***AcademiCast* Transcript**
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Davis: 'Tis the season to battle the holiday weight gain.

Hello everyone, I'm John Davis and this is *AcademiCast*, brought to you by Texas Tech University.

Last year, Texas Tech University Professor Jamie Cooper in the Department of Nutrition, Hospitality and Retailing, performed a research study looking at the effects of people's holiday eating habits on a variety of health parameters. Dr. Cooper explains how the study was done.

Cooper: *The participants came in about a week before Thanksgiving, and we measured height, weight, blood pressure and body composition. And, then, they came in the first week in January, and we took the same measurements again. So, we were really looking to see how their body weight changed, how their body fat percentage changed and how blood pressure changed. We found significant results. There was a significant increase in body weight. It was about 1 ½ pounds that the people gained over the eight-week period. There was also a significant increase in body fat percentage, so that means that the weight they were gaining was fat mass. And, there was also a significant increase in blood pressure. It was a pretty small increase, but it was significant.*

Davis: Although participants of this study were not asked if they had lost the weight they had gained, Dr. Cooper says research has shown that people tend to maintain the pounds gained well after the holiday season.

Cooper: *When you hear something like 1 ½ pounds, it doesn't seem like much, but the average yearly weight gain in a U.S. adult is about 2-3 pounds. It's actually just over 2 pounds. So, when we're showing that a person gains a pound and a half during the holidays, it's actually about 75 percent of yearly weight gain.*

Davis: Dr. Cooper advises maintaining your normal exercise regimen or exercise more if you normally don't. She also recommended sticking to your normal eating habits as much as possible to limit splurging, eating things like vegetables, salads, or soups before the main meal, eating slower during the meal, and trying to consume everything, especially the fatty foods, in moderation.

Author and Mechanical Engineering Professor Michelle Pantoya is making plans to publish a second children's book that teaches children the importance of engineering in their lives. Her first children's book, titled *Engineering Elephants*, was recently recognized as a "Best Books 2010" award finalist by www.usabooknews.com.

Here's Provost Bob Smith with more from this integrated scholar.

Smith: Dr. Michelle Pantoya wears many hats. She is an author, a wife and mother, a mechanical engineer, and a professor in the Texas Tech Edward E. Whitacre Jr. College of Engineering. Her desire to pursue a career in engineering began where many of us begin our career interests and professional paths—at home.

Pantoya: *My father was an engineer, and he actually worked for the Apollo projects—the space projects. He'd bring home some beautiful sketches of things that actually didn't exist. They're called concept sketches. Every once in a while I'd be looking over his beautiful pictures, and I'd think, 'Wow, that would be an amazing thing to do.'"*

Smith: The combustion laboratory in the Mechanical Engineering Department is where Dr. Pantoya spends a great deal of time researching the combustion of energetic materials. Let's hear her describe what these energetic materials can do.

Pantoya: *My lab is all about the combustion of energetic materials, so these are solid fuels. Gasoline in a car is a liquid fuel, and it needs to react with air in order for a reaction to occur. But, energetic materials don't need that extra oxidizer. They don't need to be in air. They have the fuel and the oxidizer all combined within the solid molecular structure. So, they can react under water or they can react in outer space. So, these solid materials, when they react, they can produce very mild reactions that can be used for synthesizing new alloys, or they can produce very violent reactions, very exothermic reactions that can be used to generate energy.*

Smith: Dr. Pantoya, along with Dr. Emily Hunt—a former graduate student at Texas Tech and now a professor at West Texas A&M University, have written a children's book about engineers and engineering, titled *Engineering Elephants*. Dr. Pantoya says that while children know what doctors, teachers, soldiers and firefighters do, many don't know what engineers do and how essential they are. This inspired her to reach out to a younger audience.

Pantoya: *Emily and I realized because we have young children that children don't understand what engineers do. We wanted to generate excitement. We wanted to inspire these young children to think about engineering. In much the same way my father brought home beautiful concept sketches of outer space, I wanted to bring to every single kid the ideas of what an engineer can do in a very engaging children's book.*

Smith: In addition to Engineering Elephants, Dr. Pantoya and Dr. Hunt plan to write additional children's books about engineering—all in the not-too-distant future.

Pantoya: *We're working on a few other books to really reach a large population of children across various socio-economic paths that can make a difference in our world in the future. There are a lot of things we need to change, as far as energy and biotechnology. There are a lot of improvements that will make this world a better place, and I guarantee you that an engineer is going to do that in the future. Hopefully those engineers will have been inspired by our book.*

Smith: Dr. Pantoya was honored this year as a 2010 Integrated Scholar for her research, teaching and service to Texas Tech and our greater community. We look forward to Dr. Pantoya's future projects in the field of engineering. Thanks for listening! I'm Bob Smith.

Davis: Thank you, Dr. Smith. The launch of the first issue of the *Journal of Biosecurity, Biosafety and Biodefense Law* took place at Texas Tech in November. School of Law Professor Vickie Sutton, who is also the director of the Center of Biodefense, Law and Public Policy, helped develop the journal and serves as its editor.

Sutton: *The area of legal analysis and scholarly analysis in biosecurity and biodefense has been coming together over the last 10 years, especially since the events of 9-11. And that, along with the biotechnology revolution and emerging infectious disease globally, has really created a need to develop a framework for rule of law. A lot of scholars are beginning to write more and more in this area. It doesn't really fit neatly with public health law, national health law, it's not food and drug law, it's not military law. But it's really a new emerging field that is kind of a hybrid of state, federal and global law that addresses new threats to biosecurity, but also safety and public health.*

Davis: Dr. Sutton says many faculty and students at TTU were involved in getting the journal started and continue to help serve with other professionals across the country on the journal's editorial board.

I'm John Davis for *AcademiCast*.