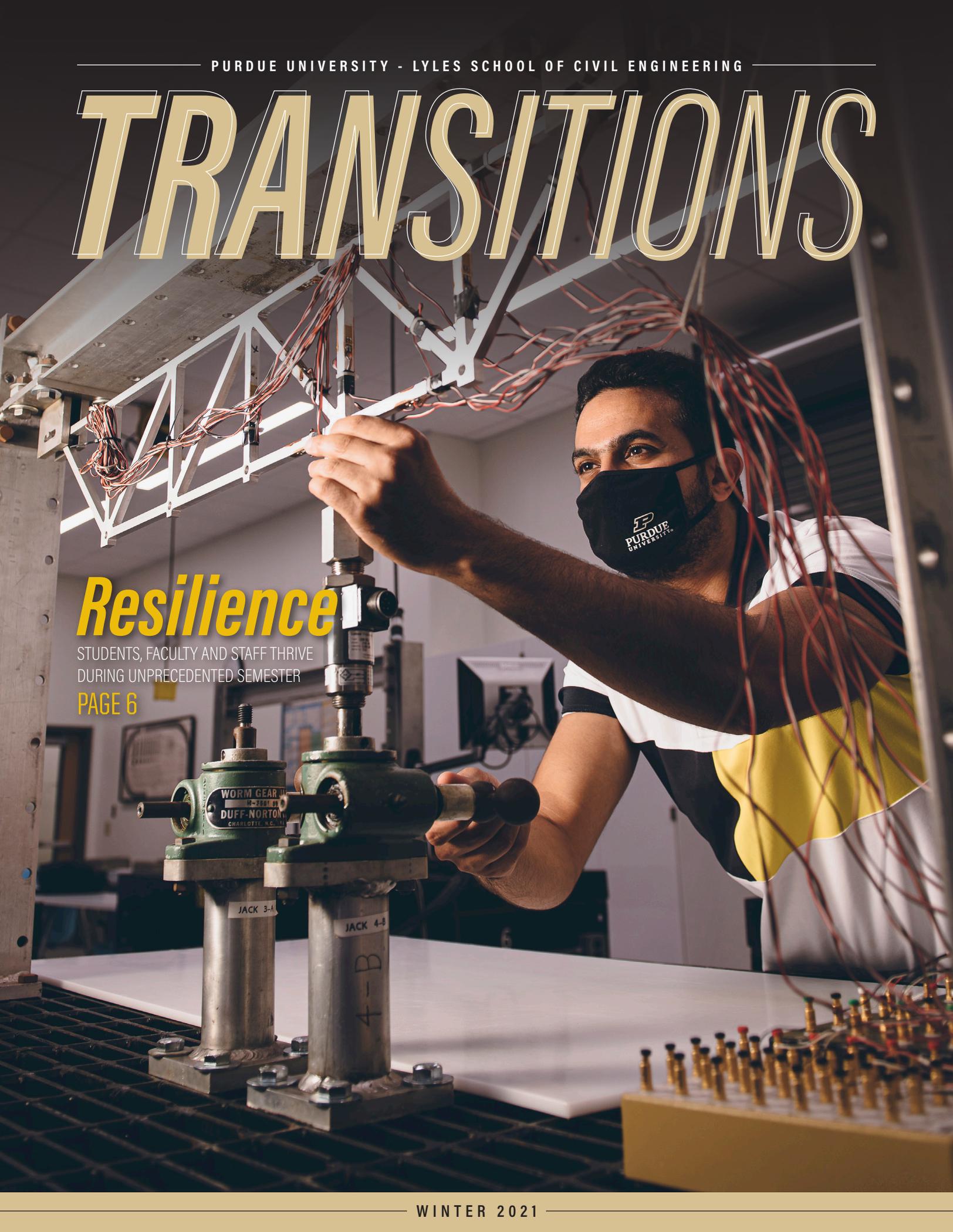


# TRANSITIONS

## Resilience

STUDENTS, FACULTY AND STAFF THRIVE  
DURING UNPRECEDENTED SEMESTER

PAGE 6





# MESSAGE FROM THE SCHOOL HEAD

There are countless themes from civil engineering that can be applied to everyday life — but, for last year, there is one that speaks loudest to me: resiliency.

For civil engineers, resiliency is ingrained in us and in all we do. It ensures the projects we work on stand both the test of time and any unexpected calamities. It is also a vital, personal quality for a civil engineer. We must always be ready and able to adapt to change — and we must not lose sight of our goals in the face of adversity.

I cannot think of a time in my life where so many at once have been asked to demonstrate this quality than this past year.

It is no exaggeration to say that for many of us, 2020 was one of the most challenging years of our lifetime. The COVID-19 pandemic dramatically altered the lives of practically everyone around the world and has affected just about every facet of our daily routines. From the tragic loss of loved ones to our countries coming to complete standstills, the coronavirus was — and continues to be — at the very forefront of our consciousnesses.

That said, I am confident that this era of strife and uncertainty will come to pass. But it will require the collective resiliency and cooperation of us all to make it happen — and I am proud to say I have seen firsthand just how resilient we can be these past several months, both at Purdue University and within the Lyles School of Civil Engineering.

Over the course of spring break 2020, our faculty and staff worked tirelessly to convert our lesson plans to online platforms. Our students, too, showed tremendous adaptability as they switched from their familiar campus and classroom settings to the new normal.

Meanwhile, many of our faculty conducted new research in response to the coronavirus. Their research has covered the pandemic from many angles, including the effects and spread of the virus through ridesharing, studying UV radiation as a method of decontamination and the effect it has on stagnant water systems.

Then, this fall — after months of preparation and planning — campus reopened. This required the full participation of everyone to make it a success — and I am proud to say we have shown incredible resilience and have managed to do what many other universities could not.

This past semester, our students, faculty and staff have proven that campuses can reopen — provided everyone buys in to the plan and does their part.

