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Arkansas
Professional

ENGINEER

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

A photograph of Newton White, P.E., an older man with a white beard and glasses, wearing a dark suit, a striped shirt, and a red tie. He is standing in an office, with a wooden bulletin board and a framed photo visible in the background. The bulletin board has a poster about the Salt Lake 2002 Olympic torch relay and a map. The framed photo shows a group of people at an outdoor event.

ASPE Engineer of the Year

For Newton White, P.E., founder of Instrument and Supply, Inc., it all started on his parent's sweet potato farm.

Check out ACEC's new podcast

There's lots to talk about in engineering these days, and now there's a new way to listen.

The American Council of Engineering Companies is offering a podcast, Engineering Influence, that can be found on iTunes. Jeff Urbanchuk, ACEC's director, strategic communications, is the host.

At last check there were 14 episodes ranging from 31 seconds to 39 minutes. It's good stuff. Topics include energy, drones, and commoditization in engineering.

Yes, it covers politics – in depth, from an engineering perspective. Tanya Snyder, Politico's congressional correspondent covering transportation and infrastructure, offered her thoughts about the prospects for an infrastructure bill. She provided a frank perspective about what's happening in Washington, and why it's so hard to make progress on an issue every-



Angie W. Cooper
Executive Director

one would seem to agree about. (Spoiler alert: They don't.) Bloomberg Government's Shaun Courtney covers the same topic.

Today's information sharing tools provide many avenues for engineers to learn about what's happening in the industry and in government. The mainstream media typically won't cover these issues

from an engineering perspective. We're only a small part of their audience, and few journalists have an engineering background. Engineering Influence and other offerings by ACEC and ASPE can help engineers stay informed. Check it out.

...

This is the time of year when leadership in our organizations shifts to the next year's officers. My heartfelt thanks go to ACEC/A President Byron Hicks, P.E., of McClelland Consulting Engineers, and ASPE President Fred Harper, P.E., of Michael Baker International. It's been a great year.

I look forward to a new year working with our 2019-20 officers, led by ACEC/A President James Montgomery, P.S., of B&F Engineering and ASPE President Jim Vetter, P.E., of Olsson.

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Arkansas Professional

ENGINEER

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18 Newton White, P.E., decided to start Instrument & Supply after noticing that few suppliers had engineering backgrounds, and their service after the sale was often unsatisfactory.

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News and Features

16 **Spotlight / Started with small, but now serving all**

When Andy Davis, P.E., started New Water Systems in August 2003, he wanted the firm to be a manufacturer's representative serving decentralized wastewater treatment systems with small flows. Sixteen years later, it's still filling that role but also serving medium and larger systems.

17 **Gavel passed, top engineers named**

ASPE prepared for new leadership and honored its Engineer of the Year and Young Engineer of the Year at the ASPE Annual Awards Luncheon April 12.

18 **Cover / White is ASPE Engineer of Year**

Some engineers know they'll enter the profession starting in their childhood. They were good in math, and they liked to build things. Others decide when they get to college. For Newton White, P.E., this year's ASPE Engineer of the Year, the marriage was sort of arranged – by his father, David Newton White Sr., on the family's Grant County farm between Sheridan and Pine Bluff.

20 **Avery is Young Engineer of the Year**

The ASPE Young Engineer of the Year likes building big. Tyler Avery, P.E., 28, majored in structural engineering at the University of Arkansas because he wanted to design large projects.

22 **BXS' Estes: Avoid email's deadly 'sins'**

Can accepting an invitation to lunch cost a company \$375,000? It might if it violates one of the "seven deadly sins of email."

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Annual convention offers face time with officials

The 2019 ACEC Annual Convention and Legislative Summit was held in Washington, D.C. May 5-8. As always, it proved well worth attending. ACEC brought nationally renowned speakers and CEOs of key industry organizations to speak during our general sessions. These presentations provided insight into the national political climate and perspectives as to how politics is affecting industries such as power, contracting, and transportation. The convention also provided a great opportunity to earn PDHs over a four-day span.

These are secondary, however, when compared to the convention's greatest benefit and main purpose: the opportunity to review key issues facing the engineering profession on a national level, and the opportunity to visit with Congress about these issues. You can imagine the power of ACEC's influence as each state organization meets with its representatives and senators regarding the same key issues over a two-day period. ACEC-Arkansas met with Senators Tom Cotton and John Boozman, and with Representatives French Hill, Steve Womack and Bruce Westerman. With each, we discussed key issues facing the engineering industry and urged them to support legislation to address our needs. We received positive feedback in that they all expressed a strong desire to support our goals, albeit all are not in agreement on the specific mechanism to achieve that support.

The key issues facing our profession on a national level include: infrastructure; sustainable energy; growing the engineering workforce; climate change; innovation and competitiveness; water and environmental protection; support from federal, state and local governments; and legislation that will help American firms compete in the international marketplace. A brief discussion on a few of these items follows. For an in-depth discussion



Byron Hicks, P.E.
ACEC/A President

on all key issues, please refer to the ACEC website.

– **Infrastructure:** 44% of America's major roads are in poor or mediocre condition, 23% of America's bridges are structurally deficient or functionally obsolete, and \$271 billion is needed to improve our wastewater and stormwater treatment systems over the next 20 years. It is estimated that every dollar spent

on infrastructure delivers approximately \$4 in economic activity.

In light of these items and others, ACEC urges Congress to provide permanent solvency to the Highway Trust Fund; reauthorize and expand the Clean Water Act SRF program; lift the cap on passenger facility charges to boost Airport Improvement Program funding; streamline regulations while ensuring environmental performance; and take other measures to address our infrastructure needs.

– **Sustainable Energy Solutions:** Section 179D was created as an energy-efficient commercial buildings tax deduction to promote the design of energy-efficient buildings. The Section 45 production tax credit was developed to provide an incentive to generate electricity through qualified resources such as wind, biomass, geothermal, landfill gas, waste to energy, hydropower, marine and hydrokinetic resources.

ACEC urges Congress to support multi-year extensions of these tax provisions to promote innovation and sustainable economic development.

