

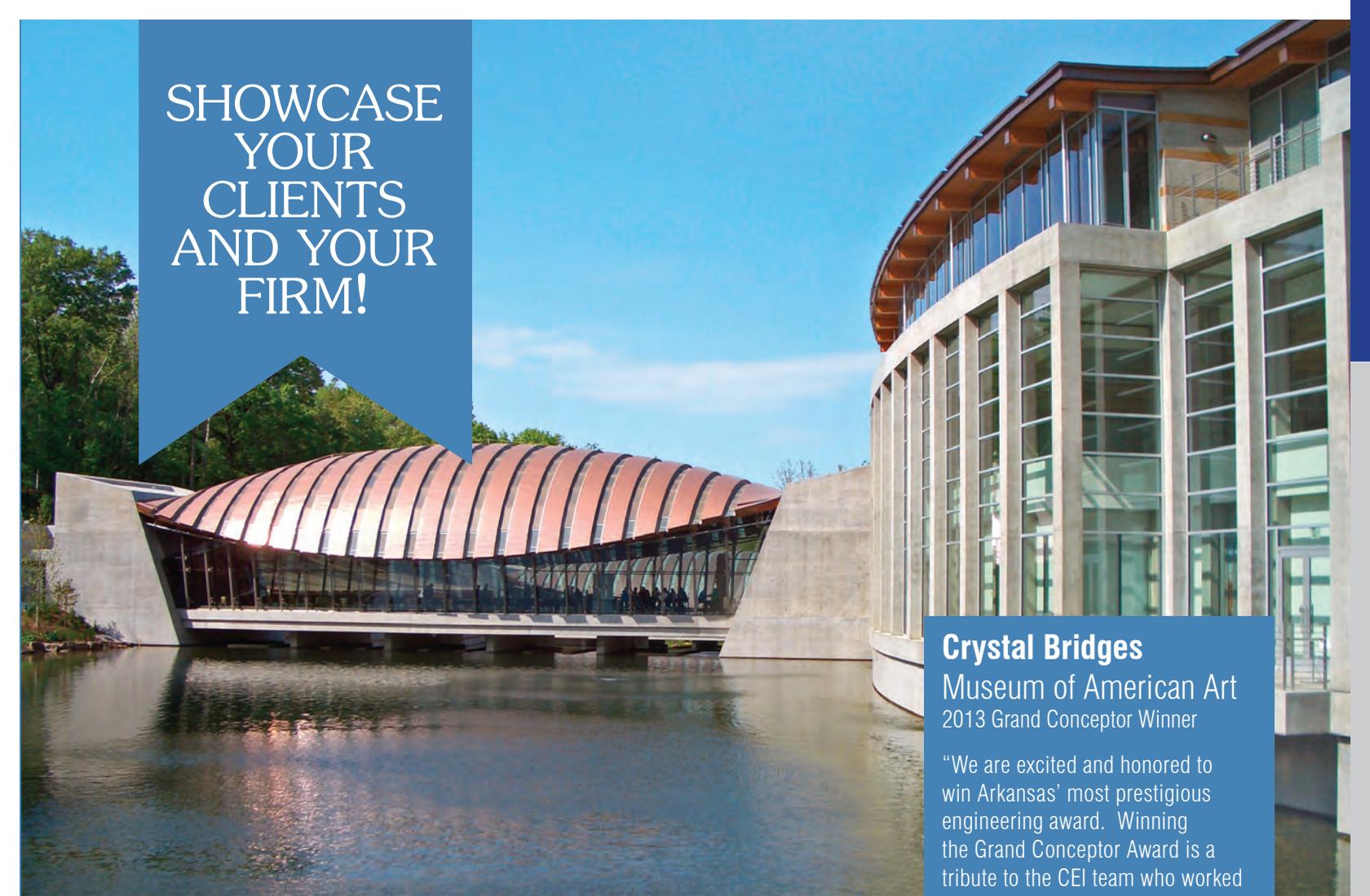
New Heights

Dayne Moreton, P.E., right, of Farrell-Cooper Mining and Garver's John Cantabery, P.E., work together to scale a heights challenge as part of Emerging Leaders, the ASPE - ACEA/A program that emphasizes right-brain communication and leadership skills.

Also inside: An interview with John English, the new dean of the UA College of Engineering.

PRSRRT STD
U.S. POSTAGE
PAID
LITTLE ROCK, AR
PERMIT #2437

ACEA/ASPE
Union Plaza Building
124 West Capitol, Suite 712
Little Rock, AR 72201



SHOWCASE
YOUR
CLIENTS
AND YOUR
FIRM!

Crystal Bridges

Museum of American Art
2013 Grand Conceptor Winner

“We are excited and honored to win Arkansas’ most prestigious engineering award. Winning the Grand Conceptor Award is a tribute to the CEI team who worked diligently to complete a highly complex project, and a testimony of the significance of Crystal Bridges Museum of American Art and what it brings to Arkansas and the region.”

Brent L. Massey, PE
CEI - Principal/VP of Operations

2014 ENGINEERING EXCELLENCE AWARDS

by the American Council of Engineering Companies of Arkansas

The ACEC’s annual Engineering Excellence Awards (EEA) competition recognizes engineering firms for projects that demonstrate a high degree of achievement, value, and ingenuity. EEA entries are accepted into one of **10** project categories: Studies, Research, and Consulting Engineering Services; Building/Technology Systems; Structural Systems; Surveying and Mapping Technology; Environmental; Water and Wastewater; Water Resources; Transportation; Special Projects; and Energy. Project entries must be designed by engineers located in Arkansas.

State Submission Deadline:
January 31, 2014

For a call for entries packet contact:
Executive Director Angie Cooper
awcooper@arkansasengineers.org

Winners will be announced during the EEA dinner at the Arkansas Governor’s Mansion on **February 27, 2014**.

ACEC *Arkansas*

AMERICAN COUNCIL OF ENGINEERING COMPANIES

Arkansas Professional / ENGINEER

Official Magazine of the American Council of Engineering Companies of Arkansas & the Arkansas Society of Professional Engineers



20 *Dayne Moreton, P.E., Farrell-Cooper Mining, swings from a wire while being supported by his fellow engineers as part of the Emerging Leaders program.*

Departments

- 4 ACEC/A President's Column
- 5 ASPE President's Column
- 6 In the News
- 7 Calendar
- 7 ACEC/A Associate/Affiliate Members
- 7 Advertiser Index
- 9 Executive Director's Column
- 15 From the Governor
- 23 Marketplace

News and Features

- 8** ***Member Spotlight / CEI Engineering***
The Bentonville-based firm celebrates 40 years in business this year.
- 10** ***New AHTD commish ready to listen***
Frank Scott Jr. is just 29 years old, but he's risen fast in Arkansas and now will serve out a term at the Arkansas Highway Commission.
- 11** ***Womack: Act supports infrastructure***
Rep. Steve Womack argues in favor of his Marketplace Fairness Act, which would free states to collect sales taxes on internet purchases.
- 12** ***Possible progress?***
At the ACEC/A Agency Forum, firms hear that Congress can and does act on infrastructure legislation. Also, work continues on Arkansas highways, and new water rules are in place.
- 14** ***Legislators repeal new water act***
Act 954 lives a short life when EPA threatens to take over permit enforcement.
- 16** ***'Arkansas produces a great engineer'***
Dr. John English, P.E., new UA College of Engineering dean, says he has come home to lead the university that is "part of my soul."
- 20** ***Cover / Young leaders build trust, learn skills***
The Emerging Leaders program, a joint venture of the ASPE and ACEC/A, teaches engineers right-brain creative and communication skills through challenges and courses.



Bert Parker
ACEC President

Help yourself, help the profession by defeating apathy

What are you willing to invest in your career?

Before answering, ask yourself another question: What is the toughest challenge facing our industry? There are many on the list, but perhaps the biggest and most destructive is apathy.

For most of our careers, we have heard from our seniors that young engineers want it all, and they want it yesterday. What's wrong with that? Nothing – as long as they are willing to invest their time and energy into making the best of every opportunity. The drive for excellence is to be celebrated and promoted.

But, there is more that defines our industry than individual achievement. Engineering is one of the most respected and valued of the professions because Americans have experienced the value engineers have contributed to our country's development. Before George Washington became the Father of our Country, he educated himself in engineering principles. Then, he got involved in politics.

Did you know that Alexander Graham Bell not only invented the telephone, but he also was president of the National Geographic Society?

Look back at the engineer pioneers of Arkansas: Crafton, McClelland, Garver, Mehlburger, Yates, Wilbourn, Engstrom. All were successful businessmen, but all were also leaders in our communities, serving time leading ASPE, ASCE,

ACEC, the Board of Registration and being involved in civic boards, Chambers of Commerce and even holding public office.

So, if you want to build a career, if you want to excel, and if you want to set yourself apart, what effort must you be willing to put forward?

It's not enough to work hard every day from 8 to 5, or even work longer hours when extra work is required. That's what everyone is expected to do.

To set yourself apart, you must get involved. Become active in your community and in your profession's technical organizations. Most importantly, get

“To set yourself apart, you must get involved. Become active in your community and in your profession's technical organizations. Most importantly, get active in professional associations such as ASPE and ACEC/A.”

active in professional associations such as ASPE and ACEC/A.