While we cannot control the unexpected, we can work together, be resilient and come out of this stronger than ever. And I am confident we will continue to demonstrate these admirable qualities at Purdue in the years to come.

All the best,

Rao S. Govindaraju  
Bowen Engineering Head of Civil Engineering  
and Christopher B. and Susan S. Burke Professor  
of Civil Engineering

# TRANSITIONS

FEATURED IN THIS ISSUE:



- 02 ON THE FRONT LINES**  
ER doctor leans on Purdue education during pandemic
- 04 A RESILIENT RETURN**  
Protect Purdue Plan provides a framework for safe semester
- 08 A BOILERMAKER LEGACY**  
Family boasts three generations of civil engineering alumni
- 10 FAITH & FAMILY INSPIRE SCHOLARSHIP GIFT**  
Couple hopes to spark change in minority enrollment
- 11 MATERIAL BLESSINGS**  
Named professorship to support research, future leaders
- 11 VIRTUAL SCHOLARSHIP EVENT**
- 12 NOT JUST BUZZWORDS**  
Summer course introduces civil engineering to high schoolers
- 13 STEADFAST RESOLVE**  
Greetings from Eric Putman, Chief Development Officer for Civil Engineering
- 14 A CONVERSATION WITH JOHN BRAND**  
President of Butler, Fairman & Seufert
- 14 DISTINGUISHED ALUMNI AWARDS**

## ON THE COVER

Fourth-year PhD student Abdullah Alghossoon prepares to record an undergraduate lab demonstration. All labs in the Rick and Penny Conner Structural Engineering Lab were delivered virtually this year due to the COVID-19 pandemic.

## LYLES SCHOOL OF CIVIL ENGINEERING DEVELOPMENT TEAM



**ERIC PUTMAN**, Chief Development Officer  
765-479-1924 | eaputman@prf.org

**SCOTT HINKEL**, Director of Development  
765-427-5283 | lshinkel@prf.org

**COURTNEY SCHMIDT**, Director of Development  
Operations and Donor Stewardship  
765-496-0116 | caschmidt@prf.org

**HEIDI FAITH**, Administrative Assistant  
765-494-1437 | hmfaith@prf.org

**LYLES SCHOOL OF CIVIL ENGINEERING**  
**Rao S. Govindaraju**, Head

**Garrett D. Jeong**, Associate Head

**Drew A. Stone**, Director of Marketing  
and Communications

**Sue M. Khalifah**, Director of Student Experience

**Kathy M. Heath**, Program Administration  
Manager

### MOVING?

Send change of address to:  
Lyles School of Civil Engineering  
Delon and Elizabeth Hampton Hall of Civil  
Engineering  
550 Stadium Mall Drive  
West Lafayette, IN 47907-2051  
Email: heathk@purdue.edu  
Phone: 765-494-2166

*Contributing writers:* Kat Braz, Aaron Martin, Drew Stone  
*Graphic Designer:* Paul Sadler  
*Contributing photographers:* Charles Jischke, John Underwood  
*Produced in collaboration with The ESC Plan / theESCplan.com*

Purdue University is an equal access equal opportunity university





# ON THE FRONT LINES

ER DOCTOR LEANS ON PURDUE  
EDUCATION DURING PANDEMIC



## When you are an emergency room doctor working on the front lines of the COVID-19 crisis, where persistence and ingenuity are crucial, an engineering degree from Purdue University can be a powerful asset.

So says Dr. Moshe Engel (BSCE '84) who works as an emergency medicine specialist in an area of Arizona that was once under siege from the pandemic and still deals with it today. Engel says he applies skills he honed as an engineering student at Purdue on a daily basis during this unprecedented struggle.

“My studies at Purdue taught me discipline, problem-solving and time-management skills,” says Engel, who received his medical doctorate from the Indiana University School of Medicine in 1993. “That, and a little common sense, go a long way when you’re making decisions in critical situations.”

Engel also credits his well-rounded Purdue experience, which included wrestling, working as a co-op student and participating in the University’s Hillel Foundation, for equipping him with the tools to manage his challenging career.

“My co-op experience with Bechtel Power taught me to be flexible and willing to pitch in any way that might help the team achieve its goals. This applies whether you’re checking electrical supports at a nuclear power plant or treating patients in an overloaded ER,” Engel says. “Being active at Hillel helped balance things on the cultural and spiritual side, and wrestling helped keep me mentally sharp and physically fit.”

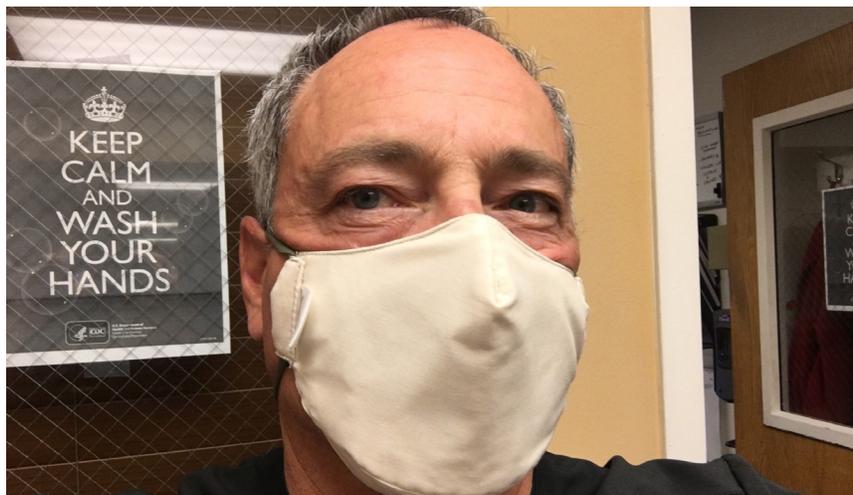
### CONFRONTING THE CRISIS

Engel works 12-hour shifts, often as the only ER doctor on duty, at Carondelet Holy Cross Hospital in Nogales, Arizona. Nogales is in Santa Cruz County, which lies on the U.S.-Mexico border about 150 miles south of Phoenix.