– **Growing the Engineering Workforce:** I have had many conversations with engineering firms locally and nationally who are having trouble finding the workforce needed to match the workload. Approximately 30% of all engineering degree holders are over age 50 and are expected to retire in the next 15 years. The demand for H-1B visas for skilled individuals is larger than the allotted number of visas available. This, combined

Please see CONVENTION, page 8



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Floods a reminder of infrastructure's importance

As I write this, the state has been experiencing 500-year floods that have pushed its levee system near the breaking point and, at the Holla Bend Levee in Yell County, beyond it. The footage of that rushing water is truly an awesome and humbling reminder of Mother Nature's power.

No one could have predicted that the state would face such a disaster this spring, but as engineers it's our job to plan for it, and to lobby lawmakers to set aside necessary resources to mitigate its effects before it happens.

Arkansas policymakers long have known that some of the state's levees have not been maintained adequately. Many were built by the Corps of Engineers many decades ago and then turned over to local boards that faded away. Eventually, no one was in charge of them. The levees seemed to be doing their job.

But levees, like anything else, must be maintained. In the past couple of years, the state has made an effort to reconstitute the boards that govern those levees, but some remain unsponsored.

At Michael Baker International, we don't build levees. But the same principle applies whether an engineering firm is designing a highway, a water/wastewater plant, or an electrical system. The infrastructure that makes our lives possible won't take care of itself. It must be built and maintained to high standards. It requires investments.

The term "500-year flood" doesn't mean a flood that happens only once or twice a



Fred Harper, P.E.
ASPE President

millennium. It means that every year, there is a 0.2% chance of a flood of that magnitude occurring. That means it's possible another flood of this magnitude could occur next year, or even this year.

Whatever we're building or maintaining, let's be sure as engineers never to dismiss risk out of fear of being seen as doomsayers. Engineers must remind policymakers that

0.2% is not zero, and that the consequences of inaction can be devastating. We should do so calmly and professionally, but we should not allow ourselves to be ignored. We should acknowledge that the state can't afford to prevent every worst-case scenario everywhere; we can't, for example, turn every county road into a four-lane. But we must always be ready to explain the financial benefits of preventing disaster. When the waters have receded, we may find that the cost for repairs and reconstruction far outweighs what it would have cost to ensure all the levees were capable of withstanding this flood.

Finally, let's be sure that we communicate in a way that the public understands. Warn policymakers of 500-year floods, and they'll probably ignore you because 500 years is a long time – long past when their term ends. Moreover, some people will assume that we're now safe for another 499.

But a 0.2% chance of something happening every year? That can happen.

It did this year. And it might next.

Convention

Continued from page 6

with the significant concern that college graduates have for their student loan debt, contributes to an inadequate workforce.

ACEC urges Congress to pass legislation that will allow employers to assist employees with student loan debt without it being a taxable benefit to the employee. We also ask Congress to increase the allotted number of H-1B visas for those with bachelor's and master's degrees.

– Water and Environmental Protection: Our water resources are vital to economic growth, security and quality of life. We need larger investments in drinking water infrastructure, wastewater

infrastructure, and land and water remediation projects to protect our health and the environment. Nearly one-third of the nation's GDP comes from international trade that passes through our ports. Because of this, we also need more investment in our ports and water corridors. This will promote navigation and economic growth and assist with devastating flood events.

ACEC urges Congress to reauthorize and expand the Clean Water Act SRF program; boost appropriations for the water and wastewater SRF programs and USDA's rural water program; and provide innovative financing for water projects through WIFIA. It also supports passage of the Water Resources Development Act (WRDA), boosting investment in the

Corps of Engineers water projects, and providing stable funding for the Superfund program.

I want to stress again the important and powerful role that ACEC plays in the passage of legislation aimed at supporting and advancing the engineering industry. The ability of an organization to bring the same message to basically all the nation's lawmakers and to have one-on-one conversations with them over a period of two days is an amazing feat. Just as amazing is the fact that the ACEC/PAC is the largest federal PAC in the design industry. The PAC supports those who support engineering businesses and has been successful in helping us with face-to-face discussions to share issues critical to our businesses and our profession.

In the News

Olsson is 96th in Engineering News-Record ranking

Olsson was ranked 96th on Engineering News-Record's Top 500 Design Firms this year.

This was the second year in a row the firm has been in the top 100.

Olsson cracked the ENR top 100 for the first time in 2018, breaking in at number 98.

The firm, founded in 1956 and based in Lincoln, Neb., moved up two spots based on increasing revenue by 7 percent during the 2018 fiscal year. ENR ranks companies based on revenue for design services performed during the previous year.

"Our commitment to provide clients with exceptional service so they can improve their communities is at the heart of everything we do," said Brad Strittmatter, CEO of Olsson. "We focus on taking care of our clients' needs, and that is the main reason we continue to be ranked among the nation's top design firms."

The firm employs nearly 1,200. Its Arkansas office is in Fayetteville. Other offices are in Nebraska, Kansas, Iowa, Missouri, Oklahoma, Colorado and Arizona. In 2018, Olsson completed more than 6,700 projects throughout the United States.

Olsson has been included on ENR's Top 500 Design Firms list every year since 1996.

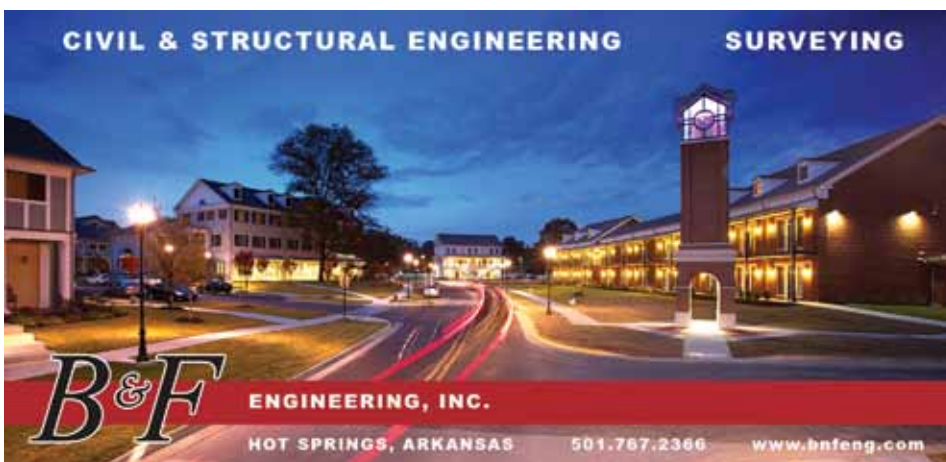
Olsson offers design and consulting services in planning and design, engi-

neering, field services, environmental and technology.

