

June 2022



Formerly Arkansas Professional Engineer

# Building Arkansas

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



**B & F** ENGINEERING



## Engineer of the Year

Keith Matthews, P.E., has spent almost 50 years in the profession, and he's not quite done working at B & F Engineering, a Division of Crafton Tull. He was recognized as the 2020 Engineer of the Year at the ASPE Annual Conference, the first held in person since 2019.

Also inside: Dr. Erin Needham, P.E., of Olsson is the ASPE Young Engineer of the Year for 2020.



# Women engineers no longer a novelty

Needham, Tiner and others showcase women's rising role in engineering profession

Speaking as a female non-engineer who works with a lot of engineers, this magazine is a great way to publicize the growing presence of women in our industry.

Be sure to check out the story about Olsson's Dr. Erin Needham, P.E., the ASPE Young Engineer of the Year for 2019-20.

Needham earned her Ph.D. in civil engineering coming out of college and has already made a big impact on her industry in five years. Her work has included the expansion of the Prairie Grove Wastewater Treatment Plant, which involved a lot of infrastructure in a tight space. She's currently working on a seven-mile, 60-inch treated water pipeline for the Beaver Water District in Northwest Arkansas.



**Angie W. Cooper**  
Executive Director

While Needham is a rising star in the engineering industry, Garver's Nicci Tiner, P.E., PTOE, is already there. She recently became the first female president of the Arkansas Academy of Civil Engineering in its 42-year history. She became Garver's first female partner and owner in 1998.

Other female engineers are mentioned in this magazine – including Mary Fair,

P.E., with Garver, who is listed as an ASPE State Director; Dr. Judy Cezeaux, dean of the Arkansas Tech University STEM College; Jasmine Harris of Aerojet Rocketdyne, who participated in the Order of the Engineer ceremony at the ASPE Annual Conference in April; and Crafton Tull's newest P.E., Ali Karr.

We're long past the point where engineering is a male-only profession. But it's still a male-dominated one.

But even that much is slowly changing. There's no reason women can't succeed in a profession whose main requirements are integrity, careful study, discipline, focus and attention to detail.

As much as I've enjoyed working with all of my male ACEC/A and ASPE presidents, I know it won't be long before one of them will be handing the gavel to a woman.

We'll put her on the cover of this magazine, of course.

## A holistic approach drives successful outcomes.

New federal funding opportunities can revamp transportation infrastructure across Arkansas, but securing these dollars requires strategy and planning. Working with a partner who understands infrastructure holistically — from planning to design and construction — leads to successful outcomes. Read the blog at

[burnsmcd.com/BuildingArkansasQ12022](https://burnsmcd.com/BuildingArkansasQ12022).

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**Crafton Tull**

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Keith Matthews's most recent major project was the downtown Majestic Ballpark, a collection of five artificial turf baseball fields located in the same place where Babe Ruth and other baseball greats had spring training during the first half of the 20th century.

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After almost five decades in engineering that included helping create Hot Springs' Majestic Park, Keith Matthews, P.E., has a few projects to wrap up before retiring.

### 22 **Young Engineer of the Year: Needham an emerging leader**

Olsson engineer enjoys the profession, working with people, and understanding how the world works.





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helped bolster a local economy.

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# Where do we go from here?

This is my final article for Building Arkansas. I can't believe I only have two months left as president of ACEC/Arkansas. They say that time goes faster as you get older, and this year was no exception. I turned 50 in April, and I wonder if that will be a springboard for hitting ludicrous speed or even going plaid. (That's a "Spaceballs" reference for the younger generations.) Perhaps hitting hyperspace would have been a more current reference.

Being this is my last article, I wanted to write about something really important to our industry: How do we attract engineering and design talent to the Natural State? That's the \$50,000 question.

I believe there are a few ways to accomplish this. One option is to work with the various agencies to offer incentives to get people to move here, and ACEC/A is doing some of that. This is a good thing, and the company I work for, CEI Engineering Associates, Inc. (CEI), has benefited from these programs. Like many companies, we've acquired talent from other states. In some cases, we've hired folks moving out of high-tax, high-regulation states looking for a better life in Arkansas, and they've chosen a great place to live. But I think there's an even better way to grow the talent pool here at home.

Most companies make it a point to attend college and career fairs. That's an important task, but those students already have decided to enter this field, so CEI has been doing more at the high school level. I've been with the company for almost 12 years, and aside from the covid years, we've participated in the job-shadowing program with Bentonville High School (BHS). This gives us an opportunity to show students what it's like to work a day or two as an engineer or designer.

I encourage all companies that participate in these programs to make that day fun and memorable for these students. Engage with these kids and find out what makes them tick. Take them to lunch.



**Steve Pawlaczyk, P.E.**  
ACEC/A President

Don't view this as a chore; seize this opportunity to impact the next generation of workers! This applies to all internships as well. Whether or not these individuals opt to go to an engineering school is not a choice for us to make, but these kids will be talking to others about their experience, and I want them to paint a good picture of the engineering industry to their friends.

Recently, CEI hired a few high school students to work part-time during the school year. BHS has programs that allow students to get school credit for working in lieu of attending some class periods. One individual is working full time and doing classes online. At the start of his internship, this individual just knew that he wanted to go into engineering but not necessarily civil engineering. Now, he's decided to pursue a civil degree after high school. Other schools have similar programs. This gives our company an opportunity to influence and develop the next generation at an earlier level. Like our BHS intern at the start, many of these kids are undecided about a specific engineering discipline, but we can show them how exciting and rewarding it is to be in civil engineering. Back in the 1900s, when I told my high school classmates that I was going to school to become a civil engineer, most kids had never even heard of civil engineering. Now, we get to expose these kids to a field they may not know exists before they make any college decisions.