Let's draw a comparison. I bet you spend at least eight hours a week on pure play – on the golf course, tending to your hobby, etc. What if instead you spent one hour a week, or four hours a month, making your profession stronger? Attend an ASPE luncheon, volunteer with an ACEC/A committee, or advocate for the profession among members of the Legislature.

It's a simple principle: To be successful, do what successful people do. Your bosses are involved. The founders of your company were active in the community and our profession. Your clients are involved.

Want to excel in your profession? Invest an hour – and get involved!

ACEC

American Council of Engineering
Companies of Arkansas
Officers 2013-14

President

Bert Parker, P.E.
Garver
4701 Northshore Drive
North Little Rock, AR 72118
501.376.3633

Vice-President

Brad Hammond, P.E.
McGoodwin, Williams, and Yates, Inc.
302 East Millsap Road
Fayetteville, AR 72703
479.443.3404

Secretary

Dee Brown, P.E.
Brown Engineers, LLC
17200 Chenal Parkway, Suite 300, PMB 324
Little Rock, AR 72223
501.448.0100

Treasurer

Andy Dibble, P.E.
Mickle, Wagner, Coleman, Inc.
3434 Country Club Ave.
Fort Smith, AR 72903
479.649.8484

State Director

Mike Burns, P.E.
Crafton Tull
901 N. 47th Street, Suite 200
Rogers, AR 72756
479.636.4838

State Director

Byron Hicks, P.E.
McClelland Consulting Engineers
900 West Markham St.
Little Rock, AR 72201
501.371.0272

National Director

Dan Williams, P.E.
Garver
4701 Northshore Drive
North Little Rock, AR 72118
501.376.3633

Immediate Past President

Brent Massey, P.E.
CEI Engineering Associates, Inc.
P.O. Box 1408
Bentonville, AR 72712
479.273.9472

Arkansas Professional Engineer

Editor & Publisher

Steve Brawner
Steve Brawner Communications
501.794.2012
brawnersteve@mac.com

Executive Editor

Angie Cooper
awcooper@arkansasengineers.org
ACEC/A - ASPE
900 S. Shackelford, Suite 300, Little Rock, AR 72211
Phone: 501.978.1157
arkansasengineers.org

Arkansas Professional Engineer is published quarterly by the Arkansas Society of Professional Engineers and the American Council of Engineering Companies of Arkansas. Copyright 2013 by those organizations and by Steve Brawner Communications. All rights reserved.



**Arkansas Society of
Professional Engineers
Officers 2013-14**

President

Lane Crider, P.E.
McGoodwin, Williams, and Yates
302 East Millsap Road
Fayetteville, AR 72703
479.443.3404

President-Elect

Rob Bullen, P.E.
Mid-South Engineering Company
1658 Malvern Ave.
Hot Springs, AR 71901
501.321.2276

Secretary-Treasurer

Brad Peterson, P.E., CFM, LEED AP
Crafton Tull
10825 Financial Center Parkway, Suite 300
Little Rock, AR 72211
501.748.8269

State Director

Alan Pugh, P.E., CFM
City of Springdale
201 Spring Street
Springdale, AR 72764
479.750.8105

National Director

Brian Moore, P.E.
ESI
1207 South Old Missouri Road
Springdale, AR 72765-0282
479.751.8733

State Director, Central Chapter

Clint Bell, P.E.
CWB Engineers, Inc.
104 Tulaka Blvd.
Heber Springs, AR 72543
501.362.3744

State Director, Northwest Chapter

Michael Weir, P.E.
ESI
1207 S. Old Missouri Road
Springdale, AR 72765-0282
479.751.8733

State Director, Hot Springs Chapter

Paul Speers, P.E.
Entergy Arkansas
P.O. Box 1330
Hot Springs, AR 71902
501.620.5744

Past President

J. Paul Strickland, P.E.
Garver
4701 Northshore Dr.
North Little Rock, AR 72118
501.376.3633

Executive Director

Angie W. Cooper
Arkansas Society of Professional Engineers
and American Council of Engineering
Companies of Arkansas
900 S. Shackelford, Suite 300
Little Rock, AR 72211
501.978.1157



Lane Crider
ASPE President

Engineering a blessing – to us and to others

The holidays start with a day to give thanks that is followed by a day of rejoicing and conclude with the birth of a new year. So why do so many of us dread them?

The reason is that, amidst all the hustle and bustle, we've forgotten about the holidays' purposes. "Thanksgiving" has become "Turkey Day," while on Christmas we focus on the gifts rather than the Giver. A new year should be a time of renewal, not a time to burden ourselves with unrealistic expectations that lead to failure.

Engineers should use the holidays as an opportunity to consider what a blessing our profession is – to ourselves and to others. We were provided a good education that taught us not just skills but also a way of analytical thinking. Our profession enables us to provide a good life for our families. We have a fellowship with each other that lasts for lifetimes. And what could be more fun than shepherding a project from start to finish, celebrating that success for a day or two, and then starting another?

Finally, our profession gives us a chance to bless our communities – to build roads and bridges, to provide clean water, to improve the way health care is delivered and food is grown. By being a blessing for others, we ourselves are blessed.

Think about what it would be like to have a job where, at the end of the day, you're not really sure what you accomplished. Our projects may be painstaking,

they may take years to finish, and there may be many failures along the way, but we usually see steady progress, with tangible and meaningful results. No wonder the University of Arkansas College of Engineering has seen a 70 percent enrollment increase in the past five years. People want to do what we do.

This issue of Arkansas Professional Engineer features an interview with John English, Ph.D., P.E., the new dean of the University of Arkansas College of Engineering. According to English, one of the characteristics of today's engineering students is a sense of idealism. They want to develop Third World countries, help American communities recover from disasters,

"Try to be that young engineer again, or that kid on Christmas Day. Approach your projects with a sense of excitement and anticipation as you unwrap solutions to the challenges you are presented."

and create new technologies. As recounted in the previous issue, Johnathan Blanchard, president of the NSPE UA Student Chapter, decided he wanted to be an engineer after traveling on church mission trips with

engineers and seeing the impact they could have. He decided engineers are cool.

Do you still feel that way, even after years of working in the profession? You should. We are cool.

So try to be that young engineer again, or that kid on Christmas Day. Approach your projects with a sense of excitement and anticipation as you unwrap solutions to the challenges you are presented.

And be thankful for your profession. Truly, "It is more blessed to give than to receive." As engineers, we get to do both every day.

In the News

Crafton Tull completes 50th anniversary campaign

Crafton Tull, a full service architectural, engineering and surveying firm, has completed its 50 Years, 50 Acts of Kindness campaign.

Launched in April 2013, the initiative encouraged Crafton Tull's 300-plus employees to perform 50 service projects – one for each year Crafton Tull has existed since its founding in 1963. Staff in each of the firm's six offices in Arkansas and Oklahoma determined some of their communities' needs and worked with advocates and organizations that could channel acts of volunteerism and financial contributions.

The firm's first act of kindness involved Crafton Tull employees helping organize the Crisis Pregnancy Outreach warehouse



CRAFTON TULL
CELEBRATING
50 YEARS

in Jenks, Okla., on April 25, 2013. The last involved a financial donation by the Conway office to The Haven House, a home for abused girls. In between, Crafton Tull employees volunteered with Habitat for Humanity in Norman, Okla., helped clean up a one-mile section of I-540 in Northwest Arkansas, planted flowers at the Circle of Life Hospice Center in Springdale, and completed other acts of service.

A description of all the acts is available at <http://50acts.craftontull.com>.

"When we chose to celebrate our 50-year milestone anniversary by giving back to the communities and people who supported us along the way, the energy and civic pride displayed by our employees was overwhelming," Matt Crafton, CEO, said in a press release.

"All of us at Crafton Tull feel fortunate to have the resources required to implement a campaign of this magnitude. It is an honor to be able to help improve the quality of life in the cities and towns we call home."

Smith hired by Garver to lead Federal Services Team

Wallace Smith, P.E., has been hired to direct Garver's Federal Services Team.

Smith has 22 years of experience as a program and project manager on federal government projects.

He has experience in programming, facility planning, master planning, design, and construction administration. He served as a program manager for nationwide National Guard Bureau "indefinite delivery indefinite quantity" (IDIQ) contracts. He was a program manager with the Corps of Engineers Mobile District for its military training range planning program, and he has managed numerous IDIQ contracts for various federal government clients around the nation. His project involvement spans 48 of the 50 states, all American territories, Japan, Italy, and Djibouti.

For more information, contact Smith at WCSmith@Garver-USA.com or 501.537.3291.



Because they are
counting on you

110 South 7th Street
P.O. Box 648
Van Buren, AR 72957
Ph: 479.474.1227
Fax: 479.474.8531

211 Natural Resources Dr.
Little Rock, AR 72205
Ph: 501.374.4846
Fax: 501.374.4886

www.hawkins-weir.com



New FTN hire Grout has hydrologic modeling skills

FTN Associates has hired Trevor Grout, E.I., as its newest employee.

