University a first choice university for students and faculty alike.

Looking forward, WTAMU is also planning for forthcoming programs in Environmental Engineering and in Electrical Engineering over the next couple of years. To accommodate these programs and the growth of current programs, WTAMU is renovating the Old Ag building on the south side of campus. The renovation will be in two phases and ultimately will increase the available space over three and one-half times the currently occupied ECS space. Phase I is currently underway and anticipated to be complete before the end of 2011.

Freddie Davis, Ph.D.
Department Head



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ECS Students Give Back

Engineering and Computer Science students at WT have several things in common, tough class schedules and intense homework but another thing they have in common is the desire to have a little fun and do some good at the same time. Members of the Society of Women Engineers (SWE) worked around finals last semester to spend a day ringing the bell for the Salvation Army. On March 14 of this year members of the American Computing Machines, the American Society of Mechanical Engineers, and members of SWE joined forces to paint the Canyon Girl Scout Hut.



Ringling the bell for the Salvation Army



Painting the Canyon Girl Scout Hut