In July, 23% of Arizona residents who had been screened for active COVID-19 infection tested positive, meaning it had the highest positivity rate of any state in the country. The rate in Santa Cruz County was more than double that (55%).

Engel has been working the ER since the beginning, when some hospitals were overrun with patients, critical supplies were scarce and the virus itself was somewhat of a mystery.

“We’ve been stressed but not overwhelmed. I actually contracted COVID-19 at some point, somewhere along the line, but never knew it,” Engel says. “Initially, volume dropped off precipitously, then picked up to the equivalence of a very bad flu season. There are a few hotspots here and there — that’s what you hear about on the news — but the average ER volume is down. I treat whatever comes through the door and transfer the sicker patients to larger facilities after they are stabilized.”



### UNCONVENTIONAL JOURNEY

Engel’s path from civil engineer to ER doctor was unconventional — more a persistent pursuit of his life’s purpose than a giant leap from one discipline to the other.

The son of former Hillel director Rabbi Gedalyah Engel, Engel grew up in West Lafayette and originally wanted to study architecture. Since architecture wasn’t taught at Purdue, he chose construction engineering and management before switching to structural engineering. That led to his co-op with Bechtel, which resulted in a full-time job with the company.

After only a couple years at Bechtel, Engel took time off to travel and “reassess things.” He ultimately decided to become a doctor, which meant a return to school — and much more.

“I wanted to get some hands-on experience,” Engel says. “I worked as an emergency medical technician in the field and as an orthopedic technician in an ER, which led to some other amazing experiences, including ski patrol on the White Mountain Apache Indian Reservation in Arizona and then search-and-rescue at Yosemite National Park.”

Engel returned home for medical school and spent the first two years of his medical studies at Purdue at the IU School of Medicine’s West Lafayette campus. He met his wife, Halya, while he was doing clinical rotations in Indianapolis. They have three adult children.

“Looking back, I realize how lucky I was,” Engel says. “I was a hometown boy who actually had the luxury of living at home while at school, which made all my participation in other things easier. My engineering background helps me stay objective and look at the big picture without getting lost in the minutiae, and that applies to my career as well as my life.”



# *A RESILIENT RETURN*

PROTECT PURDUE PLAN PROVIDES  
FRAMEWORK FOR SAFE SEMESTER  
ON CAMPUS



One year ago, Abdullah Alghossoon stood in the CE 270 lab (now the Rick and Penny Conner Structural Engineering Lab), shoulder to shoulder with undergraduates clustered around a workbench. The fourth-year PhD student and TA for Introductory Structural Mechanics demonstrated how to examine the concept of the truss system experimentally by measuring the strain values from the attached sensors and recording the measurements of the loads, where the loads are being applied at any given time. He encouraged students to touch the analytical instruments and to experiment by making adjustments to the model truss.

The Structural Mechanics Lab has been taught in this method for decades. But in planning the lab schedule for Fall 2020 during the COVID-19 pandemic, Alghossoon and his fellow TAs collaborated with course instructor Robert Connor, the Jack and Kay Hockema Professor in Civil Engineering, to devise a new method of instruction.

“Our priority was to balance teaching with keeping the lab safe,” Alghossoon said. “We usually have six or seven students at each of the workbenches. Their collaboration requires touching everything in the experiment. It would be impossible to maintain safe social distancing. Some students had already elected to take the course online, so we’d be producing videos for those students anyway. Therefore, we decided to present each lab virtually this semester.”

Alghossoon recorded about half of the videos for the course. The recordings are posted in the virtual classroom, so the TAs are on hand to answer students’ questions. Alghossoon relied on his previous experience teaching the lab to integrate common questions students ask.

“With every experiment, we have errors,” he said. “That is how students learn. In the videos, I ask questions for students to consider instead of giving direct information. ‘What kind of forces have we neglected at this point? What are the consequences of mismeasurements on these dimensions?’ Sometimes, I intentionally introduce an error as a teaching element to explain how such a problem can be addressed.”

From Alghossoon’s perspective, teaching the lab virtually enhances the learning process. Typically, students only conduct an experiment once, without an opportunity to try it again and recover from their mistakes. Recording each experiment provides students with a catalog of videos that can be rewatched as many times as needed to understand the course material.

“Weekly meetings are conducted by the TAs and the course instructor to review the records and discuss next week’s agenda,” he said. “We’ve expanded our office hours. If they have questions, they can ask, and they can always refer back to the videos.”

A hybrid model of virtual and in-person learning was among the many components of the Protect Purdue Plan announced over the summer to safely reopen campus for the fall. Michael B. Cline (BSCE '88), senior vice president for administrative operations at the University, led the buildings and infrastructure working group as part of the Protect Purdue implementation team.

"The University implemented a number of building safety measures as part of the comprehensive Protect Purdue Plan," Cline said. "In addition to de-densifying spaces, air handling units were reprogrammed to maximize outdoor air percentages; high-touch surfaces and public spaces received frequent, intensive disinfection; and signage was installed throughout campus to reinforce tenets of the Protect Purdue Plan."

In adherence with the Protect Purdue Plan, the Lyles School of Civil Engineering enacted several safety measures to promote the health and safety of students, faculty and staff. "In the interests of safety, we have shut down most common spaces," said Rao S. Govindaraju, the Bowen Engineering Head of Civil Engineering. "Computer labs are available for remote access only, conference rooms will be operated with reduced occupancy and only by reservation, classrooms have had chairs and desks removed for de-densification and research is conducted under current health protocols. Instructors are using HyFlex and other options for classroom de-densification. Most office hours and help sessions are being conducted virtually, as are all faculty meetings."

The safety protocols implemented by University administration, under the guidance of medical experts, center around the individual responsibility outlined in the Protect Purdue Pledge. The pledge implores every person on campus to adhere to safe health practices such as properly wearing face masks in all buildings and outside when social distancing is not possible and practicing robust personal hygiene, including frequent hand-washing and sanitation of shared surfaces like desks.