Another opportunity is to go directly to the schools to talk about our field with these kids. Teachers are looking for professionals to talk to their students about the real world, and this is a great opportunity for us to educate them about what we do for a living and how we make the world a better place. No one travels anywhere without experiencing something influenced by an engineer. My wife and I were asked to do mock interviews with

*Please see ACEC/A on page 8*

## ACEC

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Steve Pawlaczyk, P.E.  
CEI Engineering Associates, Inc.  
3108 SW Regency Parkway, Suite 2  
Bentonville, AR 72712  
800.433.4173

### **President-elect**

Jerry Holder, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

### **Secretary**

Paul Crawford, P.E., P.G.  
FTN Associates  
3 Innwood Circle, Suite 220  
Little Rock, AR 72211  
501.225.7779

### **Treasurer**

Jerry Kelso, P.E.  
Crafton Tull  
10825 Financial Centre Parkway #300  
Little Rock, AR 72211  
501.664.3245

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Mike Foster, P.E.  
Pickering  
317 South Church Street  
Jonesboro, AR 72401  
870.336.0117

### **State Director**

Lawren Wilcox, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

### **State Director**

Andy Davis, P.E.  
Jack Tyler Engineering  
6112 Patterson Rd.  
Little Rock, AR 72209  
501.562.2296

### **National Director**

Matt Crafton, P.E.  
Crafton Tull  
901 N. 47th St., Suite 400  
Rogers, AR 72756  
479.636.4838

### **Immediate Past President**

Steven Beam, P.E.  
Burns & McDonnell  
6815 Isaac's Orchard Road, Suite B3  
Springdale, AR 72762  
479.725.5460

### **Executive Director, ACEC/A & ASPE**

Angie W. Cooper  
ASPE and ACEC/A  
P.O. Box 24902  
Little Rock, AR 72221





**Arkansas Society of  
Professional Engineers  
Officers 2021-22**

**President**

Travis Tolley, P.E.  
Crafton Tull  
10825 Financial Centre Parkway #300  
Little Rock, AR 72211  
501.664.3245

**President-elect**

Kale Farmer, P.E., CFM  
FTN Associates  
124 W. Sunbridge Drive, Suite 3  
Fayetteville, AR 72703  
479.387.0848

**Secretary-Treasurer**

Tyler Avery, P.E.  
Mid-South Engineering  
1658 Malvern Avenue  
Hot Springs, AR 71901  
501.321.2276

**State Director**

Mary Fair, P.E.  
Garver  
4701 Northshore Drive  
North Little Rock, AR 72118  
501.376.3633

**National Delegate**

Brad Peterson, P.E., CFM, LEED AP  
Crafton Tull  
10825 Financial Centre Pkwy, Suite 300  
Little Rock, AR 72211  
501.664.3245

**Past President**

Daniel George, P.E.  
B&F Engineering  
928 Airport Road  
Hot Springs, AR 71913-4618  
501.767.2366

**Building Arkansas**

**Editor & Publisher**

Steve Brawner  
Steve Brawner Communications  
501.847.7743  
brawnersteve@mac.com

**Executive Editor**

Angie Cooper  
awcooper@arkansasengineers.org  
ACEC/A - ASPE  
P.O. Box 24902  
Little Rock, AR 72221  
Office 501.912.4099  
arkansasengineers.org

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# ASPE needs involvement, recruitment for success

It may be a bit cliché, but I'll say it anyway – this year has flown by! I can't quite believe I've reached the end of my term as president of the Arkansas Society of Professional Engineers. I've enjoyed every aspect of this position, and I'm so humbled to have had the opportunity to lead and work alongside our wonderful board for our profession.



**Travis Tolley, P.E.  
ASPE President**

This year has felt almost normal. As we've begun to move past covid and return to in-person meetings, I've enjoyed watching our organization come back to life with vibrant networking opportunities. I've always felt that seeing other professionals face-to-face has been one of the biggest benefits of membership of ASPE.

When we gathered in Hot Springs for our first in-person state meeting in three years, it felt like an invaluable membership benefit had been reactivated. It was a fantastic opportunity to mingle and reconnect after a long virtual hiatus. I must say that seeing our engineers and other leaders from around our state come together to discuss the important aspects of the industry was a highlight of my tenure as president. I truly enjoyed the opportunity to assist with the event, introduce speakers, and take part in as many informational sessions as possible.

Speaking of membership benefits, I encourage you to take advantage of all of the benefits offered through the national arm of the organization.

A great example of this is the recently launched NSPE webinar series that is free for all of our members. WORKability Wednesdays began in April and aims to support members in their professional development and improve "workability" by increasing competencies and learning about topics impacting the industry. This series continues through this month, so if you haven't taken the opportunity to sit in on a session, I encourage you to do so.

I also want to point out that NSPE offers the opportunity to gain professional

development hours for free. These courses can be taken online, which allows us to participate with minimal interruption to our typical schedules. This is a benefit of the organization that I don't think gets enough attention. Take advantage! Set up an online account on NSPE.org and see the re-

sources national has to offer. And tell others about this opportunity as well.

I'll soon be passing the president's gavel to FTN's Kale Farmer, P.E., who is a great engineer and person and who I believe will be an excellent leader for this organization. As I take on the coveted position of past president, I want to remind everyone that your involvement in ASPE is essential. Without you, there is no ASPE. But as with any other volunteer organization, you only get out of it what you put in.

In the coming months, I hope you will all continue to be dedicated to ASPE and help to inspire your colleagues to get involved as well. We must continue to grow the society and help to ensure that professional, practicing engineers have the same opportunities through the organization that we all enjoy. Volunteer to serve as a chapter officer; offer to help with a scholarship fundraising event; help identify speakers for lunch meetings. There are so many ways to serve. You won't regret taking on a more active role in this great organization. I know I will always wear "past president of ASPE" as a badge of honor.

Please remember that there are young, new engineers entering the workforce every day, and these are the individuals that will eventually be responsible for the security of our profession. We want to ensure that each of those individuals are equipped with all the tools they need. ASPE offers just that. Thank you all for the work you've put into the organization this year. I am encouraged by what I see, and I can't wait to see the organization continue to grow. It's been an honor to serve as your president.

## ACEC/A

*Continued from page 6*

students from Bentonville West High School. This was not specific to engineering, but no one told me that I couldn't give a plug for my industry. Use these interactions to your advantage!

Keep in mind that this is not limited to high school students. I was recently in Washington for the ACEC Annual Convention. Growing our workforce was discussed in several sessions. One speaker said that in order to influence minorities and women, we must start at the elementary school level. Get involved with students in their local communities to make sure they are aware of the engineering industry and the wide range of opportunities they would have to make this world a better place if they choose this field.

Remember, we must make these interactions with students fun and memorable for them to choose our industry out of the thousands of possibilities they have to make a career.

It's time to wrap up my final article. I'll still be on the ACEC/A board for another year as immediate past president, but my tenure on the board is winding down. I hope these articles have at least given you something to think about and challenged you to make a difference in this world. God bless!

## — In the News —

# Garver's Tiner to be first female AACE president



Garver Transportation Planning and Traffic Team Leader Nicci Tiner, P.E., PTOE, was recently named president of the Arkansas Academy of Civil Engineering, making her the first woman to be named to the position in the Academy's 42-year history.