B&F Engineering welcomes three new engineers

B&F Engineering has hired three graduate engineers, bringing its total to 11 engineers serving clients in Arkansas and elsewhere.

Jonese Woods will be joining the B&F team in July as a recent graduate of the



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University of Arkansas, Fayetteville, where she earned a Bachelor of Science in Civil Engineering with a concentration in Structural Engineering. She previously was a structural design intern with Ryan Engineering in Springdale and was a research assistant for the Department of Civil Engineering at the University of Arkansas. She also was 2018-19 president of the UA's Chi Epsilon chapter.



Woods

Tommy Fenton joined the B&F team as an engineering intern in December 2018. He joined the staff prior to his May graduation from the University of Arkansas at Little Rock with a Bachelor of Science in Civil and Construction Engineering. Fenton has worked as a project coordination intern for Austin Bridge and Road

in Dallas and as an engineering field technician for Building and Earth in Conway. Before beginning his career in engineering, he served in the Army for six years as a combat medic serving in Operation Iraqi Freedom and in Haiti disaster relief.

Christian Vaughan joined the B&F team in June as a graduate of the University of Arkansas, Fayetteville with a Bachelor of Science in Biological and Agricultural



Fenton



Vaughan

Engineering and a Minor in Sustainability. While obtaining his degree, Christian worked on several design projects involving water filtration and pump sizing through the university. He was also an engineering intern with Springdale Water Utilities during the summer months of 2017 and 2018.

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In the News (Cont'd)



AWARD WINNERS. From left are MCE's Adam Osweiler, P.E., LEED AP BD+C; Clay Whiting, Advanced Drainage Systems and APWA-Arkansas president; David Hopkins and Mike Hood with the City of Little Rock; Maneesh Krishnan, P.E., MCE assistant department head for transportation; and Ed Hankins IV, PLA, with MCE.

McClelland wins APWA Large Project of the Year award

McClelland Consulting Engineers, Inc. was recently presented with the American Public Works Association award for Large Project of the Year for the Little Rock Main Street (Water Quality Demonstration and Education Program) project.

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The project was centered around developing low-impact development water quality improvements for water runoff. It encompasses the city right-of-way on the 600 and 700 blocks of Main Street.

Improvements included rain gardens, permeable pavers, vegetation, catch basin skimmers, and sand filters. A pedestrian-friendly streetscape design was included with the water quality improvements, which includes a light garden, vegetative wall, sidewalks, new and existing lighting, and parallel parking.

MCE assists with opening two splash pads in time for summer

McClelland Construction Engineers helped with the design and construction of splash pads in Fayetteville and Pea Ridge.

The Walker Park Splash Pad in Fayetteville opened to the public May 15.

MCE assisted

RJR Enterprises with civil/site services associated with the construction of the splash pad and pre-engineered restroom facility. MCE's scope of work included layout and placement of the splash pad and equipment, grading design and layout to meet Americans with Disabilities Act requirements, water tap location, layout of approximately 700 linear feet of water line and sanitary sewer lines, electrical service line layout, and storm sewer line design from the pad to the existing creek. Additionally, MCE also provided topographic surveys for the project.

The Pea Ridge Splash Pad, located at the Pea Ridge City Park, officially opened May 23 with a ribbon cutting ceremony.

For this project, MCE assisted JKL Architects with the civil/site services associated with the construction of the splash pad. The project consisted of layout and placement of the pad, a pump house facility, grading design and layout to meet ADA guidelines, construction of ADA parking stalls, water tap locations and layout of the water line, sanitary sewer line design, electrical service line design, and storm sewer line design. MCE also coordinated all MEP design and easement documentation, as well as geotechnical engineering, topographic surveys, and construction observation/administration.



SUMMER FUN. MCE helped design this splash pad in Fayetteville.

MCE's Morehart now a PE

McClelland Consulting Engineers, Inc.'s Zach Morehart has earned his professional engineering license.

Morehart, who is based out of the firm's Fayetteville office, joined MCE in 2014 as an intern during his career at the University of Arkansas. Upon graduation he joined the firm full-time.

As a lab intern, he was responsible for construction materials testing that included concrete, asphalt and soil tests for ongoing construction projects. Now, his work is focused on aviation engineering.



Morehart

Johnson joins Hawkins-Weir staff

Hawkins-Weir Engineers, Inc. (HW) announces the addition of Staff Engineer Zachary Johnson, E.I., to its Van Buren office.

Johnson, originally from Waco, Texas, recently earned his biological engineering degree



Johnson

from the University of Arkansas at Fayetteville. He is assisting HW with sidewalk improvement and sewer rehabilitation projects in the Arkansas River Valley.

He lives in Fayetteville and enjoys running and spending time outdoors, especially at the Buffalo River.

ACEC/A Board Planning Retreat
July 25-26
Location TBD

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Oct. 13-16
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Spann joins New Water Systems as sales engineer

New Water Systems has hired James Spann as a sales engineer.

Spann has more than 22 years of experience as a sales engineer in the water and wastewater industry in Arkansas.

The last 20 were spent with Eco-Tech, Inc. He previously was a project engineer for four years. He has sold directly to owners, contractors and supply houses and indirectly through engineering specifications.

New Water Systems is an equipment supplier and wastewater operations

In the News continues on page 12



Spann



How do you measure success?

At HW, we measure our success by client satisfaction. Any success we have enjoyed is directly related to the success of our clients and their projects. *Engineering Client Success* is not just our tagline... It is our passion.



