

## ENGINEERING ACTIVITIES

### **January**

#### **Future City Competition**

*Description:* A program developed for 7<sup>th</sup> and 8<sup>th</sup> grade students to help them discover and foster interests in math, science and engineering. This competition gives students an introduction to different types of engineering (civil, electrical, chemical, and mechanical). It will also teach them skills such as writing, public speaking, teamwork, time management, problem solving, and new computer skills.

*Website:* <http://www.futurecity.org>

*TexITE Members Who Have Participated in the Event:* Cissy Sylo, Greater Dallas Section

#### **Engineer Girl! Essay Contest**

*Description:* In 300 to 400 words tell how you think engineers have changed and continue to change the world. Focus your essay on one of the following topics: Engineering's Great Achievements, History's Great Engineers, or The Future of Engineering. The contest is open to all students in grades 6-12.

*Website:* <http://www.nae.edu/nae/cwe/egmain.nsf?OpenDatabase>

### **February**

#### **Engineering Week**

*Description:* A week celebrated annually to enhance the public understanding of the engineering profession and to promote pre-college interest in engineering and technology.

*Website:* <http://www.eweek.org>

#### **Introduce a Girl to Engineering Day**

*Description:* A program for girls to help raise awareness about engineering and the rewards it offers.

*Website:* <http://www.eweek.org/site/News/Eweek/girlsday.shtml>

### **March**

#### **Science, Technology, and YOUth Symposium**

*Description:* This one-day symposium acquaints 7<sup>th</sup>-12<sup>th</sup> grade students and K-12 teachers with the developments and importance of science and technology in today's society.

*Website:* <http://www.coe.tamu.edu/~alliance/symposium.html>

*TexITE Members Who Have Participated in the Event:* Melisa Finley, Brazos Valley Section and Brooke Ullman, Brazos Valley Section

## **April**

### **National Transportation Week Poster Contest**

*Description:* Students in the 5<sup>th</sup> grade are invited to enter artwork that represents their thoughts on the theme, “Transportation...It Keeps America Moving.” Pictures should capture the essence of what transportation means for the students. All participants will receive a certificate thanking them for participation and the 1<sup>st</sup>-3<sup>rd</sup> place winners receive cash prizes.

*Website:* <http://www.ntweek.org>

### **National Engineering Design Challenge**

*Description:* NEDC is a hands-on national engineering design competition. It challenges teams of students, often working with an engineering adviser, to design, fabricate, and demonstrate a working solution to a social need.

*Website:* <http://www.jets.org/programs/nedc.cfm>

## **May**

### **National Transportation Week**

*Description:* A week celebrated annually that provides an opportunity for the transportation community to join together for greater awareness about the importance of transportation, while also making youth aware of transportation-related careers.

*Website:* <http://www.ntweek.org>

## **September**

### **MATHCOUNTS**

*Description:* MATHCOUNTS is the nationwide math coaching and competition program for middle school students. It promotes student interest in math by making math achievement as challenging, exciting and prestigious as a school sport. Beginning each fall, thousands of teachers, MATHCOUNTS alumni and other volunteers coach student mathletes using the free *MATHCOUNTS* School Handbook. After several months of coaching, registered schools select students to compete in one of 500 local competitions. The top teams and individuals then progress to state competitions, where the top four individuals advance to the National Competition.

*Website:* <http://mathcounts.org/>

*TexITE Members Who Have Participated in the Event:* Jim Williams, Greater Fort Worth Section

## **Spring**

### **TEAMS**

*Description:* The Tests of Engineering Aptitude, Mathematics, and Science program enables high school students to learn team development and problem-solving skills using classroom mathematics to solve real-world problems. The TEAMS competition is an annual one-day, two-part event that consists of an open-book, open-discussion exam taken by teams of four-to-eight high school students. TEAMS presents the multidisciplinary aspect of engineering work by

illustrating how math and science concepts work together and are applied to solve real-world problems.

*Website:* <http://www.jets.org/programs/teams.cfm>

### **Job Shadow Day**

*Description:* Job shadowing is an academically motivating activity designed to give kids an up-close look at the world of work and to answer the question, "Why do I have to learn this?" Students "shadow" workplace mentors as they go through a normal day on the job and get to see firsthand how the skills learned in school relate to the workplace. This program generally occurs in March or April.

*Website:* <http://www.jobshadow.org>

*TexITE Members Who Have Participated in the Event:* Debbie Jasek, Brazos Valley Section

### **Expanding Your Horizons**

*Description:* Expanding Your Horizons in Science and Mathematics™ conferences are designed to nurture girls' interest in science and math courses and to encourage them to consider science and math based career options such as engineering, computer science, and biometrics. A typical conference takes place on a Saturday at a local college or university and is attended by 200-500 young women from nearby middle schools and high schools. The schedule includes a keynote address encouraging girls to persist in mathematics and science courses, and two varieties of workshops. This conference generally occurs in March or April.

*Website:* <http://www.expandingyourhorizons.org/>

*TexITE Members Who Have Participated in the Event:* Debbie Jasek, Brazos Valley Section; Brooke Ullman, Brazos Valley Section; Melisa Finley, Brazos Valley Section

### **Shadowing Program**

*Description:* Carrollton-Farmers Branch ISD high school teachers are paired with industry partners to learn how professionals in their daily careers use the skills they are teaching. In addition, the industry partner spends a day with the teacher's students talking about how they utilize the skills learned in school.

*TexITE Members Who Have Participated in the Event:* Cissy Sylo, Greater Dallas Section

### **Summer**

#### **UTA Summer Engineering Camp**

*Description:* Four one-week sessions for 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade students who are interested in pursuing a career in engineering.

*TexITE Members Who Have Participated in the Event:* Jim Williams, Greater Fort Worth Section

#### **Texas Summer Transportation Institute**

*Description:* This program addresses transportation workforce needs, specifically the shortage of students pursuing careers in engineering and technology. Through this program students experience the critical frontiers of science and transportation engineering through intensive training in math, science, and technology.

*Website:* <http://tsti.tamu.edu/index.html>

*TexITE Members Who Have Participated in the Event:* Debbie Jasek, Brazos Valley Section and Brooke Ullman, Brazos Valley Section

**TexPREP**

*Description:* An 8-week summer course for students ranging from 7<sup>th</sup> to 10<sup>th</sup> grade. This course is an academically intense, mathematics-based, summer enrichment program that includes speakers and field trips.

*Website:* <http://www.math.utsa.edu/~prep/sa014.htm>