A 1988 graduate of the University of Arkansas, Tiner has worked for Garver since 1991. In that time, her impact on the transportation industry can be defined by many other firsts. In 1998, she became the first female partner and owner at Garver, chosen

based on her performance and proven leadership. In 2009, she became the first professional operations engineer in Arkansas.

In addition, her Transportation Planning and Traffic Team became one of the fastest growing areas in the company. She has overseen more than 300 signal design projects throughout the Garver footprint, including a 285-mile corridor study in Arkansas from the Oklahoma state line to the Missouri state line.

"Don't let anybody tell you that you can't do it," Tiner said. "When I was growing up, nobody said I couldn't do it, so I just assumed I could."

In addition to Tiner being named president, Garver Bridge Team Leader Jason Langhammer, PE., and Construction Services Team Leader Shannan McGarrah were each inducted into the 2022 class of the Arkansas Academy of Civil Engineering.



McGarrah



Langhammer

## Garver moves up to 102 in ENR Top 500 rankings list

Garver has reached another all-time high, number 102, in the Engineering News-Record's annual list of Top 500 Design Firms.

"Continuing to rise in the ENR ranking is a testament to the excellence of our people and the trust our clients have in us,"

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Tel: 901.322.8082  
Fax: 901.322.8083  
matthew@etec-sales.com

**ARKANSAS**  
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said President and CEO Brock Hoskins, P.E. "We're proud Garver has continued to rise through the rankings every year for the past decade and a half, overwhelmingly through organic growth."

ENR bases the ranking on design revenue from 2021. Garver has continued to grow in the first half of 2022 with the completion of major projects, the hiring of new talent, and the opening of new offices in Florida and Georgia.



**NEW AACE MEMBERS.** Halff's new Arkansas Academy of Civil Engineering members are, from, left, James Arbuckle, P.E., Mark Rickett, P.E., and Brian Vines, P.E.

## Halff engineers inducted into Arkansas Academy

The Arkansas Academy of Civil Engineering (AACE) gathered in person for its annual meeting for the first time since 2019, and three engineers from Halff's Little Rock location were among the inductees.

During the April 8 ceremony, attended by faculty, staff and students from the University of Arkansas – Fayetteville, the AACE recognized new members from 2020, 2021 and 2022.



Halff's Public Works Team Leader Brian Vines, P.E., was included in the class of 2021. The class of 2022 included Halff's James Arbuckle, Sr., P.E., who serves as the senior vice president and operations manager of the Little Rock office, and Mark Rickett, P.E., water resources team leader.

The academy supports civil engineering students through mentorships, fundraisers and networking events. Sitting members nominate candidates who meet the criteria and demonstrate exemplary accomplishments throughout their careers.

## Halff breaks into ENR's top 100 on its list of firms

Halff advanced five spots – to No. 97 from No. 102 last year – on Engineering News-Record's list of the Top 500 Design Firms for 2022.

The list, published annually in April, ranks the 500 largest U.S.-based design

firms, publicly and privately held, based on design-specific revenue.

"We are proud to be in the ENR Top 100," said Halff President and CEO Mark Edwards, P.G. "Our ascension is attributed directly to the hard work of everyone at Halff."

## Kreimeyer joins Halff's staff as project manager

Samuel Kreimeyer, P.E., has joined Halff as a public works project manager in the Little Rock office.

He brings design consulting experience in Arkansas, Oklahoma and Texas, as well

as experience in municipal public service as a floodplain manager and design review engineer. In the past five years, he has worked on FEMA flood mitigation grant applications and project development, street and drainage projects, flood and drainage studies, linear water projects for water agencies, oil and gas pipeline projects, oil and gas well surveys and topographic surveying projects.



**Kreimeyer**

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Kreimeyer earned his B.S. in Mining Engineering from the Colorado School of Mines and is a licensed professional engineer in Arkansas.

Public Works Team Leader Brian Vines, P.E., said, "We are beyond excited to have Sam join our team. His experience and enthusiasm contribute greatly to helping build our footprint in the state."

## CEI's Oppenheim retires; Bachelor takes over role

Tom Oppenheim, P.E., retired from CEI Engineering March 31. Nate Bachelor, P.E., was promoted to take his place as the Local Development Department manager.

Oppenheim joined CEI in 2013 as a project manager in the Local Development Department. Promoted in 2015 to the role of department manager, Op-



**Oppenheim**

penheim led his team to significant growth while completing unique projects throughout Northwest Arkansas. During his tenure and under his guidance, several department members were promoted to lead new departments within the company.



**Bachelor**

A drop-in reception was held at CEI's headquarters to congratulate him and invite past and current collages to share their well wishes.

Bachelor joined CEI in

2005, after graduating from the Missouri University of Science & Technology with a degree in civil engineering. He began his career at CEI working in the Commercial division, where he developed projects across the country spanning sectors that included large retail, mixed-use

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## In the News (Cont'd)

development, restaurants, and fueling stations.

Bachelor moved into the Local Development Department more than seven years ago and has been instrumental in improving the lives of Northwest Arkansas residents by growing and developing the surrounding communities. His projects include the Crystal Bridges Museum of American Art expansion, Aurora Subdivision, Hershey's Bentonville office, J.B. Hunt Technology Building, Crystal Flats, and the Momentary parking garage. His Railyard Park in Rogers recently won the ACEC/A's Grand Conceptor Award for outstanding engineering achievement.

He has served as CEI's United Way in-house coordinator for more than 10 years, is a CEI board member, and was a member of the Northwest Arkansas Business Journal's Forty Under 40 in 2015. He formerly served as a member of the Benton County board of appeals.

## MCE's Krishnan, Bakunas finish leader programs



**Krishnan**

Two McClelland Consulting Engineers employees recently graduated leadership programs, while two more celebrated work anniversaries.

**M a n e e s h Krishnan, P.E.,**

the assistant Transportation Department head in MCE's Little Rock office, just completed the Leadership Greater Little Rock program, which is aimed at developing a network of competent leaders for present and future community needs.



**Bakunas**

Chris Bakunas, PLA, ASLA, a senior project manager from MCE's Fayetteville office, is wrapping-up his time with Leadership Fayetteville. This program exists to create a foundation from which its graduates can further expand their involvement within the Fayetteville community.

Bakunas' leadership journey was extended due to covid. He has spent a good portion of the past two years completing the program, first virtually and then in-person.

Meanwhile, Brin Nirenberg celebrated being a part of McClelland Consulting Engineers' drafting team for 30 years,



**THIRTY YEARS.** MCE's Brin Nirenberg, left, stands with Dan Beranek, P.E., president.

serving many of those as the firm's chief draftsman, on March 13.

