

ACEC Tennessee

American Council of Engineering Companies of Tennessee

THE FUTURE OF STEM EDUCATION IN TENNESSEE



By: Dr. Candace McQueen
Commissioner of Education
TN Department of Education

Dr. Candace McQueen was sworn in as Tennessee's commissioner of education on January 17, 2015. STEM has been an integral part of her Tennessee Succeeds Strategic

Plan. We had the opportunity recently to get her ideas on some STEM topics. Below are excerpts from our discussions.

How is Tennessee promoting STEM now?

In 2014, we established a STEM Leadership Council that is helping to inform and direct our STEM efforts moving forward. They have focused on four key areas: curriculum and instruction, achievement, professional development, and community and postsecondary partnerships.

Successfully addressing the four priority areas within the K-12 STEM strategic plan depends heavily on dedicated and integrated science instruction aligned to the new science standards we will be transitioning to over the next few years. The new Tennessee science standards require the integration of technology and engineering within and beyond the science context. This, alongside the new, rich mathematics standards we will fully implement in the 2017-2018 school year, will result in an integrated STEM instructional plan that will benefit all students.



Are there any specific programs in which engineers can be involved to assist teachers in the state?

The best place to start would be talking to your local school district. In general, we hope close partnership between the business world and our schools will result in more students who ultimately graduate from our K-12 system better prepared

for STEM fields. As outcomes of those partnerships, we hope to see an increase in a diverse range of opportunities for students of all ages and all abilities, including a variety of career exploration programs (job shadowing, work-based learning, internships, and externships), as well as an increase in externship and research opportunities for teachers, so they can stay connected to and inform the field.



What are the lessons being learned in STEM education?

After visiting several STEM-focused schools across the state, there are some best practices that I have distilled. In the most promising programs, the following characteristics exist:

- Students have time and space to engage and experiment with science concepts
- Students collaborate and participate in peer-to-peer problem solving
- Students have opportunities to think through their own misconceptions
- Students are explicitly told how classroom STEM work connects to actual STEM careers

Where is the STEM program heading? What are the next few steps?

Our first STEM Leadership Council just drafted critical recommendations for the department that will be public soon, and we are convening a second council to continue this work. Some of these recommendations focus on standards integration and the development of quality instructional tasks and STEM-certification for teachers. In addition, during the coming years, Tennessee will prioritize more and better information that is exchanged across the state about STEM partnerships that will help us track outcomes and support sustainable partnership creation and development – all of which will lead to more of those hands-on learning opportunities and students acquiring interest and skills in STEM.

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These companies provide Tennessee engineering firms with products and services and support the activities of ACEC of Tennessee through participation in the Partners Program. Additional information about these Partner Program participants is available at www.acectn.org

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SEPTEMBER

SEPTEMBER

SEPTEMBER

SEPTEMBER

OCTOBER

NOVEMBER

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14

15

15-16

19 - 22

4

Offices Closed for Labor Day Holiday

ACEC of TN Board Meeting, 3 - 4pm Music City Center

TN Engineering Foundation Luncheon Music City Center

TN Engineers' Annual Conference Music City Center

ACEC Fall Conference Colorado Springs, CO

2017 Engineering Excellence Awards Entry Deadline

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THE 2016 TENNESSEE ENGINEERS' CONFERENCE IS THIS MONTH

Make plans to attend the **Tennessee Engineers' Conference September 15-16 at the Music City Center**, 201 5th Ave. S., Nashville, Tennessee. Lt. General Arnold W. Bunch, Jr., will be the keynote speaker at the Tennessee Engineering Foundation Luncheon on September 15.

The TEF Luncheon benefits the Tennessee MATHCOUNTS competition, K-12 STEM activities and engineering scholarships. To register or sponsor the Luncheon, go to <http://tinyurl.com/z8u6sx9>. Other speakers include Jeff Jones, TDOT Assistant Chief Engineer of Design, and Richard Emerson,

PE, TDOT Deputy Commissioner; Tisha Calabrese Benton, TDEC Director of Water Resources; and John Cothron TN Board of Architectural and Engineering Examiners, Executive Director.