## BACK IN CLASS

When campus closed in March, JT Sarisky, a junior with a structures concentration, packed up her residence hall room and drove home to Pennsylvania. She found adapting to strictly online classes challenging and was eager to be back in the classroom this fall.

"I was really excited to return to campus for in-person classes," Sarisky said. "Learning concepts in class and then applying them in the lab helps foster great learning. In my hydraulics lab, there are fewer students and we wear face shields and safety glasses along with our face masks. The TA conducts the experiment, so I don't actually touch any equipment. But I'm mainly a visual learner and being able to see things first-hand helps me to understand."

As a civil engineering student, Sarisky acknowledges the opportunity to learn from the University's efforts

***"I WAS REALLY EXCITED TO RETURN TO CAMPUS FOR IN-PERSON CLASSES. LEARNING CONCEPTS IN CLASS AND THEN APPLYING THEM IN THE LAB HELPS FOSTER GREAT LEARNING. IN MY LABS, THERE ARE FEWER STUDENTS AND WE WEAR FACE SHIELDS AND SAFETY GLASSES ALONG WITH OUR FACE MASKS. THE TA CONDUCTS THE EXPERIMENT, SO I DON'T ACTUALLY TOUCH ANY EQUIPMENT."***

**—JT SARISKY - JUNIOR**





to adapt to the challenges presented by the pandemic. “Understanding how SARS COV-2 lives on surfaces, how long it is airborne, how it might circulate through HVAC systems, these questions directly relate to civil engineering,” she said. “It’s one of the most pivotal considerations for a building — people must be safe and comfortable living in the space.”

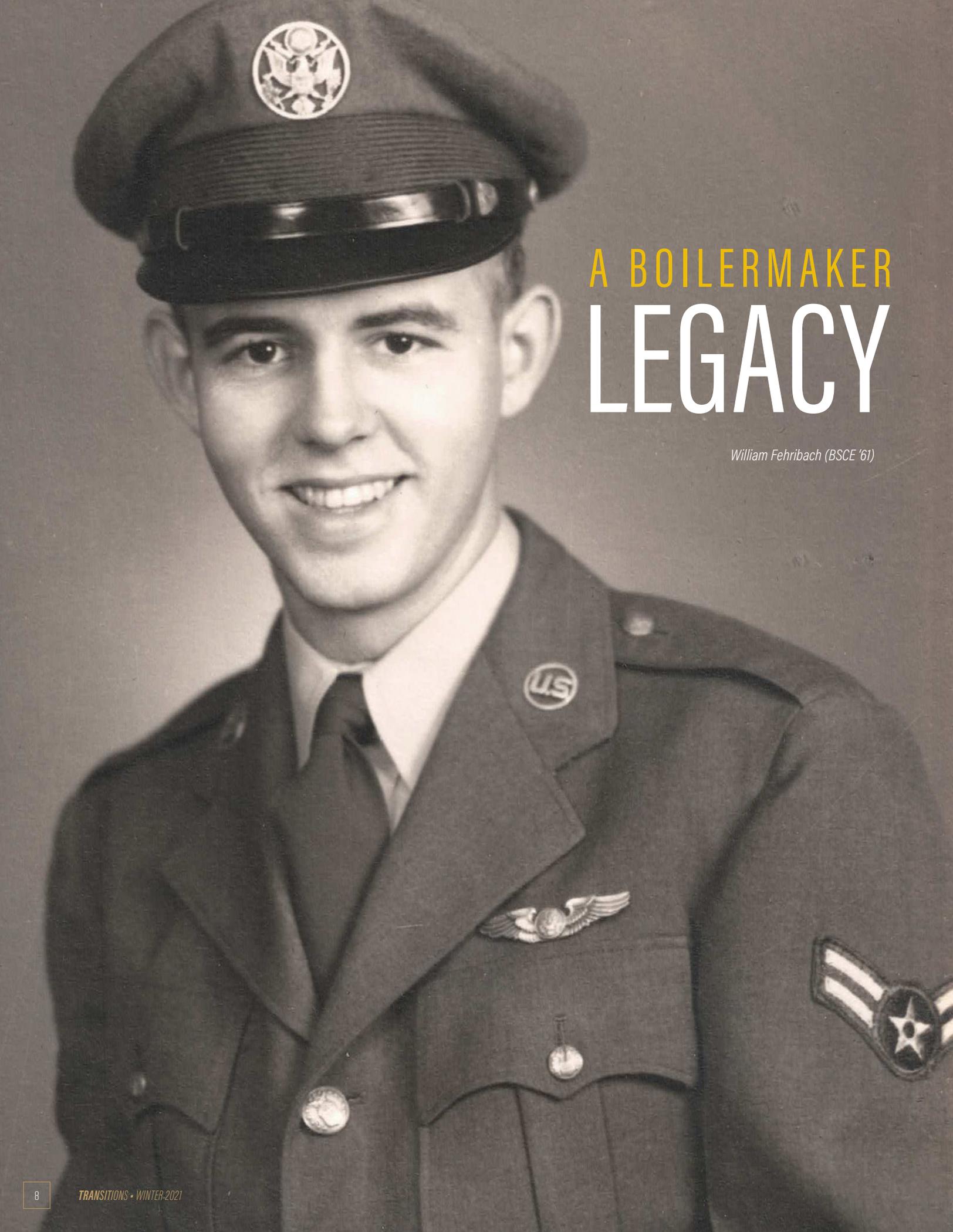
Ethan Edwards, a senior concentrating in environmental engineering from Blacksburg, Virginia, felt prepared returning to campus thanks to the extensive communication shared with students in advance of the fall semester. “They made it pretty clear what we would be seeing once we got to class,” Edwards said. “Seats are labeled, you disinfect your desk, plexiglass shields are available for professors. Given everything that’s been going on, this semester felt surprisingly normal.”