On April 23, MCE celebrated the 15-



**Triche**

year anniversary of Adam Triche, P.E. Triche is a partner and senior project manager with the Water/Wastewater Department in the Little Rock office.

Triche has overseen the completion of projects for numerous municipal and institutional clients including master planning of wastewater facilities, sewer collection and treatment system evaluations, inflow/infiltration evaluations, and sanitary sewer rehabilitation programs.

MCE recently hired four individuals between its Fayetteville and Little Rock offices. In Little Rock, Michael Bartholmey was hired as a materials lab technician, and Will Wingfield was hired as a survey party chief. In Fayetteville, Casey Nordgren was hired as a materials lab technician, and Michael Robertson was hired as a geotechnical drilling assistant.

## MCE establishes UACCM surveying scholarship

McClelland Consulting Engineers has a new scholarship at the University of Arkansas Community College at Morrilton. The scholarship is \$1,000 per semester.

Arkansas residents and part-time UACCM students employed by a surveying or engineering company are eligible.

The scholarship's purpose is to assist students in the survey program at UACCM, and to grow the number of survey professionals in Arkansas and the region.

## Crafton Tull's Karr passes PE exam

Crafton Tull's Ali Karr, P.E., has passed the Principles and Practice of Engineering exam and earned her licensure.



**Karr**

Karr, a Crafton Tull employee-owner and project manager, started with the firm in September 2017. She received her CFM designation in 2019. She graduated from the University of Arkansas – Fayetteville with a bachelor of science in biological engineering.

Karr is a member of the Arkansas Floodplain Management Association and serves in several internal leadership roles at Crafton Tull.

She specializes in hydraulic modeling and analysis for site development and has worked on multiple conditional letter of map revision and letter of map revision projects. Her most recent projects include subdivisions and multifamily developments around the region.

## Crafton Tull buys three properties it leases for offices

Crafton Tull announced June 2 that it has acquired an ownership stake in three office buildings the company currently leases in Rogers, Conway and Oklahoma City.

The buyer's group is comprised of Crafton Tull and a group of local investors.

Cushman & Wakefield | Sage Partners of Rogers facilitated the transaction and will manage and lease the properties, the release said.

"We are proud to continue our long-term presence in these three communities and look forward to continued growth," said Crafton Tull President and CEO Matt Crafton, P.E. "We appreciate the confidence shown in our firm by the other investors in these properties."

The Rogers property is a four-story, 65,000-square-foot office building prominently located on I-49. Crafton Tull began its lease there in 2002 and leases space along with other tenants. The property serves as the firm's corporate headquarters.

The Conway property is a 13,500-square-foot office building located in The Meadows Office and Technology Park. Crafton Tull is the sole tenant and has leased the building since it was completed in 2014.

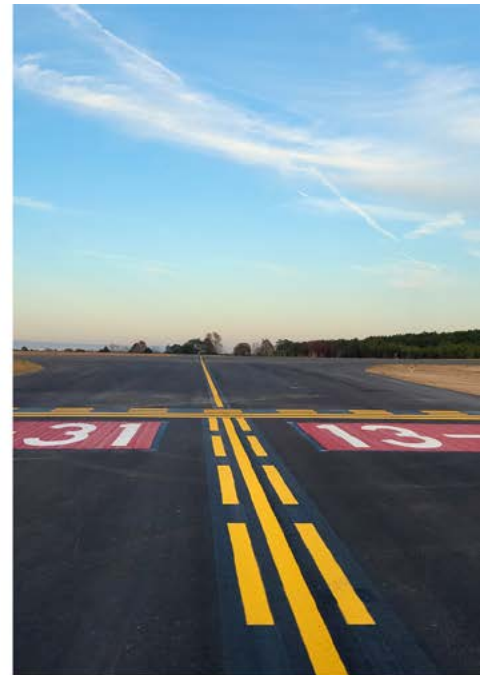
The Oklahoma City property is a 15,000-square-foot office building where Crafton Tull is the sole tenant. It has leased the building since it was completed in 2016.

Founded in 1963, Crafton Tull employs more than 250 people and has offices in Arkansas and Oklahoma. The firm is one of three 100% employee-owned employee stock ownership plan corporations headquartered in Arkansas.

*In the News continues on page 14*

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## Olsson a top 75 firm on ENR list

Olsson Inc. is one of the top 75 largest engineering and design firms in the nation, moving up to No. 74 on Engineering News-Record's Top 500 Design Firms list. The publication recently announced its rankings for 2022.

Olsson moved up two spots from last year. This is the fifth consecutive year Olsson is among the top 100 design firms. ENR determines its Top 500 Design Firms on revenue for design services performed during the previous year.

Olsson first appeared on ENR's Top 500 Design Firms in 1996, and first cracked the top 100 in 2018 at No. 98.

Olsson has an office in Fayetteville and provides engineering services to clients throughout the United States. Olsson employs more than 1,600 people and has more than 30 offices across the U.S.

## ARDOT selects Olsson for on-call safety, services

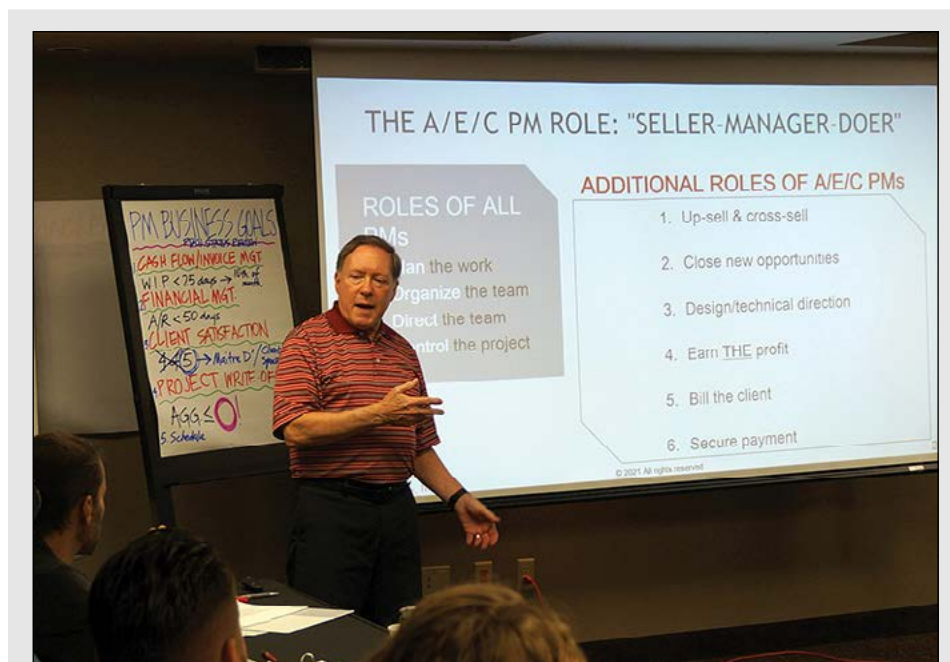
The Arkansas Department of Transportation (ARDOT) recently selected Olsson to provide safety studies and engineering services on an on-call basis. Olsson is a nationally recognized engineering and design firm with an office in Fayetteville.