Grout graduated from the University of Oklahoma with a B.S. in meteorology in 2009 and a master's in civil engineering in 2012 with an emphasis in water resources.

ACEC/A ASSOCIATE/ AFFILIATE MEMBERS

ACEC Business Insurance Trust

ACEC Health Life Trust

Atoka, Inc.

BancorpSouth Insurance Services

BT Environmental, Inc.

Environmental Technical Sales, Inc.

Greyling Insurance Brokerage

Hanson Pipe & Precast

Jack Tyler Engineering of Arkansas

McGeorge Contracting

Snyder Environmental & Construction

He has experience in hydrologic and hydraulic modeling as well as GIS. For the past two years, he worked as a hydrologist for the USGS Oklahoma Water Science Center. His work experience has included dam breach analysis and flood inundation mapping using HEC-GeoRAS and Hec-RAS.



Prior to that, Grout was a research assistant at the University of Oklahoma. He worked on a project funded by the Oklahoma Transportation Center that developed software that helps decision makers proactively allocate limited resources

in advance of severe winter storms. As a result, he received the Advanced Radar Research Center Student Journal Paper Award and the Oklahoma Transportation Center Student of the Year Award, given to one student per state. This award was presented in Washington, D.C.

Grout, a native of southwest Missouri, resides in Little Rock with wife Jewel and children Jarvis, Walter and Savannah.

FTN Associates is an engineering and environmental consulting firm headquartered in Little Rock with branch offices in Fayetteville; Jackson, Miss.; and Baton Rouge. The company has approximately 80 employees.

Deadline extended for Engineering Excellence Awards

The deadline for submitting entries for the 2014 ACEC/A Engineering Excellence Awards has been extended to Jan. 30.

The competition highlights projects that demonstrate achievement, value and integrity.

Entries are being accepted in 10 project categories: Studies, Research, and Consulting Engineering Services; Building/Technology Systems; Structural Systems; Surveying and Mapping Technology; Environmental; Water and Wastewater; Water Resources; Transportation; Special Projects; and Energy. Entries must have been designed by Arkansas-based engineers.

The Grand Conceptor Award is presented to an overall winner selected by event organizers, while the People's Choice Award is presented to a design

selected by attendees of the event. CEI Engineering Associates won last year's Grand Conceptor Award for its work with the Crystal Bridges Museum of American Art, while Jones & Associates won the People's Choice Award for its design work on the Clinton Presidential Park Bridge.

Winners will be announced during a dinner at the Arkansas Governor's Mansion on Feb. 27.

Firms must have submitted their entries by Jan. 10 to be considered for the national ACEC award. For a call for entries packet, contact Executive Director Angie Cooper at awcooper@arkansasengineers.org.



Feb. 27

Engineering Excellence Awards
Little Rock, Governor's Mansion

April 17

ACEC/A Board Meeting
Northwest Arkansas - TBA

April 27

ACEC Annual Convention
Washington, D.C.

May 22-23

ASPE Annual Conference
Northwest Arkansas

June 5-9

ACEC/A Midwest States Conference

Advertiser Index

Environmental Tech. Sales.....	Cover
Hawkins-Weir Engineers.....	6
FTN Associates.....	7
BancorpSouth.....	9
Miller-Newell Engineers.....	11
Garver.....	13
Van Horn Construction.....	15
University of Arkansas.....	17
Crafton Tull.....	19
New Water Systems.....	21
ICM.....	23



"We Know H₂O"

Stormwater Management • Wetland Delineation/Mitigation
 Environmental Permits • Environmental Assessments
 Site Investigation/Remediation • Solid Waste Management
 Flood Insurance Studies

(501) 225-7779 • www.ftn-assoc.com • Little Rock - Fayetteville

ACEC/A Member Spotlight

CEI, now 40, serving diverse clients

Firm serves national clients, won Grand Conceptor Award for Crystal Bridges work

Forty years after Mike Shupe, P.E., and Bob Holmes, P.E., bought a Bentonville surveying and engineering firm and changed its name to CEI, the company is still growing and diversifying.

“We’ve always been a growth company, and we’ll continue to grow, not just for the sake of growth but for the sake of opportunity for our people, the ability to do more things, the ability to have opportunities for individual growth within the company. Those are all important to us,” said Brent Massey, P.E., vice president of operations.

CEI stands for civil, environmental, and industrial, a wide range of disciplines the company has been practicing since 1973. Predominantly a surveying firm at first, the company began performing landfill work and wasteload allocation surveys in Arkansas streams and rivers. As Walmart began to expand nationally, CEI began doing a lot of site work for the retailer and expanded with it. It then added major national chains such as Sonic drive-ins, Target, Home Depot and Lowe’s.

In Arkansas, CEI won the 2013 ACEC/A Grand Conceptor Award for its work on the Crystal Bridges Museum of American Art. The firm was hired to control the flow of the Town Branch brook, which drains 700 acres of northeast Bentonville and can flood amidst heavy rains. CEI created two labyrinth weir structures that allowed about 2.5 times the amount of water flow allowed by traditional structures at much less cost. That allowed the brook to be spanned by a bridge. CEI also designed the project’s hydraulics. The firm currently is working on the Northwest Arkansas Razorback Greenway, a 36-mile trail connecting cities in that part of the state.

The firm now has about 110 employees, including about 25 engineers, about 15 resident landscape architects, and about seven or eight professional land surveyors. In addition to its Bentonville



BIG JOBS. CEI’s Brent Massey inspects work being done on the weirs at the Crystal Bridges Museum of American Art in Bentonville, top. The firm’s design made it possible to build a bridge over the Town Branch brook and led to CEI’s winning the ACEC/A’s Grand Conceptor Award in 2013. Middle, the completed museum on Oct. 16, 2012. Below, Daniel Marley, project designer, works on the Northwest Arkansas Razorback Greenway, a 36-mile trail connecting cities in that part of the state.

headquarters, it has offices in Houston; Dallas; Atlanta; Minneapolis; Fresno, Calif.; and Scranton, Penn.

Keeping a cohesive culture in such a far-flung company can be a challenge, but Massey said the company has done so because it has made it a priority.

“We’ve been able to maintain a pretty tight network of people and a pretty fami-

ly-oriented approach to our environment here at the office,” he said. “We hope to achieve that going forward regardless of size. We don’t want to lose that. (It) definitely helped us in retaining people and attracting people, and so we’re going to work pretty hard on the people side of it to make sure that people have a good place to work and a future at CEI.”

You can put a value on membership

ASPE, ACEC/A offer concrete benefits for engineers and firms

We've all seen the Mastercard commercials that list the costs of particular items and then end with an assertion that those things make something else possible that is "priceless."

Memberships in the ASPE and ACEC/A are kind of like that, except, in the ASPE's case, you can put a price tag on what you receive.

The cost of being a member of both ASPE and NSPE is \$309 a year. For that, an engineer receives:

- Fifteen free online professional development hours. This past year, those courses covered material ranging from IT solutions to ethics to federal contracting laws. The cost to take those courses elsewhere? Let's say \$50 an hour. Assuming you didn't add travel costs to that - which you probably would - that would be \$750.

- Dozens of other NSPE online courses that are available for \$35 for members and \$69 for nonmembers. That's \$34 in savings per course. Two a year would be \$68.

- 50 percent discounts on EJCDC documents, which can cost thousands of dollars. Let's say you save \$1,000 for one.



Angie W. Cooper
Executive Director

- Four issues of this magazine (\$3 apiece) and 10 issues of the NSPE's PE magazine (\$3 apiece). That's another \$42.

- Discounts with NSPE member partners including UPS, Geico, Avis and Hertz. Let's say, conservatively, that combined these would save you \$100 a year.

Those benefits alone are worth \$1,960 - a 634 percent return on your \$309 investment. Meanwhile, members have access to NSPE's online job board as well as numerous professional networking opportunities. It's not hard to imagine these leading over time to a job offer worth tens of thousands of dollars a year or a new client worth even more than that.

Meanwhile, membership in the ASPE offers something that really is priceless - a chance to connect with fellow engineers who understand the profession's chal-

lenges and rewards. ASPE events help competitors become friends and provide an avenue for former co-workers and college classmates to reunite.

For the ACEC/A, it's harder to put an exact value on membership, so let's focus on one area: legislative advocacy. ACEC/A works at the state level to ensure that laws passed in Little Rock help, not harm, the engineering profession. Our work benefits all engineering firms, not just ACEC/A members.

So, as the old saying goes, why buy the cow when you can get the milk for free? Because when you are a member, you have a voice in determining what that advocacy looks like. While ACEC/A works for the good of the profession, it matters who sits at the table as decisions are being made. If we don't hear from you, we don't know what you need. And that means that you must trust that your competitors will lobby on your behalf.

The more firms that are members of ACEC/A, the louder our collective voice is in Little Rock - and elsewhere. Louder voices get listened to. Together, the engineering profession can pass good bills and stop bad ones, knowing that laws that help society's builders and creators help society as a whole.

You can't put a price tag on that.