Under the tutelage of Andrew Whelton, associate professor of civil engineering and environmental and ecological engineering, Edwards researches the effectiveness of water filters, such as those found in a Britta or Pur filtration pitcher, against high levels of contamination. Last year, Edwards estimates he spent three to five hours running experiments in the lab each week. Though he was able to return to the research lab this fall, it required more planning to reserve lab space and equipment, specifying the steps of his process in advance — down to which analytical instrumentation he’d be using at what time — to ensure researchers were adequately spread out across the lab.

With his focus in environmental engineering, Edwards appreciates the similarities between the University’s response to the pandemic and how authorities respond to other disasters. “Viewing it from a student stakeholder position shows the importance of decision-making grounded in science and open communication surrounding decisions being made,” he said. “When the University is transparent about the actions it’s taking and shares those results through a dashboard, there are a lot of parallels between that and a disaster with a drinking water system. You have to communicate the extent of the contamination and its effects, outline the steps you are taking to correct it and detail how you intend to prevent future events from happening as well.”

While civil engineering students may be uniquely positioned to learn from the challenges presented by COVID-19, they aren’t the only ones adapting to campus life during the pandemic.

“It’s not normal for any of us,” said Dave Rater, facility manager for Hampton Hall. “It’s been refreshing to see how everyone across civil engineering has pitched in. We’ve had to do things differently. It takes extra steps and a bit more time to get everything prepared, but everyone has been incredibly positive. Faculty and staff have had to step out of their normal routine, but we’re united on our efforts to provide a quality education experience for students in a safe environment.”



A BOILERMAKER  
LEGACY

*William Fehribach (BSCE '61)*

# FEHRIBACH FAMILY BOASTS THREE GENERATIONS OF PURDUE CIVIL ENGINEERING ALUMNI

For the Fehribach family, their connection to Purdue University has been practically woven into their DNA.

“I’ve been bleeding black and gold since the day I was born,” said Joe Fehribach (BSCE ’15) — the third in the family’s line of Lyles School of Civil Engineering alumni. “I think that’s been the way for all of us, too. We grew up being in love with Purdue — and we only loved it even more as we got older.”

The origin of this 60-year-long Boilermaker bloodline began with Joe’s grandfather, William Fehribach (BSCE ’61). William said he was influenced by one of his high school math teachers who had a degree in civil engineering.

After high school, William enlisted in the U.S. Air Force during the Korean War. Once his tour of duty ended, he immediately enrolled at Purdue to pursue his civil engineering degree. Five years later, William would become founder of A&F Engineering Co. where he served as its president.

From that point on, William’s passion centered on three things: his love for his family, his love for civil engineering and his love for Purdue.

“Growing up, Purdue was just a part of our lives,” William’s son, Steven Fehribach (BSCE ’84), said. “We went to so many football games together over the years and he would always tell me how he loved giving back to the school and that really stuck with me.”

And, while the Fehribach family’s ties to Purdue were already solidly in place, Steven said his father did not put any pressure on him to attend the same school. However, there was one stipulation.

“The only thing my dad said was I couldn’t go to IU,” Steven said with a laugh. “He was OK with Notre Dame but IU was the one university he wouldn’t agree to.”

Steven would go on to follow in his father’s footsteps and become a Purdue civil engineer and, later, the president and owner of the company William founded. And, just like his father, he would share that Boilermaker pride with his children — and eventual Lyles School of Civil Engineering alumni — Joe and Meg.

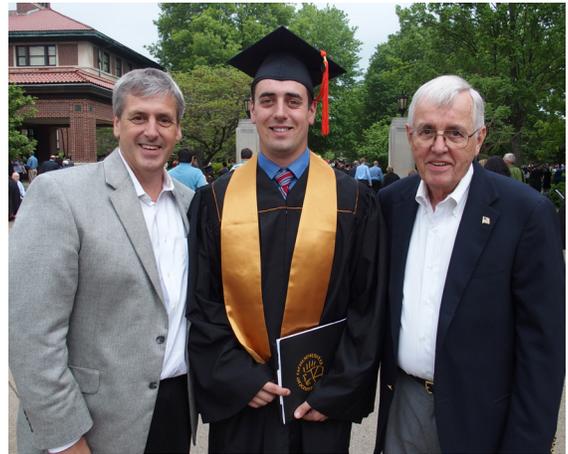
“Oh yeah — Purdue has always been a big part of our lives, growing up,” Joe said. “We went to pretty much all the games as kids and were always around the campus. It was a great time for me and I always kind of knew I would go there when I got older.”

Like Joe, Meg (BSCE ’20) said her childhood experiences of attending games and sharing so many special moments at Purdue with her family all but assured she would eventually become a Boilermaker as well.

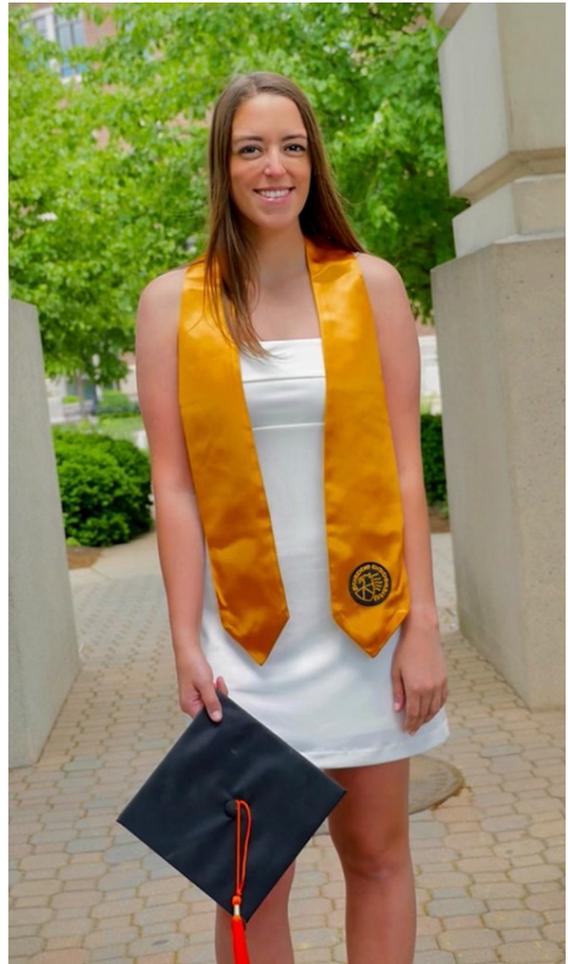
“I’ve always really looked up to my grandpa, dad and older brother who were all Purdue civil engineers, so I knew I wanted to follow in their footsteps eventually,” Meg said. “I always sort of knew that I would go to Purdue — and, almost instantly, I knew I made the right decision when I went there. The other students, professors and just the overall atmosphere was great. It just felt like home.”