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In the News (Cont'd)

manufacturers' representative based outside Little Rock. It represents more than 40 manufacturers. Its territories include Arkansas, western Tennessee, northern Mississippi, northeastern Texas and eastern Oklahoma.

"His coming on board with New Water Systems really has rounded out our sales team, and the combination of that and other efforts we've made over the last several years has really expanded our line card," said the company's founder and president, Andy Davis, P.E.

Davis estimated the company had doubled its product lines since Spann was hired.



NEW WATER. Andy Davis, P.E., president of New Water Systems, left, poses with Lenny Baker of Riviera Utilities.

New Water Systems assists with top wastewater project

New Water Systems provided vendor services for a wastewater project that won a 2018 Top Project award at WEF-TEC, the Water Environment Federa-

tion's Technical Exhibition and Conference.

The project designed a cost-effective and reliable treatment system to replace an intermittent sand filter system for Riviera Utilities for the Diamondhead community near Hot Springs. That facility has struggled to meet effluent limits for pH, carbonaceous biochemical oxygen demand, and ammonia.

"The primary goal was to achieve compliance 100 percent of the time within the given budget," said Andy Davis, P.E., of New Water Systems.

The upfront total construction cost of \$624,056 was just 31% of what an activated sludge plant was estimated to cost.

Engineering services firm PMI recommended a two-stage treatment process featuring recirculating gravel media filters (RMFs) followed by Orenco AdvanTex AX100 textile media wastewater treatment systems. It would cost a third as much as other proposed treatment facilities and would reduce long-term operation and maintenance costs. It incorporated much of the existing infrastructure, which helped keep costs down.

Existing sand beds were reengineered to utilize a locally available washed, crushed rock that met media size and uniformity specifications.

Pressurized distribution laterals distribute primary treated wastewater over the entire filter bed. The laterals are fed by high head pumps in buried 30,000-gallon fiberglass recirculation tanks and are controlled by a timer.

The RMFs make up the first stage of treatment and are followed by four AdvanTex pods containing engineered tex-

tile fabric for second-stage, attached-growth biological treatment and nitrogen polishing.

Note: A version of this story originally appeared in Water and Wastes Digest.

FTN Associates adds two staff members, intern

FTN Associates has recently hired two engineers and a student intern to work in its Little Rock and Fayetteville offices.

Kapil Dhital is a water resources engineer. He has a BS in Civil Engineering from the Institute of Engineering, Tribhuvan University, and an ME in Civil Engineering from Lamar University in Texas. Dhital resides in Little Rock with his wife, Pratigya Dhakal.



Dhital

Kyle Templet (pronounced "Tomplay") is FTN's newest graduate civil engineer and works out of its Little Rock office. He's a Baton Rouge native who graduated from



Templet

Louisiana Tech University with a BS in Civil Engineering. He loves fishing and caught this 30-pound redfish in the Gulf pictured here.

Ross Hokett has joined FTN as a water resources/civil engineering student intern at its Fayetteville branch office. He is majoring in Civil Engineering at the University of Arkansas, Fayetteville and has a BS in Geology from Colorado State University. He also will be assisting FTN's geological field services team.

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Hoskett

Since receiving his BSME from UA in 2010, Ben has earned master's and doctorate degrees in Materials Science and Engineering from the Georgia Institute of Technology. He's served as a graduate research fellow with the National Science Foundation, co-authoring published studies on emerging energy storage technology and related research.



Rainwater

Ben has also taught systems engineering as an adjunct professor at UALR. A strong advocate for STEM education, Ben secured a National Science Foundation grant to begin development of an interactive waste treatment plant control room simulator for use as a STEM teaching module geared toward high school students.

Siblings Chuck, Trisha Champlin join ICM staff

Bruce McFadden, president and founder of ICM in Jacksonville, reported after several years of wanting Chuck Champlin to join the ICM team, it has finally happened. Champlin will be the leader in sales, rentals, repairs, and supplies of surveying equipment from the basic field supplies to GPS, robotics, and software.



Chuck Champlin

Champlin and his sister, Trisha Champlin, who specializes in personal protective equipment and forestry supplies, came on board April 2. They are provid-

In the News continues on page 14

Brown Engineers' Rainwater receives Early Career Award

Ben Rainwater of Brown Engineers received the University of Arkansas College of Engineering Early Career Alumni Award April 13 in recognition of exceptional professional and personal achievements within 15 years of graduation from the university.



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In the News (Cont'd)

ing services out of the company's Jacksonville location now but are in the process of operating from Murray Street just north of the 65th Street intersection. Inventories and services will be offered from near the location where they worked with their previous employer, Construction Safety Products.



Trisha Champlin

They will be offering all types of survey, construction, and safety products from the new location off 65th Street.

Zweig ranks Garver as best firm to work for

For a second consecutive year, and the third time in the last four years – Zweig Group has ranked Garver at the top of the Best Firms to Work For list of A-E consulting firms with 200 or more employees.

Garver CEO Dan Williams, P.E., announced the honor at the firm's Centennial Office Celebration at the Clinton Presidential Center June 5. Garver is celebrating its 100th year this year.

This is the sixth consecutive year Garver has been among the top three.

Zweig Group's Best Firms to Work For Award recognizes the top A-E consulting firms in the United States and Canada that "inspire their teams to perform at the highest levels" based on firm culture, workplace practices, employee benefits and retention rates, professional development, and other factors.

Garver's Williams named Business Exec of the Year

Garver CEO Dan Williams, P.E., was recently named Business Executive of the Year during the 31st annual Arkan-

sas Business of the Year Awards. Presented by Arkansas Business Publishing Group, the award is selected by a panel of independent judges following reader nominations.



Williams

At Garver in a variety of roles since 1982, Williams has led the 100-year-old company through an unprecedented period of growth. Garver has opened 16 new offices under Williams' leadership and now counts more than 600 employees in its 28 offices across 11 states. Under Williams, Garver has also enhanced its dedication to promoting STEM education initiatives, and has received accolades for workplace culture.

To celebrate 100th, Garver gives STEM grants to schools

Three Arkansas schools were among nine in 11 states awarded \$1,000 by Garver for their STEM programs through the Garver Chain Reaction Challenge.