BancorpSouth Insurance Services, has a long tradition of supporting and partnering with engineering companies in Arkansas. Since 1991, we have worked with PLAN providing impactful tools such as continuing education, contract review, risk mitigation and insurance programs designed specifically for the engineering industry. We appreciate the opportunity to be a part of your organization and look forward to providing dependable services to your organization.



BancorpSouth[®]
Insurance Services, Inc.

BUSINESS | EMPLOYEE BENEFITS | SURETY | PERSONAL

Jonesboro (870)972-5281 • Little Rock (501)664-7705 • Rogers (479)271-0725 • www.bxsi.com

BancorpSouth Insurance Services, Inc. is a wholly owned subsidiary of BancorpSouth Bank. Insurance products are • Not a deposit • Not FDIC insured • Not insured by any federal government agency • Not guaranteed by the bank • May go down in value



Alfred Williams, CWCLA



Ken Estes, CIC, AINS



James Clark



Jeremy Cox, CIC

AHTD appointee ready to listen, learn

Scott, 29, served on Beebe's policy staff, keeping his mind open

By **Steve Brawner**
Editor

The state's newest highway commissioner is a self-described "policy wonk" who says he is withholding judgements on most issues until he's gained experience.

Frank Scott Jr. was appointed by Gov. Mike Beebe Oct. 17 to serve out the term of John Burkhalter, who resigned to concentrate on his campaign for lieutenant governor. Burkhalter was appointed to replace Cliff Hoofman, a 2007 appointee. The 10-year term ends in three years.

Scott has worked since the end of 2011 for First Security Bank as a commercial lender focused on new business development. Earlier, he worked five years on Beebe's policy staff, first as an advisor and then as Beebe's deputy director of policy.

"Basically, what we did in the policy department was to make sure that Gov. Beebe's campaign promises turned into a legislative package and then ultimately became law. ... We were basically the governor's think tank," Scott said.

As the governor's director of intergovernmental affairs, Scott was the governor's liaison with the federal government. That experience, he said, will help him as he serves on the Highway Commission.

"By no means, I'm not an engineer," he said. "I'm a policy wonk; I'm a business guy. ... I bring to the table my experience in economic development, business and industry, and finance."

Scott has also served since July 2011 as a Little Rock Port Authority board member. There he learned about intermodal transportation and about how transportation relates to economic development.

"I do know from my time at the Little Rock Port Authority (that) the professional engineers have been very valuable to the development and the increased activity at the port," he said. "So I do know their value and their wealth of knowledge, and I'm pretty certain they'll share that same value and wealth of knowledge at the state highway system."



THE COMMISH. Frank Scott Jr. speaks about his nomination at the Capitol Oct. 17.

Scott, 29, will be by far the commission's youngest member. Beebe said during his announcement that he was appointing him to serve in an important position just as he was appointed at a young age to serve on Arkansas State University's board of trustees by then-Gov. Dale Bumpers.

"This is a young man who once served on my policy team," Beebe said, "and who I came away with enormous respect for because of number one, how utterly smart he is, and how he works so hard, and how he deals well with people, and how he absorbs information and goes and gets it done."

During the announcement, Scott said he shared Beebe's philosophy that general revenues should be devoted to education, human services and prisons, not transportation. He restated that stance during an interview Oct. 28 two days before his first Highway Commission meeting.

However, he said he was aware that the Highway Department faces serious funding shortfalls and said he was open to ideas. In fact, he approaches the post with few preconceived notions.

"I'm coming to it (as) a very objective and fair-minded, independent commissioner that is willing to learn, willing to listen, willing to work well with others, and the only agenda I have is what's best for Arkansas, and I think that's the reason why he selected me," he said.

Scott's selection was so closely guarded that Scott Bennett, P.E., Arkansas Highway and Transportation Department director, didn't know who the choice would be as he climbed the Capitol steps. Afterwards, he said he was pleased with the appointment. "He has a lot to learn, but almost everybody (that's) appointed has a lot to learn, but I know that he's a good, smart guy," he said. "He's got a good head on his shoulders."

Womack: Act would support infrastructure

Editor's note: This is the sixth in a series of articles by members of Arkansas' congressional delegation for Arkansas Professional Engineer.

Our nation's transportation system facilitates commerce and is essential to America's economy.

Unfortunately, the condition of our infrastructure – specifically our roadways – is eroding. In fact, the American Society of Civil Engineers gave American roadways a 'D' on its 2013 report card and estimated that 42 percent of America's major highways are deteriorating, causing congestion that will cost the economy \$101 billion in wasted time and fuel this year.

Throughout Arkansas, the story isn't much different. Thirty-nine percent of our 99,812 public road miles are in disrepair. Traffic problems alone costs \$103 million each year, but driving on these subpar roadways costs Arkansas motorists an additional \$634 million a year in vehicle repairs and operating costs. That's \$308 per driver!

To simply maintain its roads, the state will be short \$200 million over the next decade. But – in order to grow – Arkansas' economy needs infrastructure investment, too.

Arkansas has historically received only 1.26 percent of federal infrastructure funds, which the state then matches 80-20, with the federal government providing the 80 percent. Unfortunately, the federal government's role in transportation continues to grow in spite of our crushing \$17 trillion debt. The debt also significantly and disproportionately detracts from the government's ability to properly invest in infrastructure improvements.

I believe states can identify and prioritize their infrastructure needs better than Washington. And Arkansans have. In 2012, Arkansas voters passed a half percent state sales tax to increase funding for the completion of a \$1.185 billion backlog of projects – including the Bella Vista bypass and the widening of I-540. The state's economy will be held back until those are completed.

But the Supreme Court's 1992 Quill decision – which said that states do not



by Rep. Steve Womack

have the authority to compel sellers to collect and remit the taxes due on purchases if that retailer does not have a physical presence in the state – has limited Arkansas' ability to collect its own sales taxes. This differential tax treatment has led Arkansans to believe the Internet is "duty-free" because, even though individuals are supposed to file these taxes on their own, only three in a thousand actually do. As result, Arkansans continue to pour money into out-of-state warehouse retailers instead of our hometown shops and stores that have no choice but to remit these taxes.

My legislation, the Marketplace Fairness Act (MFA; H.R. 684), removes the federal restrictions and regulations that prevent states from enforcing their own laws, like the collection of the sales taxes that fund the infrastructure investments

“ I believe states can identify and prioritize their infrastructure needs better than Washington. And Arkansans have. ... But the Supreme Court's 1992 Quill decision ... has limited Arkansas' ability to collect its own sales taxes. ”

our state needs. But MFA doesn't only help our states, counties, and cities; it also levels the playing field for Main Street businesses who simply cannot continue to compete with this unfair tax policy.

As mayor of Rogers, I saw firsthand how crucial sales tax dollars are to a city. Without the growth of our retail sector, our city could not have made the local investments in infrastructure, public safety, and other amenities essential to quality of life. But instead of having the ability to make investments like we did in Rogers, cities, counties, and states are losing more than \$23 billion a year that is due and payable to them, and the impact is significant.

Cities, counties, and states are losing dollars critical to basic services and, in turn, are leaning on the federal government to compensate for it. The federal government is out of money and cannot answer those demands. But – by passing the Marketplace Fairness Act – it can intercede in this decades-old issue and empower states to invest in and develop our infrastructure, allowing us to be more efficient, more competitive, and more prosperous.



**Miller-Newell
Engineers, Inc.**

Consulting Engineers
and Surveyors

Celebrating 50 Years of Service

510 Third Street / P.O. Box 705 / Newport, AR 72112

Email: milnewengr@aol.com / Phone: 870.523.6531

Possible progress?

ACEC's D.C. rep says Congress can pass infrastructure legislation

By **Steve Brawner**
Editor

Despite the dysfunction coming from Washington, Congress is capable of passing legislation, particularly regarding infrastructure.

That was one of the messages of Steve Hall, ACEC vice president, government affairs, at the ACEC/A Agency Forum held at Garver Dec. 13. The annual event brings state and federal officials before the ACEC/A to discuss current legislative and regulatory trends.

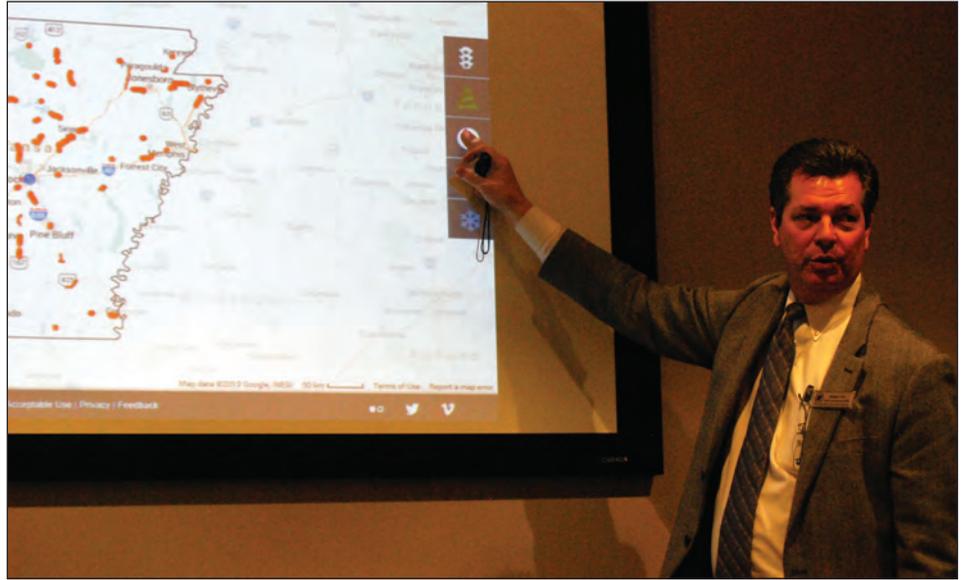
Hall pointed to several infrastructure-related pieces of legislation passed by the 112th Congress, including the MAP-21 highway bill and the equivalent bill for airports. The House and Senate both easily have passed similar water resources development bills, and Hall said one could become law in early 2014.