Now, with four Purdue civil engineering alumni in the family, one of the things the Fehribachs are looking forward to the most is rekindling their tradition of attending football games together.

“I think we’re all looking forward to being together again on campus once everything returns back to normal,” Meg said. “It’ll be great to resume the family tradition we all cherished growing up.”



*Steven Fehribach (BSCE '84), Joe Fehribach (BSCE '15) and William Fehribach (BSCE '61)*



*Meg Fehribach (BSCE '20)*

# Faith & Family

## INSPIRE SCHOLARSHIP GIFT FOR CIVIL ENGINEERING

### BRIAN AND RACHELLE HARLOW HOPE TO SPARK CHANGE IN MINORITY ENROLLMENT



*Brian and Rachelle Harlow with their grandchildren.*

Brian Harlow (BSCE '78) and his wife, Rachelle, are establishing new scholarships in the Lyles School of Civil Engineering with a specific focus on African American and underrepresented minority students. The couple was inspired to make this gift commitment in their estate for reasons which reflect their family and their faith.

First and foremost, Rachelle noted they were motivated to make a difference for what they saw as low enrollment numbers for African Americans studying engineering at Purdue. They view the issue through the personal lens of future opportunities for their three adopted minority grandsons. "It pulls on our hearts that if they were in another space in life, they would not have the same opportunities," she said.

They also view this through the lens of their Christian faith: "In God's eyes, we are all created equal." With too few African Americans in engineering disciplines, the Harlows want to inspire change. They view the challenge holistically and acknowledge the wide scope of opportunities required to motivate students of all backgrounds to consider engineering and STEM disciplines. This dedicated scholarship is intended to help recruit and support African American and underrepresented minority students to the College of Engineering with the aspiration to see them enter the discipline of civil engineering.

The scholarship support administered by Purdue Research Foundation builds on Purdue's long-term commitment to affordability and accessibility and is also a reflection of their own start at the University. Brian and Rachelle describe their experience starting from modest means. "To be honest, when we went to Purdue—when we lived on Hilltop Drive—we had nothing." Rachelle worked at McDonald's and Brian recalls saying if she could support them for that season, he'd take care of the rest. They have come from a time when they carefully pinched pennies at

the grocery store to now being in a position to give generously.

While working on his undergraduate degree, Brian was able to land a part-time role with HNTB and he credits Professor Ron Wukash for his help in lining up the work experience in Indianapolis. While not a formal internship program, Brian enjoyed the opportunity to work for HNTB regularly during the breaks in the academic calendar.

Brian's degree in civil engineering opened up a career opportunity at Chrysler Corporation. Upon graduation, Brian was hired by Chrysler Corporation in Kokomo, Indiana, as a plant engineer beginning a career which would span nearly 40 years. He served in various positions in production, maintenance, quality, manufacturing engineering and product engineering in the Kokomo plants and his final stop in his career included the company's headquarters in Auburn Hills, Michigan, with various leadership roles in manufacturing engineering and operations.

"I suspect there are many other civil engineering alumni who have had the same experience and have benefited from their education at Purdue," Brian said. "I encourage them to think about that. It is important. There are many, many kids out there—of all backgrounds—who would benefit from alumni support. And the benefits accrue to all of society. Society is strengthened. It gets stronger and biases wane. My encouragement is not only to think about it, but also take action. Usually that involves the pocketbook."

When asked what they would hope for as the best possible outcome from their gift, Brian had a special perspective. "I hope that people do not remember the donation. Twenty years from now, I hope that it is forgotten—not because it failed—but because we have succeeded in enrolling a greater number of students." Rachelle added, "We hope this is the spark to get that going."

# MATERIAL BLESSINGS

## COUPLE ESTABLISHES NAMED PROFESSORSHIP TO SUPPORT RESEARCH, FUTURE LEADERS

Provost Jay Akridge hosted the virtual 2020 Distinguished and Named Professorship Ceremony on November 12th and helped celebrate the inaugural appointment of Pablo D. Zavattieri to the Jerry M. and Lynda T. Engelhardt Professor in Civil Engineering.

Zavattieri's research focuses on the development of novel materials that exhibit paradigm shifting properties for applications that impact the general field of infrastructure and lightweight structural materials. His contributions to micro-mechanical modeling tools have provided a robust framework for materials, fracture mechanics, smart materials structures and smart composites and have been adopted by such organizations as General Motors and Velcro Companies.

The position is funded by Jerry Engelhardt (BSCE '65, MSIA '66) and his late wife, Lynda, and represents thoughtful consideration on how they could best make a difference at Purdue.

"As we considered various ways of sharing our material blessings, the concept of supporting a professorship in civil engineering fit well with our goal of helping people," said Engel-



**PABLO D. ZAVATTIERI**

*Jerry M. and Lynda T. Engelhardt Professor in Civil Engineering*

hardt. "Supporting outstanding professors and their research projects as well as developing young future leaders in environmental-, infrastructure- and health-related endeavors was an excellent fit for our interests and Purdue civil is the ideal place to make this happen."