To celebrate its 100th year in business, Garver provided 100 schools in the 11 states where it has offices with kits including wooden planks, balls and ramps. Forty-three of those schools are in Arkansas. These were used to create a Rube Goldberg-style chain reaction. Rube Goldberg contraptions ingeniously accomplish simple tasks using unnecessarily complicated methods.

Entries were judged by a team of engineers from Garver, and winning schools received an additional \$1,000 for their STEM programs (science, technology, engineering, math). The three winning Arkansas schools were Henderson Middle School in Little Rock, Butterfield Trail Middle School in Van Buren, and Russellville Middle School in Russellville.

North Little Rock-based Garver was formed in 1919 by Neal Garver and has grown to 600 employees in 28 offices in 11 states.

Garver had public versions of its Chain Reaction Challenge at the State Capitol Rotunda April 8, and at its Centennial Office Celebration at the Clinton Presidential Center June 5.

At the Capitol, students from eight Arkansas middle schools competed in the challenge. Beebe Middle School was the top school. Garver CEO Dan Williams said that event was meant to introduce students to engineering principles so they can consider it as a career field. The firm will employ almost 60 college interns this summer.

The event featured a short speech by Gov. Asa Hutchinson.

Regarding Garver's growth, he said, "That's called an Arkansas success story, but also it demonstrates that you can run the world from Arkansas, students."



STUDENTS try to knock down dominoes through the Garver Chain Reaction Challenge at the Clinton Presidential Center.

Garver's Kruger, Tate honored by UA

Two Garver water project managers were recognized recently by the University of Arkansas College of Engineering.

Kyle Kruger, P.E., based in Garver's Norman, Okla. office, was presented with the Early Career Alumni Award during the College of Engineering Alumni Awards event in April. Kruger also serves as an Arkansas Academy of Biological and Agricultural Engineers board member and assists the Department of Bio-



Kruger



Tate

logical and Agricultural Engineering as an academic advisor and guest lecturer.

Rusty Tate, P.E., based in Garver's Fayetteville office, was inducted into the Arkansas Academy of Biological and Agricultural Engineers, which provides support to the department and recognizes outstanding professionals in the field.

Pickering Firm announces new office in Little Rock

Pickering Firm, Inc. is opening a new office location in Little Rock.

This is the firm's seventh location after opening an office in downtown Jonesboro in 2015. The new office, located at 900 South Shackleford Road, will offer land development services in addition to the transportation and survey services Pickering now provides in the region.

The Little Rock location is led by Cara Martin, P.E., principal owner and a civil

engineer who has worked for Pickering her entire 25-year career.

Founded in 1946, Pickering is a full discipline firm specializing in facility design, civil engineering, surveying, transportation, and natural/water resources. The firm is headquartered in Memphis and has four offices in Mississippi.

RP Power promotes Ray as industrial generator sales pro



Ray

RP Power has promoted Kelsey Ray to be an industrial generator sales manager for its eastern Arkansas and western Tennessee sales territory.

The Heber Springs native earned her Bachelor of Science in Engineering Physics with a minor in Mathematics at Arkansas Tech University and acquired her Master of Business Administration from the University of Arkansas at Little Rock.

She joined RP Power in 2017 as a project engineer for the Oklahoma sales territory. During her time with RP Power, she has been a valued support team member of the Industrial Sales Department thanks to her organizational and communica-

tion skills. This experience has helped her make a seamless transition into the sales position at RP Power.

Crow Construction wins ABC Award for Blanchard project

Crow Construction's work on the Blanchard Springs Visitor Center Improvements won first place in the Associated Builders and Contractors (ABC) of Arkansas Excellence in Construction awards competition April 27 in the Federal Government/Military category.

Project Manager Eric Ryan and Superintendent John Dunn accepted the Eagle Award. The design-build project was delivered early and under budget.

The Ozark – St. Francis National Forest engaged Crow Construction to improve the Blanchard Springs Caverns' approaching roads, parking areas, and visitor center entrance. Crow engaged Crafton Tull as its design partner and developed a plan keeping visitor safety and pedestrian safety at the forefront during the design and construction process.

Crow President Brian Rohlman said, "We are extremely honored to be recognized by ABC Arkansas for our work on this design-build project, particularly at a time when an increasing number of clients are taking advantage of our design-build delivery method."



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ACEC/A Member Spotlight

Started with small, but now serving all

New Water Systems' niche was small systems, but now it serves medium and large ones, too

When Andy Davis, P.E., started New Water Systems in August 2003, he wanted the firm to be a manufacturer's representative serving decentralized wastewater treatment systems with small flows.

Sixteen years later, it's still filling that role but also serving medium and larger systems.

Davis said when he started the company, the industry was only beginning to specialize in products designed for small systems. Traditionally, engineers had tried to adapt processes and machines designed for larger flows. University engineering classes were geared toward municipal and industrial processes.

"Even though Arkansas is very rural, and there are hundreds if not thousands of these really small wastewater systems, very few people were really focusing on that," he said.

Davis developed an interest in those systems and products at the University of Arkansas, Fayetteville. After earning a master's degree in civil engineering, he worked for a private consulting firm. But he'd always had an entrepreneurial instinct, so he started New Water Systems as a supplier and consultant.

The firm originally did consulting where Davis would serve as the engineer of record. It now uses its expertise to serve clients as a manufacturer's representative.

Meanwhile, it's also serving medium and larger systems. It was the manufacturer's representative for a \$15 million Springdale Water Utilities biosolids drying facility project and also for the city of Ward's new wastewater treatment plant.

It now represents more than 40 manufacturers so it can offer the right solution for an application regardless of size. Davis estimates it has added more than 30 products over the last six years, and it has basically doubled its product lines in the first half of 2019. One catalyst has been the hiring of James Spann, a 22-year sales engineer veteran.



NEW WATER SYSTEMS PROJECTS

Top, the firm was a manufacturer's rep for a \$15 million Springdale Water Utilities biosolids drying facility. Left, it was a manufacturer's rep for a 1.5 million gallon per day wastewater treatment facility for the city of Ward.