Olsson will collaborate and partner with ARDOT to deliver and meet critical transportation safety needs throughout the state.

This work will help ARDOT address safety risks through proactive, intentional and strategic infrastructure improvements on a portion of the state's 16,000 miles of highways.

Olsson will team with Michael Baker International, which will assist with quality assurance and quality control of any design work as needed.

"Our Arkansas Transportation team is excited to work with ARDOT to help identify safety concerns and to provide solutions to make our roads safer for the citizens of Arkansas," said Andy Brewer, transportation technical leader for Olsson.



**PROJECT MANAGER BOOT CAMP.** Chris Martersteck, AIA, LEED AP, DBIA, leads the AEC Project Management Bootcamp, a two-day seminar May 11-12 in Rogers that was offered by ACEC/Arkansas and PSMJ Resources. About 13 design professionals participated in the seminar, which covered topics such as taking charge of meetings and improving relationships with clients.

Olsson's Transportation team has nearly tripled in size since 2021, and the firm's Fayetteville office has doubled since 2018.

## Ely joins Burns & McDonnell staff in Springdale office



Ely

Jonathan Ely, P.E., has joined Burns & McDonnell in its Springdale office as a project manager.

Ely will be focused on serving municipalities throughout Arkansas. The Springdale team

has bridge, roadway, traffic, water/wastewater and utility engineers who are delivering projects from planning through construction, including design-build projects for municipalities and the Arkansas Department of Transportation.

Ely has an associate's degree from Missouri Southern State University and a civil engineering degree from the Uni-

versity of Arkansas at Fayetteville. He spent more than seven years at the City of Fayetteville working on permitting and regulatory compliance. Prior to that, he worked for more than nine years on civil site development and municipal projects, a portion of that time with Steven Beam, P.E., Burns & McDonnell's Arkansas office manager.

Ely is registered as a professional engineer in Arkansas and Missouri, and has earned the LEED AP credential from the U.S. Green Building Council. He is a member of the American Society of Civil Engineers.

## BXS Insurance changing to Cadence following merger

BXS Insurance (BXSI) announced May 3 that it will change its name to Cadence Insurance in July 2022.

The change is subject to regulatory approval and follows the merger of Cadence Bancorporation into BancorpSouth Bank, with BancorpSouth as the surviving company in October 2021.

BancorpSouth adopted the Cadence Bank name, and its stock trades on the



New York Stock Exchange under the symbol CADE.

BXSI President and CEO Markham McKnight said the company is excited about the change.

"As Cadence Insurance, we continue to adhere to our commitment to our core values and to delivering excellent service for our clients and industry partners," McKnight said. "For 140 years, we have focused on forming relationships to understand our clients' risk and designing plans addressing those risks. That goal is absolutely a part of our identity – past, present and future."

McKnight added that while the BXSI name is changing, "Our team is not."

"Our clients and industry partners won't see a disruption as the same teams they've known and worked with are still here to serve their needs," McKnight said. "The Cadence Insurance name reflects an evolution in our organization and an exciting future that is grounded in our commitment to our clients."

## ACEC Deep South Conference nears

Plans are taking shape for the ACEC Deep South Conference at Sandestin Golf and Beach Resort in Miramar Beach, Florida July 21-23.

The annual event will bring together engineers from Arkansas, Alabama, Louisiana, and Mississippi.

The event starts Thursday, July 21, with leadership meetings that morning followed by state boards of directors meetings that afternoon.

That afternoon meeting is when current ACEC/A president Steve Pawlacyzk, P.E., of CEI Engineering Associates will hand the reins over to the incoming president, Jerry Holder, P.E., of Garver.

Friday's activities will start with an opening general session followed by one titled, "Disrupting Your Business Before it Disrupts You" by sales expert Henry Hays of Henry Hays Consulting.

Following that session, Erin McLaughlin, ACEC's vice president of private market resources, will give an update on ACEC private markets. McLaughlin leads ACEC's efforts in analyzing market and economic trends.

That afternoon will feature the ACEC Deep South Classic and the ACEC State MO Fishing Tourney.

Saturday's sessions will include a networking breakfast followed by a presentation by Daphne Bryant with the ACEC Research Institute.

Following Bryant will be two sessions on the federal Infrastructure Investment and Jobs Act, the federal infrastructure bill passed by Congress late in 2021. One session will be presented by ACEC/A Senior Vice President for Advocacy and External Affairs Steve Hall. The other will include a panel discussion involving Southeastern state agencies.

To find out more about how to register, go to <https://arkansasengineers.org/acec-deep-south-convention/>.

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**PROUD OF THE PROFESSION.** Jasmine Harris, a manufacturing engineer with Aerojet Rocketdyne, shows off her pinky ring that she received during her induction ceremony into the Order of the Engineer. The wrought iron ring is worn on the little finger of the working hand as a symbol of the engineer's commitment to the profession's ideals. Dr. Judy Cezeaux, dean of the Arkansas Tech University College of Science, Technology, Engineering and Mathematics, center, placed the ring on her finger. Also pictured is Caroline Fox, P.E., a transportation designer at Michael Baker International, who assisted with the ceremony.

# Back together again

For the first time in three years, the ASPE held its Annual Conference. Engineers were honored, the gavel was passed to the incoming president, and 11 young pros were inducted into the Order of the Engineer.

The Arkansas Society of Professional Engineers made up for lost time with a well-attended Annual Conference in Hot Springs April 14-15.

It was the first in-person gathering for the annual event since 2019 because of the covid-19 pandemic, so three years' worth of business was taken care of.

Recognitions were given to the 2020 Engineer of the Year, Keith Matthews, P.E., of B & F Engineering, a Division of

Crafton Tull; and the Young Engineer of the Year, Dr. Erin Needham, P.E., of Olson. Both are featured in this magazine. ASPE's three local chapters haven't been meeting in person during the pandemic and didn't nominate anyone the past two years.