Charitable giving is always personal, and Engelhardt enjoyed learning of a common interest with the faculty member who is the first to take up the legacy of the Engelhardt Professorship. "In talking with Dr. Zavattieri, we realized that we have a mutual hobby of playing musical instruments, Pablo on the acoustic bass while I play piano and organ. I look forward to following Professor Zavattieri's continued successful research and teaching career."

Congratulations to Pablo Zavattieri for his academic appointment and an earnest acknowledgment and resounding "Thank you!" to the Engelhardts for their generosity that makes it possible to attract and retain exceptional faculty to the Lyles School of Civil Engineering.

## VIRTUAL SCHOLARSHIP EVENT

2020 brought many changes for all of us. "Adapt" may be the word of the year. As the possibility of holding in-person events became less likely, discussions around the annual scholarship event shifted. The event became a panel discussion with a select group of scholarship recipients. How to hold a panel discussion while maintaining social distance? Transform the Rick and Penny Conner Architectural Engineering Teaching Laboratory into an ad hoc TV studio!

Students Camille Hamilton, Christopher Henderson, Mackenzie Henson and Anthony Phan were selected to participate on the panel with Eric Putman, chief development officer, moderating the discussion. In true 2020 fashion, Hamilton participated from her home in Edmond, Oklahoma. Guests who joined the livestream submitted questions throughout the event with topics ranging from how the pandemic has affected campus life to the impact that receiving scholarships has had



Hamilton

Henderson

Henson

Phan

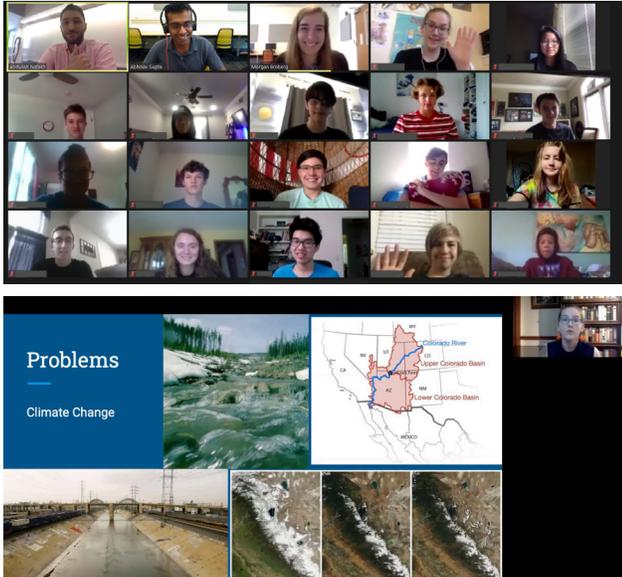
on the students' academic careers.

In addition to the live panel, several students shared stories through pre-recorded videos. Despite a small technology hiccup, the event was a great success! We invite you to watch all of the videos on our [YouTube channel](#).

We offer our heartfelt thanks to all scholarship donors who support the academic careers of these and many more deserving students in the Lyles School of Civil Engineering. This event would not be possible without YOU!

# NOT JUST BUZZWORDS

## WEEKLONG SUMMER COURSE INTRODUCES CIVIL ENGINEERING TO HIGH SCHOOLERS



***“THE WAY THE INSTRUCTORS KEPT US ENGAGED AND TALKING IS ONE OF THE BEST WAYS TO LEARN. THIS CLASS REALLY BROADENS PEOPLE’S PERSPECTIVES AND BUILDS SOME SKILLS THAT ARE IMPORTANT IN REAL LIFE.”***

***CLASS PARTICIPANT***

Over the summer, the Lyles School of Civil Engineering offered its newly-created one-credit course for high school students: Resiliency and Sustainability in Civil Engineering — Not just Buzzwords. The class attracted students from all around the world interested in learning more about the field.

“This was a great opportunity for our school to increase high school students’ exposure to civil engineering in a way none of them have experienced before,” said Sue Khalifah, Lyles School of Civil Engineering student experience director and course coordinator. “At Purdue, incoming first-year engineering students don’t really get to experience what civil engineering is all about until their sophomore year. With this new summer course, our goal is to show students how diverse the field is and how it touches upon just about every facet of our daily lives.”

The weeklong course covered topics related to hydrology, structures and transportation and strongly emphasized collaboration and interaction. Students were regularly placed into six-person teams and tasked to solve a problem and present their solutions to the class. PhD students Morgan Broberg, Abhinav Gupta and Abdullah Jalal Nafakh were instructors for the course. The three said they were able to take a lot from this experience and learned quite a bit themselves.

“Teaching this course increased my interest in possibly teaching civil engineering as a professor,” Nafakh said. “This experience gave me a great sense of accomplishment in seeing the students grasp the material.”

Purdue’s Summer College for High School Students Fun-Sized courses were supposed to be held on the West Lafayette campus. However, due to the COVID-19 pandemic, the team transitioned to an all-online format.

“This did not come as a complete surprise after campus closed in the spring, so we started working on the possibility of developing an online version of this course well ahead of time,” Khalifah said. “We were in constant contact as we worked out how to keep the class as engaging as we planned.”

Laboratory tours turned into virtual tours, guest speakers delivered pre-recorded messages, guest tour guides delivered live virtual tours from various landmark locations on campus, team projects became video conferences and the course instructors all learned more about video conferencing software than they ever imagined.

“I think we all pretty much became Zoom masters,” Broberg said. “We used the video software as well as we possibly could have. Honestly, I think the biggest issue we faced was finding the right time to hold the class for students who all lived in different time zones.”

Gupta, who is set to earn his PhD in May, said he is interested in seeing the course develop further and intends to assist until he graduates.

“This was such a great experience for me and for the students,” he said. “There is even greater potential for this class, and I am looking forward to seeing how much better it can be in the years to come.”