Davis said the industry has changed in several ways since he founded the company in 2003. Manufacturer's reps are now expected to service more of what they sell. To meet that need, his staff of six includes three wastewater treatment plant operators. Meanwhile, manufacturers expect their reps to cover a region and not just a state. Now New Water Systems' territories include Arkansas, western Tennessee, northern Mississippi, north-eastern Texas and eastern Oklahoma.

Another major change, and testament to the company's growth, is its move to a location on Highway 300 south of Pinnacle Mountain outside Little Rock. The company has bought a two-acre site with an existing house that it's converted to offices, and it's built a warehouse and shop for stock storage and fabrication. An outdoor area will offer opportunities for get-togethers, fish fries and other events.

"We're basically an environmental company, and I think that area out there is just beautiful and more natural, and

that kind of fits our culture better and it'll help give us daily reminders about why we do what we do," Davis said.

Davis was elected as a state representative in 2012. Since then, he's made his mark. He recently was the lead sponsor of a government transformation bill reducing the number of state agencies from 42 to 15. The bill was among Gov. Asa Hutchinson's highest priorities.

To pass this 2,000-page bill, Davis broke it down into 16 smaller bills for legislative and public review. Legislators then easily approved Act 910.

Davis said his engineering education and experiences helped him through that process. Breaking the bill into 16 pieces made it "almost like a design-build project."

"I think that I've definitely learned how valuable an engineer can be in the political process because engineers are trained and are able to solve problems aside from emotion and think in terms of systems rather than absolutes," he said.

Gavel passed, top engineers named

ASPE prepared for new leadership and honored its Engineer of the Year and Young Engineer of the Year at the ASPE Annual Awards Luncheon April 12.

Fred Harper, P.E., Michael Baker International, ASPE's president, ceremonially handed the organization's leadership to Jim Vetter, P.E., ASPE president-elect.

Meanwhile, the organization honored its Engineer of the Year, Newton White, P.E., founder and president of Instrument & Supply, Inc. It also honored its Young Engineer of the Year, Tyler Avery, P.E., of Mid-South Engineering. The two are profiled on pages 18-21 of this magazine.

The awards were presented by Zia Yasrobi, co-founder of Jackson, Wyoming-based Y2 Consultants.

Also recognized were this year's graduates of the Emerging Leaders program.



EMERGING LEADERS. ACEC/A and ASPE each year offer an Emerging Leaders class for design professionals to learn "soft" skills such as management and communication. This year's graduates included, from left, Tyler Avery, P.E., Mid-South Engineering Company; Michael Welch, McGeorge Contracting Company; Erin Needham, Ph.D., E.I., Olsson; Jared Parr, P.E., Garver; Justin Carney, E.I., Michael Baker International; Jacob Gillip, P.E., McClelland Consulting Engineers; and Charles Cullen, P.E., Garver. Not pictured are Daniel Goad, P.E., S.E., Garver; and Dustin Riley, P.L.S., CEI Engineering Associates.



CHANGING OF THE GUARD. Incoming ASPE President Jim Vetter, P.E., Olsson, right, presents a plaque to ASPE President Fred Harper, P.E., Michael Baker International, in appreciation for his service.

Young design professionals learn skills such as public speaking and business management during the annual course.

Five engineers were inducted into the Order of the Engineer: Michael Welch, McGeorge Contracting Company; Jared Parr, P.E., Garver; Justin Carney, E.I., Mi-

chael Baker International; Jacob Gillip, P.E., McClelland Consulting Engineers; and Charles Cullen, P.E., Garver.

The Order fosters integrity and a sense of pride in the profession. Inductees wear a stainless steel ring on the fifth finger of their working hand.



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THIRTY-NINE YEARS IN BUSINESS. Newton White's Instrument & Supply started with just him, a technician, and two silent partners, and his first year's salary was \$8,000. Now it has about 40 employees covering 11 states.

White is ASPE Engineer of Year

Started Instrument & Supply because he saw a need for better service after the sale

By Steve Brawner
Editor

Some engineers know they'll enter the profession starting in their childhood. They were good in math, and they liked to build things. Others decide when they get to college.

For Newton White, P.E., this year's ASPE Engineer of the Year, the marriage was sort of arranged – by his father, David Newton White Sr., on the family's Grant County farm between Sheridan and Pine Bluff.

"We were out digging sweet potatoes, he and I one day, and he just out of the blue said, 'I want you to go to the University of Arkansas and be an engineer,'" White recalled. "And I said, 'OK.'"

White, 68, shared that memory from the corporate office of Hot Springs-based Instrument & Supply, Inc., the company he founded 39 years ago that sells water and wastewater products from about 50 manufacturers in 11 states.

At the time, White was a sophomore at Sheridan High School and the youngest child with five older sisters. The family made a living on the approximately 300-acre farm, about 40 acres of which was dedicated to sweet potatoes. His dad wanted him to have a different life.

"I didn't even know what an engineer was at the time, but ... I guess he had read or heard that engineers did OK," White said.

After graduating high school in 1969, White enrolled at the University of Arkansas. He started out as a mechanical engineering major but then moved to civil engineering. One of his professors, Dr. Walter LeFevre, once remarked

that farm boys make the best engineers. White graduated in 1974 and then stayed in college to earn his master's degree.

His first job involved working for a geotechnical engineering firm in Denver, but within a year his wife, Linda Kaye, was ready to come home to Arkansas. His graduate school classmate, Keith Matthews, P.E., now a vice president at B & F Engineering, told him about a job opening at Affiliated Engineers, a now-defunct firm in Hot Springs, so that's where he worked for about three years. Then he helped build small water and wastewater plants for J.D.J. Construction for a couple of years.

He decided to start Instrument & Supply after noticing that few suppliers had engineering backgrounds, and their service after the sale was often unsatisfactory.

"There were people in the business, but in my opinion there was room for

improvement, and so we tried to be that firm, and now all the firms, our competitors, we're all pretty good," he said with a laugh.

White opened for business in January 1980 the day before turning 29. The company began with just him and a technician, along with two silent partners whom he bought out after a couple of years. The first year he made only \$8,000, which increased to \$15,000 the next. But Linda Kaye made decent money as a schoolteacher, so starting his own firm wasn't particularly scary.