Also recognized were three years' worth of Emerging Leaders, the participants in the joint ACEC/A-ASPE program developed in 2009 that emphasizes non-technical skills such as communication and knowledge of business and government.

The traditional passing of the gavel occurred between the current president, Crafton Tull's Travis Tolley, P.E., and the president-elect, Kale Farmer, P.E., of FTN Associates.

Eleven young engineers were inducted into the Order of the Engineer, the na-

tional organization that fosters pride in the profession. The inductees placed their working hand through the ceremonial ring and were given a wrought iron ring to be worn on the little finger.

Placing the ring was Dr. Judy Cezeaux, dean of the Arkansas Tech University College of Science, Technology, Engineering and Mathematics. In her remarks, Cezeaux said that a week earlier she had celebrated the 50-year anniversary of the Order's founding by attending a celebration at Cleveland State University, which was the Order's birthplace in 1970. The celebration occurred two years late because of the pandemic. Seven of the original inductees also attended.

Cezeaux, a biomedical engineer, said she had closely followed the pandemic. She noted that the Order was founded in 1970 during a time of strife in American





**TWO PRESIDENTS.** Kale Farmer, P.E., of FTN Associates, ASPE's president-elect, presents a plaque to Travis Tolley, P.E., of Crafton Tull, ASPE's president, in recognition of Tolley's leadership of ASPE.

history. Once again, the world is a chaotic place.

"It's been obvious that no one problem in the world can be solved with one particular discipline, and so I think this is what's important," she said. "Engineers need to make sure that we are responsive to society. We are responsive to make sure that the decisions we make, we make in good faith with the understanding that we are doing it for the good of society."

### **Relationships = profits**

Among the seminars was one by Lindsay Young, MBA, CPSM, owner of nu marketing, a marketing company for engineering, construction and architecture companies whose clients include the ASPE and ACEC/A.

Young's theme was that "Building Relationships = Building Profits." She referenced a 1918 study by the Carnegie Foundation that found that 85% of a person's job success depends on their inter-

*Continued on next page*



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personal skills while only 15% is due to technical knowledge. She said that once a client knows an engineer is licensed, then that satisfies the technical piece.

"They want to make sure you can do it, do the project," she said. "But it's really about that relationship and that trust that you have fostered with that client. That's a big piece of it. It's about personality and how you connect with your clients. ... People do business with people they like and trust."

Young said building relationships can take many years, but doing so is necessary to develop trust. She said that everyone in the firm is responsible for business development, and that every interaction makes an impression with the client. Firms need to be strategic in their networking, with a specific list of prospects to target. They should be persistent and consistent with their communications, and they should set goals for making contacts. She said the average person can manage about 100 contacts. She strongly recommended participants use the LinkedIn social media network, which can help users find who can connect them with a prospect. She said most people with whom a firm wants to do business are one connection away.

"Business development is a long investment," she said. "It doesn't happen overnight. Neither does marketing. It's consistent, being consistent. But you've got to put in that time in order to get the results."

### Relationships = profits

Ken Estes with BXS Insurance discussed risk fundamentals. Estes said a claim against a firm is just the tip of an iceberg. In actuality, a firm must earn 10 times that amount in revenue to make up for the other losses, such as the time the principals spend dealing with the problem, other issues that arise because management's attention is diverted, and the damage done to the firm's reputation.

Estes said that, according to the ACEC, more than 70% of claims arise from non-technical issues such as communication problems. Technical errors or omissions make up a small but growing percentage of the claims.

Estes said risk managers in the past have pushed for mediation to resolve dis-



**ORDER OF THE ENGINEER INDUCTEES.** Pictured are, front, Drew Chism, E.I., McGeorge Contracting; Brandon Durden, P.E., Garver; Tom Fenton, E.I., B & F Engineering; Jasmine Harris, Aerojet Rocketdyne; and Andrew Obenshain, E.I., Arkansas Welding Academy. Back, Calvin Reynolds, Jack Tyler Engineering; Ethan Baker, P.E., Michael Baker International; Barret Knutson, E.I., Olsson; Sharath Ranganath, P.E., Michael Baker International; Connor Threet, E.I., Crafton Tull; Alex Smith, P.E., MCE.

putes, but it can be expensive because of the cost of investigations and experts, and it's not binding. With arbitration, at least the issue is resolved.

Estes shared a case study developed by AXA XL that was based on an actual claim. It involved the replacement of a 1960s-style nursing home facility that was to be paid for by \$20 million in county voter-approved bonds. County board members set high expectations, which rose still further as the county insisted on a more modern, residential design but no revision to the budget. The out-of-town multidisciplinary firm was trying to gain a foothold in the long-term care market, so it agreed to the changes and tried to make it all work. Engineers' concerns were downplayed. HVAC problems developed and required remediation. The county blamed the design firm and wanted it to pay. Mediation didn't solve the issues, so the county filed suit for \$5.5 million. Its attorney recommended arbitration, which led to a \$1.2 million payment by the design firm. Its deductible



**Estes**

was \$150,000 so insurance covered the rest, but the firm lost the client and suffered from lost productivity and reduced employee morale.

What went wrong? An audience member said the firm should have raised a red flag at the first big scope change. Another said a design firm should not acquiesce to a client's bad idea.

Grant Grigg, chief investigator for the Arkansas State Board of Licensure for Professional Engineers and Professional Surveyors, said regulatory licensure is under attack in many states. One bill that came out of committee in the 2021 state legislative session would have allowed people who work in an occupation to receive a license. It was defeated, but he expects it to return.

"What we have is they want a one-size-fits-all for everybody, and engineers and surveyors especially don't fit in the same hole as a plumber or a contractor," he said.

Grigg said the National Council of Examiners for Engineering and Surveying administered its last paper-and-pencil exam last October and now instead administers computer-based tests that can be taken up to four times in one year. He said Arkansas' licensure fees are some of the lowest in the country.



## An ethical quandary

Rick Geraci, P.E., gave an ethics presentation about a hypothetical engineering firm that put itself in a bad situation.

The engineering firm was hired by a real estate company, Wesell, to survey a 40-acre tract of land located between two industrial plants, ABC, Inc. and XYZ, Inc. During the course of the survey, which was done under a non-disclosure agreement, the firm discovered an area containing a plant species covered under the state's wetlands criteria that would prohibit development. There was no other obvious indication that the area was a wetland. The engineering firm produced its report that included the information. When Geraci asked if the engineering firm should have notified the state, Tolley said the firm should advise Wesell to obtain a determination from the state. Geraci agreed.