Online Registration will continue until September 7. Sponsorship and Exhibitor opportunities will close soon, go to <http://acectn.com/about-acec/2016-conference/> to find registration and sponsorship information for the conference on the Current Events page or call Judy Logue at (615) 242-2486.

ENGINEERING EXCELLENCE AWARDS CALL FOR ENTRIES



Whether the project is large or small, it's time to enter the **Engineering Excellence Awards!** With 13 award categories, the EEA gives your project the recognition it deserves. The competition honors engineering firms for their work that demonstrates a high degree of achievement, value and ingenuity.

The **Grand Iris Award** is considered "Best in Show" and is presented to the project judged to be the best overall in competition. 12 additional awards are handed out in each of the 12 project categories, including a People's Choice Award that will be peer chosen on event night.

The Engineering Excellence Awards provides a chance for firms to receive statewide recognition and the bragging rights that come with a prestigious EEA win. Entries for the Engineering Excellence Awards must be submitted by **November 4, 2016**. A Call for Entry postcard is included in this newsletter for ACEC of TN members.

You can also find the entry form online at www.ACECTN.org. For additional information, contact Judy Logue at (615) 242-2486 or jlogue@tnecc.org.

FROM THE PRESIDENT

THE MONTHLY UPDATE



By: Amy Spann, PE
President of ACEC of Tennessee

As I sit and watch the Olympic Games from Rio and admire the athletes' total commitment to their training, their focus, and their goals, I think about something our Past President John Kenny said that pertains to anything we are involved in: "You get out of it what you put into it." Athletes at the Olympic level have put much into their goals, regardless if that goal is to make the team, finish the competition, or to win gold. Being a part of ACEC is no different; we may not be the focus of national attention (yet), but we have goals to be players in our industry, in our state, and, if the time comes, in our nation. Just as the Olympic team members talk about how they rise to the occasion playing for Team USA, we can also rise to the occasion as the collective group in ACEC. With that, I want to continue with the theme from last month to encourage participation, get involved, and find your spot. That spot may potentially be in:

Local Chapters: If you don't already know, we have four chapters across the state. These chapters are instrumental with getting the word out about ACEC issues and being a place to work locally with engineering and business-related issues. Each chapter has its own meetings on a variety of topics such as financial issues facing project managers, how to hire good talent, university master planning schedules, and updates from local legislators. We've also had great response to joint meetings with the Society for Marketing Professional Services hosting the State Architect and economic development personnel and Tennessee Society of Professional Engineers to host a mayor and get updates on bills from Kasey. Hopefully you have had a chance to go to one of Kasey's information sessions, and if not, look for her in Chattanooga this fall. I encourage you to attend at least one chapter meeting if you haven't already.

Committees: If you want more than a chapter meeting experience, I encourage you to be involved in one of our standing committees. Signups go to the point of contact for each company and we need experienced and new members. Committees work with Tennessee Department of Environment and Conservation and Tennessee Department of Transportation personnel, the State Architect, and American Institute of Architects on emerging issues, track legislation, develop Engineers Day on the Hill, and make the awards banquet happen to highlight just a few of the great things they are doing.

Available committees include:

- Engineering Excellence Awards Committee
- Environment and Energy Committee
- Interprofessional Committee
- Legislative / Government Advocacy Committee
- Leadership PE Committee
- Public Relations Committee
- Transportation Working Groups

If you have questions or would like to participate on a particular committee, please contact Kasey Anderson at kanderson@tnec.org or 615-242-2486.

Annual Meeting: I want to encourage you again to attend the **Annual Tennessee Engineers' Conference, September 15-16, 2016**. It's a time to come together as an organization, celebrate accomplishments, obtain professional development hours, and support the Tennessee Professional Engineers PAC (TPE PAC). Just like the Olympic athletes that are able to accomplish their goals with sponsors, the TPE PAC helps us realize our mission today and has to be sustained for our future mission. As we look ahead we know we will have critical issues such as infrastructure funding that will need support and the TPE PAC is one avenue to make that happen. Whether through the Thursday night silent auction or donations, giving to the TPE PAC is important and it's critical to our consolidated success.