"They actually have the capacity to come together on some of the things that we care about, particularly infrastructure," Hall said of members of Congress.

A concern moving forward is the Highway Trust Fund, which runs out of money around October 1 unless Congress replenishes it. A six-year bill would require an additional \$80 billion in new revenues in order to maintain current levels of spending. Members of Congress are considering various funding options, but raising the gas tax, which has not been adjusted since 1993, remains politically unpopular.

However, Hall said, "As much as they don't want to raise gas taxes, they also don't want to see the states suffer. The history is they're going to find a solution. We hope they find a long-term, sustainable solution so we don't have to keep coming back and dealing with this problem."

With or without action in Washington, Arkansas motorists will see a lot of orange barrels in the coming years thanks to two voter approved projects: the Interstate Rehabilitation Program, a bond issue approved by voters in 2011,



AGENCY SPEAKERS. Randy Ort, Arkansas Highway and Transportation Department public information officer, describes his agency's new iDriveArkansas website, top. Above from left, Ed Swaim with the Arkansas Natural Commission, Lauren Chambers with the U.S. Department of Agriculture, and Sandy Otto with the Federal Highway Administration. Opposite page, Steve Hall, ACEC vice president, government affairs.

and the Connecting Arkansas Program, a half-cent sales tax approved by voters in 2012. Lori Tudor, P.E., Arkansas Highway and Transportation Department assistant chief engineer for planning, said the bonds for the IRP have been sold, three jobs have been completed, five are under construction, and 19 totaling \$340 million are scheduled through this year. Meanwhile, design is underway on 19 of 31 projects in the Connecting Arkansas Program, with \$1.5 billion slated to be spent overall.

Meanwhile, Randy Ort, AHTD communications director, described some of the efforts made to communicate construction and road conditions to the public. Under the department's "I-Plan,"

signs are being erected at construction sites describing the work as "improvements underway" rather than "road construction ahead," with a description of when the project will be completed. The department also has created a new website, iDriveArkansas.com, featuring road, traffic and weather conditions. In two months, the site exceeded a quarter of a million views.

Sandy Otto, Federal Highway Administration division administrator, said that MAP-21 had set a foundation for more innovative programs and expects the next federal highway bill to build on that progress. Initiatives in Arkansas have included accelerated bridge construction and 3D modeling.



Lance Jones, P.E., chief engineer for the Arkansas Department of Health, said the state's water systems are facing regulatory changes in several areas, including the disinfection by-products rule. These by products result when organic matter such as decayed leaves combine with a disinfectant such as chlorine, producing a compound causing a cancer risk. Under the old rules, systems were in compliance if an average of sampled sites were in compliance. Under new rules affecting most systems in 2013 and the rest in 2014, if a single site is not in compliance, the entire system will be cited. The new rules also affect systems that buy water from a supplier. The rule is being changed because the longer the water travels through the sys-

tem and the longer the matter is exposed to the disinfectant, the higher the by-product level will be.

Another big change going into effect January 4 is lowering the maximum amount of lead allowed in new potable water system components from eight percent to .25 percent. The change does not require water systems to replace equipment.

Jones said the real estate market still has not recovered from the Great Recession. In 2006, the Department of Health had 1,965 plan submittals, many for residential developments. In 2013, there were 1,029 submittals, most of them for commercial projects and utilities.

In other water-related news, Ed Swaim, chief of the Water Resources Management Division with the Arkansas Natural Resources Commission, updated participants on the 2014 Arkansas Water Plan. The plan, which was created in 1969 and last updated in 1990, attempts to forecast and plan for the state's water supply needs. Swaim told participants that water use in Arkansas increased from two million gallons a day in 1970 to five million gallons a day in 1980. While forecasters correctly saw that state water use would increase, they projected it would total 12 million gallons a day in 2030. It actually hit 11.5 million in 2010. The agency will be working on rules through 2014 and will issue a final report in November.

Kim Fuller, P.E., CPESC, engineering supervisor with the Arkansas Department of Environmental Quality Water Division, told engineers that the EPA is toughening enforcement of regulations dealing with phosphorus and nitrogen, which are hard to treat, and that minerals will be the next focus. "Honestly, minerals are just almost impossible to treat for, and we've got a lot of new requirements coming out on minerals," she said.

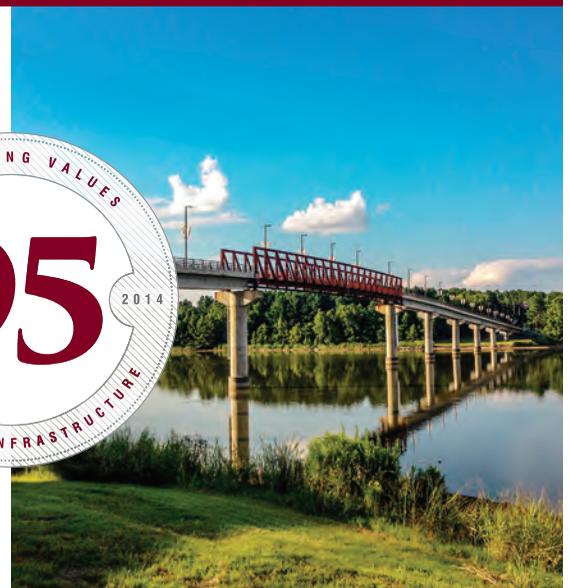
Fuller said the EPA also is increasing its scrutiny of whole effluent toxicity of larger facilities' wastewater using fathead minnows and water fleas. In the past, the EPA focused only on lethal effects, but now it also is studying sublethal effects, where it can be difficult to make numerically based decisions. "It can be a major trial and error to figure out what it is that's causing that

Continued on next page



Preserving Values. Advancing Infrastructure.

In 1919, Neal Garver began an engineering practice founded on building honorable relationships and delivering high-quality designs. We point to the advancements we've made to infrastructure over the last 95 years, and we celebrate the relationships and the values that built it.



Legislators repeal new water act

Threat of EPA enforcement of dissolved minerals rule leads to quick reversal

Legislators met in October in special session to address rising public school insurance premiums, but they also repealed a 2013 law loosening drinking water regulations under pressure from the EPA.

Act 954 by Rep. Andy Davis, P.E., R-Little Rock, removed the state's default drinking water designation for bodies of water that don't serve as drinking water. Under the federal Clean Water Act, states were required to designate a use for every body of water. That designation must be changed by altering the state's water quality standards.

Arkansas has stringent standards for dissolved minerals, which occur naturally and through discharges and runoff and are difficult to remove. That has resulted in some streams and ponds being placed on an impaired waterways list, forcing industries and municipalities wishing to discharge into those waters to undergo costly and lengthy "use attainability" studies.

According to Davis, lawmakers intended for the Arkansas Department of Environmental Quality to change two state regulations prior to implementing the act. However, ADEQ began



Davis

public relations and assistance division chief, said the department could not have satisfied both the law and EPA regulations even if had changed the state regulations.

ADEQ issued 15 permits under the law without enacting new regulations. When that happened, the EPA rejected the permits and threatened to federalize them. Those permit holders – and perhaps future ones – would be dealing with the EPA rather than the ADEQ, and nobody wanted that. ADEQ takes a more cooperative approach to enforcement than the EPA.

Lacking time to address the issue, Rep. Davis asked Gov. Mike Beebe to include a proposed repeal of the law in the special session. Beebe, who had allowed Act 954 to become law without his signature, agreed so long as Davis showed he had support for repeal.

implementing the act immediately. In an interview, ADEQ Director Teresa Marks said the department is obligated to follow state law without delay. Katherine Benenati, ADEQ

Within hours, Davis collected enough signatures to prove it.

Davis doesn't regret passing Act 954 because it called attention to the problem. The Pollution Control and Ecology Commission has formed a subcommittee to study the issue.

"I still think it could have been implemented in a way that would have been very beneficial to the state," he said. "I believe that it was not implemented in that way because ADEQ was opposed to it. I don't mind saying that. I think it's still a very important issue that needs to be addressed. We've always believed it's best addressed through rulemaking and not through legislation, but this problem has been there for years and it hasn't been addressed, so in the Legislature we'll do what we have to do to take care of it in the future if it's not addressed."

Benenati said changes would require extensive scientific study. Still, according to Marks, ADEQ agrees with Davis' goals.