The course will be offered again July 11–16. Developing Infrastructure for Tomorrow: An Introduction to Civil Engineering allows students to explore the multifaceted field of civil engineering and learn how to identify the needs of tomorrow’s communities. [Visit the website for more information and to register.](#)

# GREETINGS FROM ERIC PUTMAN

CHIEF DEVELOPMENT OFFICER // LYLES SCHOOL OF CIVIL ENGINEERING

What a year—and what a semester! 2020 has become a shorthand phrase to describe all sorts of remarkable challenges as the COVID-19 pandemic impacted nearly every aspect of our lives. When students returned to campus last fall, it was not clear to any of us if we would be able to complete the full academic semester. In classic Boilermaker fashion, Purdue students, faculty and staff overcame the difficulties and worked together to persevere in the face of considerable adversity.

Do you remember the *Washington Post* headline from last fall? The question posed back in August was “Will Purdue Last?” as President Daniels moved forward with a residential experience for Purdue students. Now, we can look back with satisfaction on a job well done. Faculty, staff, alumni and current students met the challenge of a special season. Together we helped Purdue overcome the odds.

We’ve added a new vocabulary. The Purdue community is now conversant on the difference between hybrid and HyFlex classes. Too many can speak with authority on the differences between the PCR and antigen tests. And let us take a moment to celebrate the distribution of plenty of personal protective equipment (PPE) through the Protect Purdue Initiative (PPI).

We’ve had so many firsts—our first completely virtual scholarship event; a weeklong series of virtual Homecoming events; and cardboard cutouts in Ross-Ade Stadium in place of 50,000 of our fellow college football fanatics.

We’ve seen the Purdue community rally around the Protect Purdue Plan and adapt their workplace and their personal behavior to put the health and well-being of others before their own preference and convenience. Purdue faculty have worked tirelessly to adapt their classes to new online teaching platforms.

We’ve seen the Purdue Civil Engineering Advisory Council mobilize to share special messages to new graduates and remind them they are part of a larger contingent of alumni all around the world. Despite moving to a virtual format, the Advisory Council continues to provide encouragement to current Purdue students and has generated leads for future employment and internship opportunities.

The world has changed dramatically in 2020 but it is inspiring to also know some things remain steadfast. The willingness of the broader Purdue community of alumni, faculty, staff and students to pull together and overcome a season that we can safely say without exaggeration is one for the history books.

We’ve lost friends along the way, and we remember their kindness, their generosity and their commitments to Purdue. To everyone who supported the Protect Purdue Initiative, generously contributed during Purdue’s Day of Giving or simply went out of their way to provide an encouraging word of hope and inspiration during 2020—you have our thanks. Promising news of vaccines and improved treatments give us all hope for a turning of the page and a better experience in 2021. Come what may, we’ll face the New Year and new challenges of this spring semester together.

We remain, now more than ever, Ever Grateful and Ever True. Hail Purdue!

All the best,



Eric Putman  
Chief Development Officer, Lyles School of Civil Engineering  
University Development Office, Purdue for Life Foundation



A CONVERSATION WITH

# John Brand

*President of Butler, Fairman & Seufert*

Every year, Butler, Fairman & Seufert (BF&S) contributes to and matches employee giving to the EXCEL Fund in the Lyles School of Civil Engineering. While gifts are encouraged throughout the year, there is special attention and excitement during Purdue Day of Giving. The EXCEL Fund provides direct support for Purdue's efforts to develop outreach programs for K-12 students, recruit outstanding high school students to study civil engineering, and support current students as they move into their professional careers. These engagement programs help potential students and parents understand the essential role of civil engineering in our world and provide a compelling reason to join the profession.

**What sparked the idea to participate as a company?**

**JB:** I grew up in Lafayette and graduated from Purdue CE. I've had a wonderful career and I feel it's important as a company headquartered in Indiana that we give back and encourage students to stay in Indiana when they graduate. There are so many CE career opportunities in the state and I view BF&S's contributions as an important way to help young people discover civil engineering and realize they can have a very rewarding career right here in Indiana.

**How many years has BF&S contributed to the EXCEL Fund?**

**JB:** The company and employees have been contributing to Purdue CE for about a decade now. We have given to various

funds in the past, but several years ago, we began focusing on the EXCEL Fund. When Purdue Day of Giving started, one of the CE development officers suggested that we participate. It's a fun way to increase employee involvement while also focusing on the EXCEL Fund.

**What benefits do you see for BF&S?**

**JB:** The need for engineers over the next 10 years is growing rapidly. I view BF&S's participation in the EXCEL Fund not only as a rewarding way for the company and employees to give back but as a practical investment in workforce development. Civil engineers make communities better through their work. It's a very gratifying career! Helping students and parents understand, explore and ultimately decide on a career in civil engineering is a good thing. By contributing to the EXCEL Fund, more people learn about civil engineers and the impact they have in their communities and worldwide. Our hope is that our contributions to the EXCEL Fund help to increase interest in CE, bring more diversity to the profession and ultimately increase the pipeline of civil engineers who choose to live and work in Indiana. In strictly business terms, the rate of return on our investment is invaluable. We are contributing to the future of our young people.

For more information about opportunities for you or your company to donate to Purdue CE, please contact the Civil Engineering Development Office at 765-494-1437 or [civildev@prf.org](mailto:civildev@prf.org).

## DISTINGUISHED ALUMNI AWARDS

The Distinguished Engineering Alumni/Alumnae Award honors those who have distinguished themselves in ways that reflect favorably on Purdue University, the engineering profession or society in general. In 2020, the College of Engineering recognized two alumni from the Lyles School of Civil Engineering. [Read more about 2020's DEA recipients.](#)



**Brian Harlow (BSCE '78)**  
VP, Head of NAFTA Manufacturing,  
Global Head, Powertrain  
Manufacturing Engineering Fiat  
Chrysler Automobiles (retired)



**Alex Oak (BSCE '68)**  
Chief Executive Officer  
and Chairman, Cripe