



AMERICAN COUNCIL OF ENGINEERING COMPANIES
of Tennessee

1968 40th ANNIVERSARY 2008

The Voice

THE VOICE OF TENNESSEE'S ENGINEERING COMPANIES

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Strong Math and Science Education is the Key to Securing U.S. Competitiveness

by U.S. Representative Bart Gordon
Tennessee 6th Congressional District

A dark cloud is hanging over the future of American competitiveness. According to the latest OECD Program for International Student Assessment, students in the U.S. ranked 25th out of 30 developed countries in math and 21st in science. Without high-achieving math and science students today, the United States won't have innovative scientists, engineers and technologists tomorrow.



Rep. Bart Gordon

The 2007 National Academies report, "Rising Above the Gathering Storm," identifies the improvement of K-12 math and science education as the single highest-priority policy recommendation that the United States must implement for our country to remain prosperous in today's global economy. Today's graduates in Cookeville are not just competing for jobs with graduates from Murfreesboro and Knoxville; they're also competing with students from Mumbai and Hong Kong. Strong math and science education is critical to ensuring American workers have the technical skills they will need for the jobs of the future.

Need for Math & Science Teachers

Often, through no fault of their own, American math and science teachers find themselves teaching out of field to fill a need at a school. The urgency of solving this problem is evident; 69 percent of middle school and 31 percent of high school students are taught by math teachers with neither a col-

lege major in math nor a certificate to teach math. The numbers are no better in science classrooms, where 93 percent of middle school physical science students and 67 percent of high school physics students are taught by teachers with no major or certificate in the subject.

America COMPETES Act

The National Academies presented Congress with a call to action to provide needed training to teachers and recruit the best and brightest students to careers in teaching. Based on the recommendations in the Gathering Storm report, Congress passed legislation I introduced and shepherded through Congress alongside Sen. Lamar Alexander. The America COMPETES Act authorizes \$33.6 billion over fiscal years 2008-2010 for STEM (science/technology/engineering/math) research and education programs across the federal government. Most significantly, COMPETES amends and expands two National Science Foundation programs – Robert Noyce Teacher Scholarships, and Math and Science Partnerships. These programs focus on recruiting new STEM teachers and providing high quality professional development to current STEM teachers.

The Noyce program provides awards to universities that build model programs for recruiting students into teaching. Students who enroll in the Noyce program receive scholarships to earn bachelors degrees in a STEM field, get early mentoring and field experiences in teaching, learn content-oriented pedagogy and follow a streamlined path toward teacher certification.

(continued on page 2)

Parting Thoughts: The Future of Our Profession

by James D. Morinec, PE
President, ACEC of Tennessee

This is the last column that I will write as President of ACEC of Tennessee. The year has passed quickly and the experience has been very rewarding. I thank the members of the Board for their counsel and support; the chairmen and members of our many committees for their work, and our staff, Candy Toler, Executive Director, and Judy Logue, Manager of Member Services, for all the hard work they do to make ACEC of Tennessee an effective voice for the engineering companies doing business in Tennessee.



James D. Morinec

As engineers, our efforts touch people throughout the world and through our projects we work hard to reach our goal: to make the world a better place. Engineering is a rewarding and fulfilling profession, one that has direct impact on the world in which we live. The opportunities within the profession are extensive and far reaching whether it's meeting current needs through the design of roadways, bridges and waste water treatment plants, or looking to the future with the design of rail transit and new public water systems. And as the world develops, so will the oppor-

tunities in our profession. But the expansion is coming at a price; there are simply not enough qualified people to do the work that needs to be done.

Where Are Future Engineers?

According to the U.S. Department of Labor, the demand for civil engineers in the U.S. is expected to increase by 18% by 2016. However, with the number of qualified graduates of engineering programs expected to decrease, many of the positions will go unfilled.

We all bear a responsibility to see that our businesses thrive, not only for the good it does for this generation, but for the good of generations to come. We owe it to ourselves and our profession to take the time to get involved; to reach beyond our interests to show the up-and-coming generation of students the intrinsic value of engineering as a profession.

China and India are developing their transportation and infrastructure at a rate that far out paces the United States to support their thriving economies. It will not be long before our government recognizes that the best way to jump start the economy is to invest in programs that will address our crumbling infrastructure systems. We need to be ready to address these opportunities by assuring there will be an adequate supply of qualified engineers to meet our needs.

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Math and Science Education *(continued from page 1)*

In return, they make a commitment of several years to the teaching profession in high need schools. COMPETES also expands Noyce to include the NSF Teaching Fellowships and Master Teaching Fellowships programs. These fellowships will be available to STEM professionals who enroll in a master's degree program to obtain teacher certification, as well as to current math and science teachers who possess a master's degree in their field.

University & School Partnerships

The Math and Science Partnership Program involves partnerships between universities and school systems. Teachers participating in these partnerships are exposed to content and pedagogy training and become teacher leaders in their schools. Students and teachers here in

Tennessee are benefiting from this program through the Appalachian Math Science Partnership, which addresses the low math and science achievement in selected school districts in Kentucky, Tennessee, and Virginia.

To build a world-class science and technology enterprise, we need to have a world-class math and science education system.

To build a prosperous nation with high-paying jobs and a high standard of living, we need to have a prosperous science and technology enterprise. To build a world-class science and technology enterprise, we need to have a world-class math and science education system. To build a world-class math and science education system, we have to have well-educated and well-prepared math and science teachers who are experts in their disciplines and in the pedagogy of their disciplines. The America COMPETES Act can get us there.

2008 Leadership Development Program Announced; Enrollment Underway

by Michael R. Stomer, PG*
Chair, Leadership Development Committee

Want your firm to succeed? Then grow the leadership skills of its managers.