"We're on the same side," she said. "Rep. Davis and I agree that our standards need to be changed. It's just the way that they needed to be changed, the process to go through, is what we disagree upon. But we certainly agree that our minerals values are too low, and they need to be adjusted."



FORUM SPONSOR. James Clark with BancorpSouth addresses participants.

water flea not to make babies," she said. "Literally, it can come down to that, and it can cost your clients thousands of dollars to figure that kind of stuff out."

Randy Roberson, Arkansas State Parks planning and development manager, told engineers that the State Parks has only a few engineers on staff and relies heavily on consulting engineering firms. The system, he said, has many miles of water, sewer and electrical lines that require constant maintenance, along with wastewater treatment systems, cabins and other facilities.

Lauren Chambers with the U.S. Department of Agriculture's Rural Development program updated engineers on her agency's activities. The program makes

direct loans and grants to improve essential public use facilities in communities up to 10,000 people. In 2013, the agency did not grant or loan all the money available to it because not enough projects qualified.

The forum was sponsored by BancorpSouth Insurance Services. BancorpSouth's James Clark told the group that his company would provide information sessions about risk management, contracts, and other topics. Sessions could help build ACEC/A membership by allowing members to invite nonmembers. "Our goal within BancorpSouth is to be more involved with you guys on a partnership and on a consultant basis," he said.

From the Governor

Mega-sites part of overall strategy

By Governor Mike Beebe
Guest Writer

Arkansas must use every available tool to highlight the state's economic advantages in a competitive global marketplace. Companies looking to call Arkansas home need and want easy access to the information that can immediately place us in contention for potential projects. By identifying the right sites, we demonstrate to major employers that Arkansas can handle large industrial development rapidly.

The Arkansas Economic Development Commission recently launched AdvanceArkansasSites.com, a website featuring large-acreage locations that meet the AEDC's highest standards of quality. The web page offers information about sizable tracts of land that large industrial projects often require. But the information goes beyond the land itself, also including data on workforce, area demographics, infrastructure and transportation resources. Currently, two sites are listed: one in Saline County off Interstate 530, and a West Memphis megasite. Communities across the state are already working to submit additional sites for consideration.

While this new resource is an important step in promoting large sites, most economic development continues to cre-



ate jobs on a smaller but still vital scale. Throughout this fall, several corporations have announced plans either to locate new operations in Arkansas or to expand their existing presence.

For example, Prime Line Inc., Lowe's largest domestic supplier east of the Rocky Mountains, announced that it would double its workforce by adding 50 jobs. To accommodate this growth, the company will operate a new facility in Malvern. This latest move builds on Prime Line's history as a homegrown success story. When the company was incorporated in 1996, it had only six employees.

International companies continue to select Arkansas for their North American

investments. Among them is Vinh Long, a Vietnamese manufacturer of home-furnishing products made from natural fiber mixed with industrial materials. The company plans to spend \$5 million on a facility in Morrilton that will employ 75 people.

Building our economy always requires work on multiple fronts. We help our existing employers grow and add new jobs. Meanwhile, welcoming new companies to Arkansas builds our reputation nationally and globally as a place that fosters business success. With the addition of this new website, Arkansas and our communities are aiming big. These communities did the work and spent the money to meet the criteria necessary to attract large-scale job creation.

Arkansas' skilled workforce, central geographic location, and shipping infrastructure are just a few of the state's business attractions. Using these selling points, our state's economic development team has been effective in recruiting new employers and helping expand current companies. Our new online resource to appeal to large-scale manufacturing operations is just one more arrow in the state's quiver. Our work never ends to bring more jobs here and to ensure that Arkansans have the secure, rewarding careers they desire.



Our Success is Building



Muskogee, Okla., Municipal Authority Water Treatment Expansion

- Water/Wastewater
- Educational
- Health Care
- Commercial
- Hospitality
- Cultural

Van Horn Construction

For more than 40 years, Van Horn Construction, one of the most highly regarded construction companies in the central United States, has crafted a reputation of building on success. And it has always done it the old-fashioned way – one quality project at a time.

“Arkansas produces a great engineer”

John English, new dean of the UA College of Engineering, has come home to the campus where he grew up

By **Steve Brawner**
Editor

John English, Ph.D., P.E., was enjoying success as dean of the College of Engineering at Kansas State University, but when the opportunity to have the same job at the University of Arkansas arrived, he couldn't pass it up.

English, 55, had grown up in nearby Prairie Grove and spent many hours on campus with his father, a UA staff member whose office was just down the hill from where English's is now. English graduated from the UA with a bachelor's in electrical engineering, earned his master's in operations research there, was a faculty member from 1991 to 2007, and served as the Department of Industrial Engineering head from 2000 to 2007 before moving to Kansas State. While most of his career has been spent in academics, he also worked for AT&T and Ford.

Arkansas Professional Engineer sat down with him in his office Nov. 26 to discuss what he hopes to accomplish at the College of Engineering.

What brought you back?

“The dean's job. To come back ...”

But you had a dean's job.

“Well, I did, but ... to come back to my alma mater and serve as the dean of engineering is an amazing thing. So that's what brought me back, to come back home, and I see myself as finishing my career here at the University of Arkansas.

...

“It's a filling up experience to come back. You know, when you're the dean, you're responsible for everything engineering at the University of Arkansas. To do that where you went to school, I've got all these great memories of being an electrical engineering student, an IE graduate student, going to football games, basketball games, Coach Holtz and Coach Sutton and Final Four, and again, I grew up here in Fayetteville in Prairie Grove. I



UA DEAN JOHN ENGLISH stands outside his office on the Fayetteville campus. His dad worked in an office just down the hill.

mean, this is where I grew up. My dad's retired staff here at the University of Arkansas. ...

“I grew up as a little boy putting on my football pads, turning on my radio. I'm a little guy, and I was Ike Forte running the football in my imagination. Absolutely. No, this is part of my soul.”

Did you come to college intending to be an engineer?

“Yes, Neil Armstrong landing on the moon. From that point, I said I wanted to be an engineer.”

Why academics instead of the business world?

“Hamdy Taha. There's a professor of industrial engineering by the name of Hamdy Taha. ... He's one of the world's experts in the field called optimization – operations research. He was teaching

“Strategic plans don’t mean much if the actions don’t line up.”

the optimization courses when I was a master’s student, and he encouraged me to think about pursuing an academic career. Whatever he saw in me as a master’s student at some 23, 22 years old, he saw something that made me think about being an academic.

“I worked at AT&T, had a fine experience, discovered I felt like a square peg in a round hole, and I said, ‘I’m going to go back and get my Ph.D.’ I looked at all kinds of graduate schools that were in vogue at the time for industrial engineering and went to Oklahoma State. So I credit Hamdy Taha for this opportunity. ... He planted the seeds, and I got in industry and felt a bit confined and constrained, and my mom always said my theme song as a little guy was ‘My Way.’ And professors are very autonomous. They’re free-thinking. They’re very creative, and I just can’t imagine doing anything different than the academic career.”

What did you learn at K-State that you could bring back here?

“You know, we had pretty good success in fundraising building relationships first with alumni, and so that was very important. ... K-State and Arkansas are similar, both land grants and pretty similar in stature, and we stayed true to kind of our core to produce an engineering graduate. Building upon our academics and our scholarship, we produce better graduates that are leaders, and they make society safer and a better place to live. And we’re committed to that. At K-State, I learned to stay true to your core values and who you are as an institution, and I see Arkansas doing the same thing.”

Can you give any specifics about how much you increased your fundraising?

“We hit records that were never hit before, and three of the six years I was there, our fundraising record exceeded athletics.”

Wow. How’d you do that?

“Well, at the heart of it is a large anonymous gift, and then just working with

the donors out on the road, building relationships, seeing what their passions are, presenting a need. K-State has a great development team that’s aggressive, gets the dean out in front of the right people, department heads pointing that way, too. Strategic plans don’t mean much if the actions don’t line up. We made that a priority, and we’re making it a priority here.”

Engineering is such a no-nonsense profession, and raising money can be a schmoozing type of activity. Are engineering departments a little bit reluctant to do that?

“No. You know, when we’re talking to our donors, they are engineers, and so we relate very naturally. ...

“I think sometimes people underestimate the good will that our donors have towards the university. My wife and I, we have wonderful feelings about the university, and there’s no schmoozing in our desire to give back because we give back as alums ourselves. ... And I think the department heads buy into that, and as faculty learn the time and the investment that people are making in us, they begin to respect that. ...

“The thing that happens in engineering is it’s something about our curriculum. My study buddy, he and I, we were talking on the phone just last week. And then my roommate in college came to a recent luncheon at the Little Rock Country Club. He and I’ve been friends since we went to Boys State in 1975. So we build a bond with ourselves, our fellow alums.

“And then there’s the affinity we have towards the college largely because of the curriculum as we fight through the technical challenges of becoming an engineer. That’s not an arrogant thing. That’s just a reality – fighting, in my case, Circuits I, Circuits II, Electronics I, Electronics II, Electromagnetics I, Electromagnetics II. These are all calculus-based, very rigorous, physics-based-type courses, and we studied hard. Hours and hours we studied. And Arkansas produces a great engineer.”