"I was fairly newly married," he said. "We didn't have any children. Didn't really owe any money. So it wasn't really taking a big risk for me. My wife was working, had a good job, so it wasn't that big of a deal for me."

The initial plan was to focus on water and wastewater plant controls – the "instrument" in the company's name. But it quickly started selling other equipment, and now it sells almost anything found in a plant. Technicians build the control panels and perform light fabrication work. They also build out supervisory control and data acquisition (SCADA) systems. White estimated the firm does 98 percent of the after-sale field service for its products.

Revenues average \$10 million to \$16 million annually. The company serves Arkansas along with Mississippi, Louisiana, Tennessee and Oklahoma. It also has an office in Longmont, Colorado, is-



WEST, which is its hub for six Western states: Montana, Idaho, Wyoming, Colorado, New Mexico and Utah. About 30-35 people work out of Hot Springs, about six work out of Longmont, and the firm has one employee each in Montana and Idaho. Five engineers work for the company, including Paul Selig, P.E., a vice president at the Hot Springs location. Many employees have remained with the company many years. The service manager, Kevin O'Neal, started as a welder coming straight from vo-tech school. Eight employees in recent years have retired after long careers with the company.

"I don't hire people sight unseen," White said. "We have to have recom-

mendations from other people that they know, and we like to check them out pretty good."

White served as ASPE state president in 1985-86 and held other offices. During his time as an officer, the association successfully lobbied for an Arkansas state law requiring a college degree from an accredited program to become a professional engineer. Until then, the designation could be achieved through experience alone.

It was, he said, "highly controversial. Some very prominent engineers in the state didn't go to an accredited program." But those who had already earned their license were allowed to keep it.

Outside of the office, White lives a full and active life. He and Linda Kaye adopted two children: Emily Chase, who joined the family when she was a day old, and Matthew Cooper, whom they adopted when he was about six days old.

"We always wanted children," he said. "We just never could have any. And then an opportunity came up with our daughter, and my lawyer friend asked me, 'Would you be interested?' And I said, 'Well, yeah.' I didn't even ask my wife. She found out later."

Emily died in a car accident when she was 16, and her memory is kept alive with photos at the office. Cooper, 27, is a salesman at Instrument & Supply. According to White, "He's got a really, really good salesman's personality."

Continues on next page

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White is active in The Catholic Church of St. John the Baptist and the Knights of Columbus. He's proud of that group's support for the Change Point Center, a crisis pregnancy center offering services to encourage expectant mothers to complete their pregnancies to term. The Knights helped raise \$28,000 for an ultrasound machine that allows women to see the babies they are carrying. In 2001, he carried the Olympic torch on a leg through Hot Springs on its way to the Winter Olympics in Salt Lake City.

He and Linda Kaye have visited all 50 states and numerous countries. They've

been to Europe "probably 13 or 14 times," Jerusalem a couple of times, China and Australia.

When he was younger, he traveled the country doing whitewater canoeing. Now he does more whitewater rafting. He's been to the Grand Canyon twice in the last four years for 21-day trips down the Colorado River. They have scuba dived in the Solomon Islands, Fiji, Hawaii, Indonesia and the Caribbean. At the famous Great Blue Hole off the coast of Belize, White swam to a depth of 142 feet. He "wanted to go down there and swim among the stalactites. And it's quite an

experience. Sharks everywhere down in that hole. Reef sharks."

White's travels have increased his pride in his work as an engineer in the water/wastewater products industry. He's found that outside of the United States and Canada, there aren't many places where it's safe to drink water out of the tap. So regardless of the reason his dad wanted him to be an engineer, it worked out for the best.

"I've always enjoyed good people to work with, and I don't know," he said. "The Lord gives us opportunities. All we've got to do is take them."

Avery is Young Engineer of the Year

Played major role in Dierks Weyerhaeuser sawmill that won ACEC/A Grand Conceptor

The ASPE Young Engineer of the Year likes building big.

Tyler Avery, P.E., 28, majored in structural engineering at the University of Arkansas because he wanted to design large projects. After graduating in May 2012, he moved to Hot Springs to work for Mid-South Engineering. The company specializes in large building projects for wood products, biofuels and bioenergy clients.

Even though he had no experience with that sector, he had chosen structural engineering because he wanted to work on large projects, and that's what he started doing. At Mid-South a team of 6-10 individuals regularly designs \$150 million facilities.

After working on a few small projects, he helped design a ceramics proppants plant for Saint-Gobain in Saline County. Its hydraulic fracking products hold open cracks in the earth to allow natural gas to flow. The \$125 million project was a great learning experience for the young engineer, as he dealt with contractors and owner's representatives and learned about conflict resolution.

"I tell people that I learned more in those 10 months than I did in four years of engineering school," he said. "It was a wonderful opportunity to see firsthand ... what the implementation of the designs looks like in the field and the chal-

lenges that come up and how to overcome those challenges and ways to improve our designs so that they're more constructible and easier to build."

Avery began working in 2014 on the project that would earn him and his firm the Grand Conceptor at this year's ACEC/A Engineering Excellence Awards. A \$190 million Weyerhaeuser sawmill in

Dierks will produce up to 388 million board feet annually. Built with 45,000 cubic yards of concrete and more than 1,500 tons of structural steel, it's one of the nation's largest Southern Yellow Pine facilities. The project required moving 750,000 yards of dirt to level a hillside on a 100-acre site. The facility's floor height was 50 percent higher than a conventional lum-



ALREADY MAKING HIS MARK. Avery is a group manager at Mid-South Engineering and also served this past year as president of ASPE's Hot Springs chapter.

ber mill. The support structure and walls don't go to grade, instead stopping 18.5 feet above the ground. He was the engineer of record for the phase II concrete and structural steel work.

Avery is now the group manager in the firm's structural engineering department. John Westerman, P.E., the firm's group manager of solid wood products, said, "Tyler has definitely established himself as a professional engineer in both the design aspect as well as leadership in the profession. ... He was instrumental in leading the steel and concrete design for our Dierks Sawmill Project, where over 1,500 tons of steel and 45,000 cubic yards of concrete were designed and installed, and he continues to lead our department with our current workload. Tyler has a good understanding of both design and construction, he works hard, and he communicates well with our staff, our clients, and contractors."