Meanwhile, ABC, Inc., decided to expand its plant and contracted with the engineering firm under a non-disclosure

agreement to do site selection and initial site development. ABC expressed an interest in the tract of land owned by Wesell and asked the firm to contact Wesell about surveying it. Because it was under an NDA with Wesell, the engineering firm did not reveal to ABC what it knew about the land.

The firm didn't have much choice, Geraci said.

"You can't really at that point go to anybody without violating the NDA with one of those two parties, and so you pretty much can't say anything," Geraci said. "Your hands are really tied. If you step out beyond that, you're going to violate one of those two NDAs. Even though you're doing 'the right thing' in trying to get a determination to protect the wetlands, you're under an NDA. You're going to be telling somebody something that you're not supposed to tell them."

Continuing with the hypothetical story, as the engineering firm resurveyed the land, it found that the plants

had been bulldozed since the last time it had surveyed it. What should the engineering firm tell ABC? An audience member commented that ethics and morality are not necessarily the same thing – that ethics are agreed-upon professional standards. That means the firm should perform the second survey and simply report what it finds. Geraci said a contract should specifically exclude areas over which the engineering firm will not be responsible.

The discussion continued as Geraci introduced more thorny issues. Later, the other neighboring manufacturer, XYZ, became involved. In the end, Geraci asked what the engineers would do if the plant, instead of being native to wetlands, was actually cannabis.

In hindsight, there was an easy solution: Don't do the work for ABC.

"Early on you could have avoided this whole thing simply by not taking the job because you knew there was an issue, or potential issue," Geraci said.

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A Principal at HW since 2009, Larry is the Managing Partner of HW's Fort Smith office and currently serves as the Director of Human Resources for the firm. He is a licensed Professional Engineer in Arkansas and Oklahoma, and has managed many of HW's largest construction projects. He earned his Bachelor of Science in Civil Engineering from the University of Arkansas.

A lifelong resident of the Arkansas River Valley, Larry lives with his wife of 18 years, Melanie, and their three children Rhyann, Hudson, and Caroline. Most of his free time is spent between the volleyball gym, swimming pool, or dance studio with his children's activities. Larry grew up duck hunting and bass fishing on the Arkansas River, where he still enjoys those same activities today.

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## ASPE Engineer of the Year

# Headed to a tractor and 10 acres

After almost five decades in engineering that included helping create Hot Springs' Majestic Park, Keith Matthews, P.E., has a few projects to wrap up before retiring

The most recent Engineer of the Year does not plan to be an engineer much longer.

"I'm trying to get out the door, but I've got a couple of projects that are hanging on that I need to get wrapped up before I close the door for good," said Keith Matthews, P.E.

The 71-year-old Matthews has been working in the industry since 1975 and has been with B & F Engineering, now a division of Crafton Tull, for 28 years.

"I just love the engineering life," he said. "Course, I've got a lot of outside activity waiting for me at home when I get there."

Matthews is the ASPE Engineer of the Year for 2019-20. He's the most recent awardee because the covid-19 pandemic kept the Central, Northwest and Hot Springs chapters from meeting regularly and nominating others since.

The honor was officially announced at the ASPE Annual Conference April 15 – the first in-person conference since the pandemic began two years ago.

Matthews' path to an engineering career began in Heber Springs, where he grew up. His high school math teacher told him he needed to become an engineer, so that's what he did.

He took his pre-engineering courses at what was then State College of Arkansas and is now the University of Central Arkansas. Then he earned his bachelor's and master's degree in civil engineering from the University of Arkansas – Fayetteville, graduating with his master's in 1975. Classes were rigorous, especially undergrad classes.

"It was a different world then because we didn't have these things," he said, referring to a computer on his desk with a new Crafton Tull screensaver courtesy of B & F's new owner. "And if you were lucky, you had the four-function calculator that you could add, subtract, multiply and divide."

At the time, most of the work was done by a pen or pencil and a slide rule. The only computer was a punchcard-reading mainframe. He enjoyed working through formulas by hand and coming up with the answers. He says the engineering profession lost some of its creative thinking ability as it became more automated.

"You've got to know if the machine's giving you the right answers or not, and how to fix it if it's not," he said.

After earning his master's degree in 1975, he moved to Hot Springs to start working for the first of six different firms. One of those was his own firm, Matthews Engineering, which he operated for five years. He then commuted to Little Rock to work for two firms, the second one being McClelland Consulting Engineers.

He then returned to Hot Springs to work for B & F Engineering. At the time, the company's founders – Don Beavers, Bill



**MAJESTIC PARK.** Matthews stands at the baseball complex he helped turn into a reality.

Fletcher and Gary Ryles – were still working there. The company underwent a major transition during the first couple of years he was there. When he started, it was heavily involved in



hazardous waste cleanup, but when that work disappeared the company downsized and moved to more infrastructure work. It now does a lot of surveying for the Arkansas Department of Transportation and the U.S. Army Corps of Engineers. The company recently was acquired by Crafton Tull.

Among his signature projects at B & F was the rebuilding of Convention Boulevard. That was a challenging project because it involved dealing with many underground utilities. There were storm drains the city didn't even know about. The mile-long project involved landscaping and sidewalks and improved a road that serves as a gateway for visitors. Another major project was the Garland County Detention Center, a 55-acre project that involved a challenging site layout and required two stormwater detention ponds.

His most recent major project was the downtown Majestic Ballpark, a collection of five artificial turf baseball fields located

in the same place where Babe Ruth and other baseball greats had spring training during the first half of the 20th century. It's a visible project with strong community support. The engineering challenges included underground springs that engineers controlled with seepage traps and french drains that directed the water to Hot Springs Creek, which runs alongside the fields.

"That's going to be my last big hurrah, I think, is that Majestic Park, so I'm glad to sign out on that one," he said.

He's also doing some roadwork for Garland County that is being funded by a bond issue passed in 2016.

Matthews has seen a lot of changes in the profession since he first started working in it in 1975. It's become more technical, of course. Regulations have become much more stringent, and it takes longer to get things done. There's more bureaucracy. He believes there will be more government work in the future, because that's where the money will be. The en-

ergy industry will be a big segment of the work.

Asked where the profession is going, he said, "It's going to depend on what kind of leadership we have, not only in the consulting companies but in our professional organizations. We've got to have the right leadership to take us in a direction that we need to go."