When you got here, what did you find? What surprised you?

“You know, not much. It’s a typical university. We have our strengths. I think the pleasant surprise was the impact of the capital campaign that raised a billion dollars and closed out a few years back, and seeing the quality of the students, the quality of the faculty, the investments made on behalf of the college through the campaign across the university. You look across campus at Walton College, a top 25 public business college. We benefited a great deal because of the capital campaign. Research expenditures have grown dramatically since I was gone due to the leadership of the dean and the faculty here in the college. There’s a great spirit on campus, a lot of pride in who we are.”

It almost had doubled in enrollment in five years.

“We have seen a 70 percent increase in the last five years, and a little bit of new space, and the new computer building up by the communication building. But generally it’s almost the same footprint

Continued on next page

Hiring engineers?

Looking for student interns?

Interested in promoting your company and building relationships?

Contact Brian Henderson
Director of Employer Relations &
Student Placement
(479) 575-6265
bwhender@uark.edu



UNIVERSITY OF
ARKANSAS
COLLEGE OF
ENGINEERING

“I see us working more with Arkansas State and UALR and Arkansas Tech to raise the stature of engineering for the state.”

we had when I left here in '07, with a 70 percent growth in student body, and so it's tight, very tight facilities-wise.”

That means you're going to have to raise some money.

“Yes, and work with campus, work on our planning horizon for a new building. We need research facilities. We need to hire faculty. And that was true at K-State, too. They had a groundbreaking ceremony on the new building in October at K-State.”

Why did it grow 70 percent in five years?

“I would say, speculation, finally engineering nationally has begun to grow again. It had been flat since the mid-to-late-80s with no growth in absolute numbers, which is going to create a tremendous shortage in engineers because of the aging workforce. Nationally, I think people better understand what engineers do. They make society better; they build bridges; they design the iPhones; they roll out new computers; they have new cybersecurity systems; they created a better separations process. We do a better job producing ethanol, which is a mandate for gasoline; we pump oil out better; we have fracking. ... The industrial engineers have a huge impact on the health care industry. ... Furthermore, scholarship offerings at the University of Arkansas are tremendous. We're competing truly on a regional, national basis now with our scholarship program with the very best students. Our average ACT in the College of Engineering is over a 28.”

When I graduated from college, you just had to have a degree. Just get the degree and then get a job. But that doesn't work anymore. Now you have to have a degree and a skill. Is engineering benefitting from that?

“I think so, but the current student body, the first thing they want to know is they're going to have an impact by becoming an engineer. You take a civil engi-

neering graduate, for example, Now, I'm not a civil. But they graduate from here, they can ... go into a Third World country and provide a village clean water for the first time in the history of that village. They connect two villages with a bridge, and, furthermore, they can help the U.S. improve our interstate system, building new bridges, the expansion of 540. Companies like Garver are all over the expansion of our growing highway system in the state of Arkansas. ...

“You're right about the jobs. Our job placement's pretty good. Between gradu-

Growth spurt

The UA College of Engineering has seen a 70 percent enrollment increase since 2008. Figures supplied by UA.

	2008	2013
Undergrads	1,665	2,944
Grad students	511	705
Doctoral	148	215
Bach. Degrees	234	333
Faculty	126	177

Undergrad enrollment by Department

	2009	2013
Bio and Ag	64	65
Biomed	0	176
Chemical	158	249
Civil	191	277
Computer	160	422
Electrical	129	210
Industrial	109	258
Mechanical	241	533

	2009	2013
Expenditures	\$46.1 m	\$51.9 m
Endowment	\$50.8 m	\$67.3 m

ate school and job placement, typically 90 percent of our student bodies are employed across the nation.”

Where do you see the college's new Department of Biomedical Engineering going?



“Grow. It will probably double. So we have to have faculty. We're opening up new space over here in (John A. White Jr. Engineering Hall), the bottom floor, that's being renovated for biomedical.”

Where else do you hope to take this college?

“I think that with the university's goal to be a top 50 public research institution, the College of Engineering, all of your STEM areas – science, technology, engineering, mathematics – are going to play an important role in that. Research focus is going to come out of the STEM area primarily, and the other disciplines, too, but the bulk of the funding, the graduate students, kind of the financial aspect will come out of the STEM area. Not that our other fields won't be engaged deeper in research, but a lot of the funding and the resources will come out of the STEM area.

“And so what I anticipate is that we'll have very focused developments for the College of Engineering that will put us at the very best in the nation. Right now in the area of power electronics, the high-power electronic devices, for switching gear, charging devices, I dare say we are, if not the best, one of the very best. ... Drs. Alan Mantooh and Juan Balda are spearheading a lot of that effort working with a lot of faculty. Our nano focus, the nano devices, our nano lubricants, our health

care have been very important in view of the support we're getting up in industrial engineering and soon to see more in bio-medical. And so I would expect that there will be focused areas within our college that are going to become perhaps the best in the nation. And that's what I anticipate. You know, the rising tide lifts all boats, so we'll really focus our efforts in areas that we have potential to become even the very best."

I guess you can also anticipate that this college will have support from the state.

"Absolutely. And the state of Arkansas seems to be very supportive of higher ed. I see us working more with Arkansas State and UALR and Arkansas Tech to raise the stature of engineering for the state because Arkansas is pro-higher ed, and we want to make sure that stays out in front."

You can work with those institutions, you think?

"I think so. I've had some preliminary conversations with the dean at UALR as well as A-State, and I hope that that will develop. It did in Kansas. I worked with (the University of Kansas) dean and the Wichita State dean and with the state of Kansas and ultimately had an appropriation of \$105 million for the three universities."

Are there any other ways that you could work together?

"In research capacity."

So what do you need from the engineers of this state?

"First and foremost is, hire our students, and as you hire them, grow your internship program. One of the very best things we know in view of retention is good summer internships. Good co-op opportunities. For companies, and they recognize that, that's a great screen for them to find their employees ... and they're all doing that. Let's continue to stay after that, and engage in our career

fairs, and be competitive and hire our graduates, hire our students. And invest back in the college, too, when the opportunity prevails either through our research venues or even philanthropic giving."

You've run four marathons and hiked the Grand Canyon rim to rim in one day twice. Is there a parallel between that kind of activity and being a dean of a college of engineering?

"Maybe. Maybe there's a spirit of tenaciousness. I have no athletic ability whatsoever. None. I have little bony legs and am overweight. I probably don't have enough sense to say I can't do it. That probably is not as much a factor as the tenaciousness and desire to see goals accomplished. And it's different when you're doing it individually versus when you're doing it with a college of engineering, but you know, it's just, stick with it. ... It's sometimes seeing where the opportunities lie. You know, the faculty, they'll tell you where the opportunities lie."



rogers | conway | russellville | little rock | okc | tulsa

www.craftontull.com

CRAFTON TULL

CELEBRATING
50 YEARS



TEAMMATES. Nick Griffin, P.E., Mickle Wagner Coleman, left, and Adam Triche, P.E., McClelland Consulting Engineers, prepare to try to climb a heights obstacle during the Challenge Quest session. Travis Tolley, P.E., Crafton Tull, far left, and Scott Geurin, E.I., Brown Engineers, look on.

Young leaders build trust, learn skills

Joint ASPE-ACEC/A program hones right-brain creative, communication abilities

By **Steve Brawner**
Editor

Aaron Stallman, P.E., of Garver sat hunched over a Lego model of a vehicle as his co-worker, John Cantabery, P.E., of Garver tried to tell him how to build it. This was a challenge, because the only blueprint they were working from was inside Cantabery's mind.

The activity was part of the Challenge Quest portion of the Emerging Leaders program, a series of eight sessions sponsored jointly by the ASPE and the ACEC/A. The program brings together mostly young engineers to practice right-brain skills like creativity, communication and management that aren't taught in engineering college courses. In addition to the team-building Challenge Quest, Emerging Leaders attend sessions about business, public speaking, government, conflict resolution, contracts, and risk reduction, along with a roundtable

featuring some of Arkansas' leading engineers. Graduates are presented certificates at the ASPE Annual Conference.

Stallman and Cantabery's original model had been constructed by Travis Tolley, P.E., of Crafton Tull and Adam White, P.E., of Garver. Then Adam Triche, P.E., McClelland Consulting Engineers, had verbally described it to Cantabery while they were seated at a picnic table. Cantabery had then run about 25 yards to describe what he had heard to Stallman.

Back and forth Cantabery ran as Stallman tried to interpret and construct. Meanwhile Farrell-Cooper Mining's Dayne Moreton, P.E., was serving as another team's "runner." He was describing a more complicated model to Nick Griffin, P.E., Mickle Wagner Coleman. That team ran out of time before it could fully assemble the model.

The completed efforts, pictured on the opposite page, are remarkably similar to the original models, but Stallman quickly noticed five or six differences between the original and the duplicate he had tried to

construct. "The first thing I saw was I was impressed with how close they were," he said, "but then soon I was moved from that to, yes, what's wrong, what did we not get right? ... I think that's probably the way our brains operate is, yeah, we did a good job, but it's not perfect, so we're not satisfied."