Mike Stomer

The ACEC of Tennessee Leadership Development Committee has selected Dan Ryan, Human Capital Group, to lead the 2008 Leadership Development Program, which will begin in August. Enrollment is currently underway.

Participation in the program brings many benefits to ACEC member firms. Most engineers and scientists focus on technical skills in their degree programs; few have formal leadership training. Here's the program to help fill this void. The skills covered in the program are those most widely used by individuals who rise to senior roles within their firms, where they generally rely more on leadership competencies than they do technical expertise. The key competencies to be presented in the Leadership Development Program include: conflict resolution, negotiation skills, building high performance teams, coaching, communica-

tion skills, and strategic thinking and business management.

Who Should Participate?

Attendance will enable mid- to senior-level staff the opportunity to gain a firm understanding of key leadership competencies. The more comfortable and familiar managers become with these competencies now, the more effective they will be as future leaders. The program will present nascent as well as time-tested concepts, while emphasizing not only basic knowledge, but providing exposure to and practice of valuable skills and attitudes necessary for a successful leader.

The program will be presented in four sessions, one per month, August through November. Each session will begin on Friday morning at 10 a.m. and end mid-afternoon on Saturday. All sessions will be held at the Tennessee Engineering Center, Nashville. The amount and nature of material will require each participant to perform outside study to be adequately prepared. This includes reading relevant books and articles. The cost is \$2,500 per person. The class is limited to 15 participants. The deadline to register is July 1. For the complete schedule, check www.acectn.org.

*Mike is a Vice President of S&ME, Knoxville

Tennesseans in Washington

ACEC of Tennessee was well represented at the ACEC Annual Convention in Washington, D.C. held in late April. The event included visits with members of Congress.



Seated: David Harrell (Vaughn & Melton, Knoxville), Lillard Teasley (Teasley Services Group, Nashville), Bruce Giles (Cannon & Cannon, Knoxville), and Candy Toler Standing: Everett Cowan (Gresham Smith & Partners, Nashville), Lamar Dunn (Lamar Dunn & Associates, Knoxville), Harold and Angie Cannon (Cannon & Cannon, Knoxville), Jerry Stump (Wilbur Smith Associates, Nashville), and Jim Morinec (CTE, Nashville)



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Everett Cowan (Gresham Smith & Partners, Nashville), Harold Cannon (Cannon & Cannon, Knoxville), Lamar Dunn (Lamar Dunn & Associates, Knoxville), Angie Cannon (Cannon & Cannon, Knoxville), Congressman Jimmy Duncan, David Harrell (Vaughn & Melton, Knoxville), Lillard Teasley (Teasley Services Group, Nashville), and Jim Morinec (CTE, Nashville)

CALENDAR

**JUNE
12-13**

ACEC of TN/TSPE Joint Annual Meeting
Franklin Marriott
Cool Springs

**AUGUST
22-23**

Leadership Development Session
Tennessee Engineering Center

**SEPTEMBER
12-13**

Leadership Development Session
Tennessee Engineering Center

**OCTOBER
10**

40th Anniversary Party
ACEC of Tennessee
Country Music Hall of Fame

**OCTOBER
10-11**

Leadership Development Session
Tennessee Engineering Center

**OCTOBER
19-22**

ACEC Fall Conference
Montreal, Quebec, Canada
Fairmont – The Queen Elizabeth Hotel

**NOVEMBER
14-15**

Leadership Development Session
Tennessee Engineering Center

ACEC

AMERICAN COUNCIL OF ENGINEERING COMPANIES
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Tennessee Engineering Center
800 Fort Negley Boulevard
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FROM THE EXECUTIVE DIRECTOR

Engineers Prepare for Annual Meeting; Engineering Schools Receive Grants

by Candy Toler
Executive Director, ACEC of Tennessee

We hope you have already made plans to attend the Annual Meeting, June 12-13, in Franklin. There will be interesting professional development seminars, the traditional PAC Auction (it is an election year!), golf, and a digital LEGO competition, to name a few activities. Call us to register (615-242-2486). You don't want to miss the fun.



Candy Toler

For the past six years, the State Board of Architects and Engineers has made grants to state-funded universities for computer and lab equipment totaling \$1.2 million. Funding comes from the Board's reserves and is appropriated by the General Assembly. In announcing the awards for this fiscal year, A/E Board Executive Director John Cothron, said, "The Board appreciates the opportunity to assist in providing state-of-the-art instructional equipment for architecture, engineering and interior design students."

The grants for this year total \$200,000. Engineering schools receiving grants are:

- Tennessee State University's Cyber Security Systems Laboratory will receive over \$19,000 for a blade server;
- Tennessee Tech's College of Engineering will receive \$34,000 for solar cell testing equipment, temperature probes and data acquisition equipment, a lathe-mill-drill, and digital oscilloscopes;
- University of Memphis' College of Engineering will receive over \$19,000 for a digital output broadband seismograph system for the civil engineering lab;
- University of Tennessee-Chattanooga's College of Engineering and Computer Science will receive over \$18,000 for instructor and student workstations, studio visualization equipment, and software for computational simulation;
- University of Tennessee-Knoxville's College of Engineering will receive almost \$44,000 for an instrument used to determine kinetic constants in chemical reactions;
- University of Tennessee-Martin's College of Engineering and Natural Sciences will receive almost \$17,000 for equipment and software for its Digital Technology and Development Teaching Laboratory.

ACEC of Tennessee applauds the State Board for pursuing the appropriation for instructional equipment for engineering students in our state's public universities and hopes that the grants will continue.