Even though he's retiring, he'll have plenty to keep him busy. He and his wife, Brenda, live on 10 acres in the country. He has a 1,000-square-foot garden surrounded by a fence to keep out the deer. He likes watching the vegetables grow and harvesting the fruits of his labor. He hopes to build some sheds. And he's got family to see: three sons and seven grandchildren.

"I've got a tractor and 10 acres, and a garden," he said. "I've got a garden, got a lot of timber I've got to clean up, move around. I may try to do a little bit of sawmilling work. I don't know. I enjoy working out in the open like that."

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## ASPE Young Engineer of the Year

# Needham an emerging leader

Olsson engineer enjoys the profession, working with people, and understanding how the world works

When Erin Needham, P.E., Ph.D., was in graduate school, she wrote an article titled, “Trihalomethane, Dihaloacetone, and Total N-Nitrosamine Precursor Adsorption by Carbon Nanotubes: The Importance of Surface Oxides and Pore Volume, 2016.”

For a layperson, that sounds like a foreign language. But Needham understands the importance of communicating complex concepts in ways a client – or a magazine editor – can understand.

“It’s as simple as this,” she said. “Carbon nanotube is like a straw. It’s a straw that’s one atom thick. It’s got surface area on the inside and surface area on the outside. There’s no wasted carbon. It’s just a straw, and you can stick organics to the outside or you can stick them to the inside, but either way, the carbon attracts all of the organics in the water. So you put the carbon in the water, the organics stick to it and take it out. Then whenever you go to add chlorine, there’s less organics, so you get less carcinogens in your water. That’s it. That’s what that is.”

“And then the purpose of that particular article is just what characteristics of this carbon nanotube make it better or worse at attracting organics.”

Needham, 31, is the ASPE Young Engineer of the Year for 2019-20. She’s the most recent awardee because the covid-19 pandemic kept the Central, Northwest and Hot Springs chapters from meeting regularly the past two years. The honor was officially acknowledged at the ASPE Annual Conference April 15.

She joined the staff of McGoodwin, Williams and Yates in June 2017, soon after graduating with her doctorate from the University of Arkansas – Fayetteville. She remained with the firm when it was purchased by Olsson shortly afterwards.

The Springdale native’s project designs have included a challenging expansion of the Prairie Grove Wastewater Treatment



**NOW A MENTOR HERSELF.** Needham, 31, said she enjoys working with the engineer interns on her project team.

Plant. Space was tight, and regulators required designers to install an instantaneous nitrate limit to protect the stream the plant was discharging into. The stream was classified as a “losing stream” because it loses water as it flows. Streams protected by instantaneous limits must never go above a certain sampling, unlike typical limits governed by averages.

Needham and her Olsson team implemented a carbon feed system to support the needed level of nitrate removal.

In another project, she and her fellow engineers learned a major change was needed for biologic phosphorus removal when the project was 90% designed. With time running short, they added fermenters and anaerobic basins.



She's currently working on a project constructing a 60-inch treated water pipeline for the Beaver Water District serving Bentonville, Springdale, Rogers and Fayetteville. The project is unique because it will feature a gravity line that's also under pressure. The project involves seven miles of easements and property owners. It also requires a lot of coordination because Olsson is the prime contractor for the pipeline and the subcontractor for the pump station, while the prime contractor for the pump station is Olsson's sub for the pipeline.

Needham enjoyed her math and science classes growing up and knew she wanted to pursue a career in those fields, so she majored in engineering at the University of Arkansas. She decided to earn her doctorate when a fellowship was offered to her. The research was cutting edge, and she learned how to write. For a leadership class taught by former UA Chancellor John White, P.E., she said she wrote 15 hours a week and filled a one-inch binder with typed pages.

She thought about the risk involved in advancing her education before she had worked in the field; after all, she might not have enjoyed engineering. But the opportunity was there, and she knew if she didn't earn her Ph.D. then, she wouldn't do it later. It turned out to be a good decision. She enjoys the work, the people, and the knowledge she gains.

"Most people see water towers or whatever, and they have no idea how

they work, and it just kind of fades into the background," she said. "I like looking around and seeing all of our infrastructure, seeing things going on around me and knowing why people made them that way, why they function that way, and not just wondering but knowing the answer. I always thought that was interesting. It feels like being in the know, you know, like you're a part of something."

Since she joined Olsson, one of the ways she has continued her education is participating in the ACEC/A's Emerging Leaders program, where young design professionals participate in a series of classes covering communication, business, politics and other non-technical areas.

Needham and her husband, a high school science teacher, are raising a 2-year-old son. She said she is approaching parenthood sort of as an engineer would – with a lot of study because she wants to do this right. She enjoys rock climbing, crocheting, reading fantasy and science fiction books, and interior design and landscaping.

She's excited about a new project constructing a 16 million-gallon-per-day water treatment plant for Batesville. It's located in the middle of the city, so space is an issue. Needham is the assistant project manager, while the project manager is veteran Jim Vetter, P.E. Working with them are six engineer interns.

The Young Engineer of the Year likes working with younger engineers.

"I think that part is a lot of fun, just getting to brainstorm with them and teach them the things that we've learned, and to hear all of their fresh new ideas and their take on things," she said. "I find that part more enjoyable than just sitting at my office doing design by myself."

Needham and those E.I.s represent the industry's emerging leaders. They're already changing their firms and will continue to do so.

In fact, Needham said, they have no choice.

"I think our generation is more involved," she said. "I think we've seen some changes where people care more about public involvement and what the citizens of a particular area have to say about our plans for their public infrastructure. I just kind of feel like our generation as a whole wants to get involved. We want to change things. We want to see things continue to move forward, and we care about those kinds of things."

"That will and has to change the industry, because people who cater to that whenever we're trying to win work, they're the people who are going to get the jobs. We in engineering are the middle managers of engineering tomorrow, but people our age are going to be moving up in the cities and industries, and so those values aren't just the values that are going to be in our industry. It's going to be the values of our clients, too, and so we have to change to adapt to the needs of our clients."

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**Ken Estes** (501) 614-1572 | [Ken.Estes@bxsi.com](mailto:Ken.Estes@bxsi.com)  
**Landon Fisher** (479) 305-0151 | [Landon.Fisher@bxsi.com](mailto:Landon.Fisher@bxsi.com)

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# Beyond the design

At Garver, our engineering experts like Jerry Martin know it goes beyond project design — it's about building the innovative infrastructure solutions to provide safe water supplies that help Arkansas communities grow. Because we don't just work here — we live here, too.



Jerry Martin, PE  
*Arkansas Water Team Leader*