Leah Stark, the Challenge Quest facilitator, was impressed with how the engineers specifically described pieces and angles and precisely defined terms such as "top." Even though the project wasn't supposed to be competitive, she noted how Cantabery and Moreton ran back and forth more than participants usually do.

"They're organized," she said of the engineers. "They think outside of the box. ... They really think things through and think about the way things work and how's this going to end up in the end."

The session, held Sept. 25 on the Northwest Arkansas Community College campus, also included a heights challenge where teams of two engineers climbed a "ladder" with boards spaced about five

THE FUN STUFF. Below, Dayne Moreton, P.E., Farrell-Cooper Mining, swings on a line supported by his fellow participants. Right, John Cantabery, P.E., Garver, describes how to build a Lego model to Aaron Stallman, P.E., Garver, while Adam White, P.E., Garver, looks on.



WHICH IS WHICH? The models on the left were the originals constructed by engineers. The models on the right were duplicates constructed by Griffin, top, and Stallman. They relied only on verbal descriptions provided by Moreton and Cantabery, who also were given only verbal descriptions of the originals.

feet apart, requiring each to help the other. Meanwhile, other participants held on to ropes below to prevent falls. Participants also swung on a high ropes swing, again with their fellow engineers preventing them from falling.

The session broke the ice and built trust among the participants, which is why it's the first of the Emerging Leaders' eight sessions.

"It was fun," said Tolley. "It was challenging. But I can trust these guys. You

know, we're in a competitive business, and outside of this we are competitors. Inside this, we can trust each other."

Other participants are Scott Geurin, E.I., Brown Engineers; Ryan Castor,

Continued on next page

Same Water. New Solutions.

NEW WATER SYSTEMS

- Distributor & Manufacturers Representative of Engineered Wastewater Systems
- Operation & Maintenance of Small Wastewater Treatment Systems
- Large & Small Municipal Systems
- Pressure Sewer Collection Systems
- Sewer Systems for Private Industry, Camps, Churches, Retail, and Residential
- Now Serving Western Tennessee



Todd Piller, PE
todd@newwatersystems.com

Toll Free : 1.888.697.4183 • C: 501.442.5047
www.newwatersystems.com



EMERGING LEADERS. Pictured left to right are Scott Geurin, E.I., Brown Engineers; Ryan Castor, P.E., Burns and McDonnell; Nick Griffin, P.E., Mickle Wagner Coleman; Charles Ashley, RLA, ASLA, CEI Engineering; Adam Triche, P.E., McClelland Consulting Engineers; John Cantabery, P.E., Garver; Aaron Stallman, P.E., Garver; Dayne Moreton, P.E., Farrell-Cooper Mining; and Adam White, P.E., Garver. Not pictured is Travis Tolley, P.E., Crafton Tull, who is shown below during the public speaking session.

P.E., Burns and McDonnell; and Charles “Chip” Ashley, RLA, ASLA, CEI Engineering Associates.

The public speaking session Nov. 19 gave participants a chance to practice their communication skills with the help of Sarah Cummings, a certified Dale Carnegie trainer. Engineers gave three presentations, the goal being to present information in an impacting and meaningful manner.

The session involved a lot of hands-on training interspersed with useful tips from Cummings. She told participants to speak at a fifth grade level, avoid jargon, and never put both hands in their pockets. She told them to make eye contact with individual listeners so as to have mini-conversations with many people. And, she said, get to the point.

“The most important part is the take-off and the landing,” she said. “The most important part is the opening and the closing.”

Cummings told participants they must grab listeners’ attention within three to seven seconds of the beginning



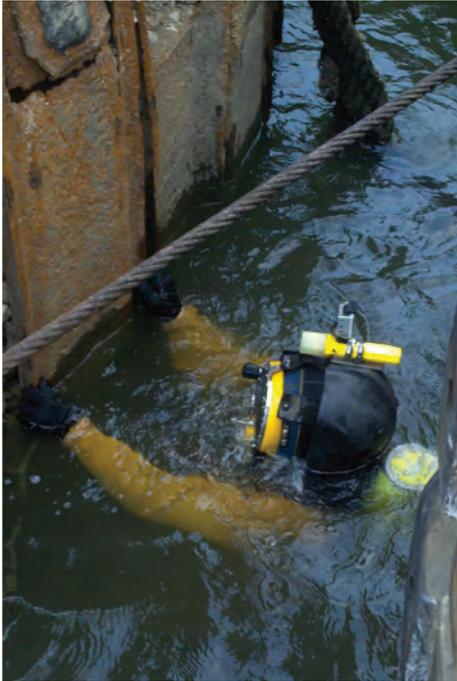
of a speaking opportunity, which means they must open with something interesting, such as a startling statement or a question for the audience. She then had them tell a motivating story, suggest an action, and describe what the listener would gain. Each speech needed to end

with the words, “I encourage you to ____, and your benefit will be ____.”

Good advice. Another class will form next year. Firms are encouraged to sponsor their employees. The benefit will be a more creative and communicative workforce.

Marketplace

Editor's Note: This page contains news of interest from Arkansas Professional Engineer advertisers that are not members of ACEC/A or ASPE.



GOING TO THE DEPTHS. A worker in scuba gear dives below the surface of a structure in Louisville, Kentucky, on the Ohio River, to see if it needed to be grouted. He did find cracks that needed to be repaired.

ICM Technologies helping clients rehab structures

ICM Technologies, Inc., an arm of Improved Construction Methods, Inc., has helped a variety of clients rehabilitate manholes, wet wells and other structures.

According to the company, projects have included leak stoppage of a 100-year-old dam near Eureka Springs; sealing a sheet-pile dolphin on the Ohio River at Louisville, Kentucky; and 45 foot-deep pre-cast manholes near Tunica, Mississippi. ICM also was selected for a project for a state department of transportation where it sealed all joints on a 300-foot section of 72-inch concrete pipe that was 20 feet deep. The project also stabilized the soil around the pipe, stopping the backfill material from washing away and allowing the road bed to settle.

For more than 40 years, Improved Construction Methods has built on-site monolithic cast-in-place manholes, wet wells, storm drain inlets and junction

boxes. During recent years, ICM Tech has concentrated on rehabilitation of older structures, including those that were leaking and those that were damaged by hydrogen sulfide gas. ICM solutions include soil stabilization and leak stoppage.

For more information, contact ICM Technologies at 501.912.7715 or at bruce@icminc.us.

School district saves millions with Van Horn's help

Russellville-based Van Horn Construction helped the Clinton School District save millions of dollars by serving as construction manager for a new K-6 facility.

Mark Hurley, project manager, said the original plans, conceived before Van Horn began participating, were about \$4 million over the district's \$9 million bud-

get. "We sat down with the design team and rolled up our sleeves and actually came up with an alternative design," he said.

Serving as construction manager, Van Horn relocated the school off a hillside and onto a flatter piece of ground to save money on dirt and foundation work. It coordinated with subcontractors and vendors to offer more economical choices. It value-engineered lighting and mechanical equipment to provide more appropriate systems rather than the high-tech offerings that often require too steep a learning curve for maintenance staffs. It also installed polished concrete flooring, which is more economical than tile because it must only be buffed once or twice a year instead of being stripped and re waxed. By the time the work was done, the project had come in under budget.

For more information about Van Horn, contact the company at 479.968.2514 or go to the company's website, www.vanhornconstruction.com.



Leaders in Manhole Construction since 1970 and now Leading in Manhole Rehabilitation and Structural Repair of Water and Wastewater Facilities

MANHOLE REHABILITATION

- Cementitious Products
- Epoxy Liners & Coatings
- Chimney Seals
- Chemical Grouts
- Rainwater Inflow Stoppers
- ICM Manhole Liner Forms

STRUCTURE REPAIR

- Water & Wastewater Plants
- Wetwells & Pump Stations
- Storm Water Systems
- Trenchless Pipe Repairs
- Concrete Dam Repairs
- Earthen Dam Stabilization

EPOXY COATINGS FOR NEW CONSTRUCTION

Water & Wastewater Plant Structures

Contact: Bruce McFadden – (501) 912-7715
www.improvedconstructionmethods.com

WE UNDERSTAND WATER & WASTEWATER TREATMENT



At Severn Trent Services we offer innovative solutions for a wide variety of water and wastewater treatment needs.

- **TETRA® DeepBed™ tertiary filters** are an economical solution for the removal of TSS <2 NTU or <5 mg/l TSS and < 0.2 mg/L phosphorus. Systems can be readily expanded into denitrification mode.
- **TETRA® LP Block™ dual parallel lateral filter underdrains** are ideal for drinking water filtration and desalination pre-treatment. The underdrains ensure lower operating costs and effective backwash distribution that can improve run times.
- **ClorTec® on-site sodium hypochlorite generation systems** offer efficient and effective disinfection. Systems reduce disinfection by-products, minimize transportation of hazardous chemicals and reduce operating costs by as much as 20%.

For more information on our water and wastewater treatment solutions visit severntrentservices.com

Represented by: **Chad B. Cooley, P.E.**

Environmental Technical Sales, Inc.

T: 501 978 1025

E: ccooley@etec-sales.com

www.etec-sales.com