WELCOME NEW MEMBERS!

Harrah & Associates, LLC

504 Autumn Spring Court, Ste. B15
Franklin, TN 37067
(615) 778-0863
rogerh@harrahgroup.com

PRINCIPAL: Roger Harrah, Managing Member

DISCIPLINES: Surveying, Land Development Planning

DESCRIPTION: Harrah & Associates offers Boundary, Topographic, ALTA Land Title, and Engineering Design Surveys. They also provide professional services for planning of commercial and residential property.

HMB Professional Engineers, Inc.

2 International Plaza, Suite 205
Nashville, TN 37217
(615) 361-4345
wmattingly@hmbpe.com

PRINCIPAL: Wes Mattingly, PE, Regional Office Manager

DISCIPLINES: Civil General; Civil-Structural; Civil-Transportation; Environmental; Land Development; Planning; Surveying/GIS Mapping; and Water/Wastewater

DESCRIPTION: Civil Engineering including transportation, surveying, environmental, water and wastewater, remediation, traffic, planning, and stream restoration.

SEPTEMBER
2016

INSIDE

- **The Future of STEM Education in Tennessee**
- **Welcome New Members**
- **2017 EEA Call For Entries**

FROM THE EXECUTIVE DIRECTOR

NATIONAL ADVOCACY EFFORTS



By: Kasey Anderson, CAE
Executive Director of ACEC Tennessee
kanderson@t nec.org

I tend to use this column to pontificate about legislative issues at the state level. As we gear up to an important election, I thought it might be prudent to keep you abreast of ACEC's advocacy efforts at the national level (with a quick reminder to support the TPE-PAC!) Below is a quick summary.

ACEC Advocacy Priorities – Fall 2016

- **Comprehensive Energy Bill** – Legislation has passed the House of Representatives (HR 8) and the Senate (S. 2012) that seeks to promote energy efficiency; modernize the electrical grid with emphasis on resiliency and security; streamline the permitting for pipelines and liquid natural gas (LNG) exports; and enhance the federal agency coordination of policies affecting energy and water. Congress has the opportunity to pass the first major energy bill in over a decade, and ACEC urges final passage of an energy package in 2016 to promote energy markets and economic growth.

- **The Water Resources Development Act (WRDA) of 2016** – the Senate Environment and Public Works Committee has cleared a WRDA bill that authorizes over \$9 billion for flood control, navigation, other water infrastructure needs; authorizes new water trust fund, funded through voluntary contributions; and financial assistance to reduce lead in drinking water, grant funding for combined sewer overflows (CSOs). A smaller bill authorizing new Corps projects has cleared the House Transportation and Infrastructure Committee, and ACEC urges Congress to move a final WRDA bill for passage before the end of the year.

- **Funding the Nation's Roadways and Transit Systems** – Congress passed the FAST Act last year by wide, bipartisan margins to reauthorize for five years the nation's surface transportation programs. The Act provides for a modest increase in investments for transportation priorities in the states, but stops short of providing a long-term and sustainable source of funding to address critical transportation infrastructure needs. ACEC urges Congress to fully fund the program and stay focused on identifying and implementing long-term revenue solutions before the FAST Act expires in 2020.

Key Agenda Items for 2017

- **FAA Reauthorization** – Congress cleared legislation in July to extend programs to fund airport improvement projects and other federal aviation programs through September of 2017. ACEC urges Congress to move quickly on a long-term reauthorization bill that increases investments in the nation's airports, lifts the cap on Passenger Facility Charges (PFCs), facilitates greater use of unmanned aircraft systems (drones), and applies uniform federal contracting and audit principles to airport projects involving federal funds.

- **Tax Reform** – The House recently released a tax reform blueprint that reduces top rates for corporations to 20%, "passthrough" businesses (partnerships, LLCs, Subchapter S corporations) to 25%, and individuals to 33%, while eliminating individual & corporate AMT and the estate tax, and providing full expensing for capital investments. ACEC urges Congress to move forward on tax reform legislation that achieves parity in tax rates for corporations and passthrough businesses, while incentivizing business investment.