Avery is actively involved in the ASPE, serving as president of the Hot Springs

chapter this past year. He became involved in 2014 when co-worker Rob Bullen, P.E., told him the chapter needed a secretary. From there he eventually moved to president. He's glad he became active.

"Being involved in ASPE has allowed me to meet lots of great engineers and other individuals that I would not have otherwise met and made a lot of good connections that could be important," he said.

Like other professional and community associations, ASPE faces membership challenges. Avery believes engineers need to understand the association's tangible benefits, including professional development hours as well as its efforts to protect their licensure. If millennials like him better understand ASPE's benefits, they'll use technology to spread the word.

"Without ASPE and without the leaders being active in ASPE, nothing's a guarantee in terms of our licensure," he said. "It is under attack, and it's a good

feeling knowing that we have strong leadership in place that's going to continue fighting for that."

Avery, who grew up in Rogers, knew throughout much of his childhood that he would be an engineer. As a student he had been geared toward math and science classes, and he had been inspired by his grandfather, Jim Alford, a civil engineer who owned Alford Engineering Company in Hot Springs and also Southwest Testing Laboratories. He later sold that business and became an expert witness and consultant.

One of Alford's brothers also was a civil engineer, while another was a chemical engineer.

"Growing up, my grandfather in particular was a huge inspiration to me just because he always seemed to just enjoy working so much," Avery said. "He never really retired, truly. ... Seeing how much he really enjoyed his career compared to others just was something that made me think there must be something here."

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BXS' Estes: Avoid email's deadly 'sins'

Otherwise, your company may pay a hefty price. Instead, take 10 'heavenly steps.'

By Steve Brawner
Editor

Can accepting an invitation to lunch cost a company \$375,000? It might if it violates one of the "seven deadly sins of email."

That story was one of several shared in a presentation by Ken Estes, senior vice-president and risk consultant at BXS Insurance, at the ASPE Annual Conference in Hot Springs April 12. It was based on a course created by XL Catlin, an insurance provider serving engineers and design professionals.

The engineer who cost his company \$375,000 was guilty of thoughtlessness, one of the seven deadly sins along with self-criticism, blaming, complaining, using colloquialisms, self-indulgence, and giving too much information.

A design professional engages in thoughtlessness by blathering, rambling and providing an immediate response before considering what the email is communicating.

In the above case, a client asked in an email to substitute a valve and then concluded by writing, "Please confirm that we can make the change and let me know if you are free for lunch Thursday."

The engineer's response was simply "yes" – referring to lunch. The sender took the response as an approval to change the valve. That argument held up in court, costing the engineer's company \$375,000.

"How about, 'Let me check on the substitution, and yes to lunch?'" Estes said. "Answer both questions. But in today's world, we get so many emails that we rifle through them, try to get rid of things quickly."

Thoughtlessness and the other six deadly sins can cost an engineering firm because all emails are discoverable in a claim. All of them can reveal damaging information and implicate an engineer, rightly or wrongly.

An engineer engaging in self-criticism can inadvertently strengthen a plaintiff's case.

Don't do be guilty of these

1. Thoughtlessness
2. Self-criticism
3. Blaming
4. Complaining
5. Using colloquialisms
6. Self-indulgence
7. Giving too much information

Instead, do these

1. Know your purpose
2. Strong subject line
3. Bottom line up front
4. One topic only
5. Edit, edit, edit
6. Be concise
7. Clear ending
8. Proofread
9. Nothing private or incriminating
10. Ask if the email is necessary

So can an engineer who is blaming others or covering his backside. In one internal email, an engineer wrote, "I have reviewed the design for your request. I have some concerns, but, because of the short time you allowed me, couldn't review it as thoroughly as I normally do, so go ahead and fix the corrections I made in red and get it out for bid." In a lawsuit, the defense had argued that the firm had followed guidelines and risk management practices, which that email then called into question. It led to a six-figure settlement.

Estes further warned attendees about complaining in an email and against colloquialisms, or writing the way you talk. Writers should rid their emails of slang, qualifiers, adjectives and filler words that serve no purpose, such as "kind of." Instead, be specific and direct. Avoid self-indulgent opinions, speculation and exaggeration, and don't share too much information.

Estes followed his seven deadly sins with his "10 heavenly steps." Those were:

- Know your purpose. Why are you sending the email, and who is your audience?
- Have a strong subject line that includes the email's key message and com-

pels the recipient to open it. Estes advised attendees to start a new email chain for each new subject rather than replying to an old email.

– BLUF, or emphasize the bottom line up front. State the intent within the first two lines, and write the conclusions and recommendations at the email's beginning, not the end. In journalistic terms, don't bury the lede.

– Write about only one topic – the issue, idea, decision, request or question.

– Edit, edit, edit.

– Be mindful of red flag words and those that communicate multiple meanings, extremes and absolutes. "You don't want words that are going to tie you to a higher standard of care than what you're already held to," he said.

– Be concise. Use short sentences, and make emails easy to scan.

– Have a clear ending.

– Proofread. Read the email from a recipient's point of view, and use a spell check. An attorney told Estes he reads his emails out loud before sending them.

– Don't write anything private or incriminating in an email, because nothing is confidential except what is written between an attorney and his client. Consider whether it's necessary to "reply all."

– Finally, the litmus test: Ask yourself if you really need to write the email at all. Will it surprise the recipient? Would it be better to write the email when you're less emotional? Would you be comfortable receiving this email, or delivering it face-to-face, or reading it aloud while sitting on a witness stand?

"If you go through all that and you're still uncertain about it, don't send it. Use your draft email as talking points for your conversation with your client," Estes said, reminding the audience that draft emails are discoverable in a claim as well. He said the phone can be a more appropriate, constructive and efficient way of doing business.

Finally, Estes warned recipients not to use text messages for business. Don't text requests for changes, approvals for changes or revisions, resolutions to problems, or sensitive project information. When you do text, follow email best practices, or follow up with an email.



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