

# THE BRIDGE

Missouri S&T  
Winter 2024 | Vol. 53

Civil, Architectural and Environmental Engineering

EST. 1870

New faculty and  
accomplishments  
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**TEDxMissouriS&T**  
Unveiling Resilience

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# FROM THE INTERIM CHAIR: Mohamed ElGawady, Ph.D.



It is an honor to welcome you to this edition of *The Bridge*, a celebration of the remarkable achievements and progress of our civil, architectural and environmental engineering (CArEE) department. As I reflect on this past year, I am filled with pride in our collective accomplishments and optimism for the future we are shaping together.

Our department's success is driven by the exceptional efforts of our faculty, students and staff, along with the steadfast support of our alumni and industry partners. This year, we saw faculty continue to raise the bar in excellence. **Dr. Joel Burken** received the ASCE President's Medal, a major honor that recognizes his contributions to our profession. **Dr. Hongyan Ma** was honored with the Kummer Impact Professorship and **Dr. Genda Chen** secured a groundbreaking patent for innovative structural safety sensors. These achievements highlight the caliber of our faculty and their dedication to advancing knowledge, mentoring students and impacting the world.

Our students also made their mark, excelling in ways that reflect their talent and determination. From conducting pioneering research at national laboratories to earning international recognition and participating in transformative internships, their accomplishments remind us of the bright future ahead. One of the most inspiring moments this year was seeing our students bring creative solutions to real-world challenges, exemplifying the spirit of engineering leadership that defines Missouri S&T.

As a department, we continue to grow and innovate. The dedication of the Dr. Wei-Wen Yu Knowledge Center symbolizes our legacy of leadership in cold-formed steel research, while new research facilities and initiatives like the Missouri Center

for Transportation Innovation demonstrate our commitment to preparing engineers who can address society's most pressing challenges. Our national rankings, including recognition by *U.S. News & World Report*, affirm the strength of our programs and the impact of our work.

Beyond academics and research, what truly sets us apart is our sense of community. This year, we expanded our outreach efforts to inspire future engineers, hosting hands-on activities, field trips and collaborations with K-12 educators. Seeing the excitement and curiosity of young learners reminds us of our vital role in shaping the engineers of tomorrow. These efforts are not just investments in the future — they are a testament to the power of connection and mentorship in transforming lives.

Looking ahead, I am excited about the opportunities before us. We are expanding partnerships with industry leaders, advancing research that tackles global challenges like climate resilience and sustainable infrastructure, and fostering a culture of inclusivity and innovation. These efforts are strengthened by your continued support and engagement. Whether you mentor a student, attend an event or share your professional insights, your contributions play a crucial role in our success.

As we chart the future of our department, I encourage you to remain connected with us. Together, we can continue to build on the legacy of Missouri S&T, setting new benchmarks for excellence and creating solutions that benefit society for generations to come. Thank you for your belief in the transformative power of engineering and for your unwavering support of our mission.

I hope you enjoy this edition of *The Bridge* and take pride in the extraordinary accomplishments of the CArEE community. Let us move forward with determination and confidence, shaping a future that reflects our shared vision of excellence and impact.

## Follow us on social media



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## DEPARTMENT ADMINISTRATION

### Interim Department Chair

**Mohamed ElGawady, Ph.D.**

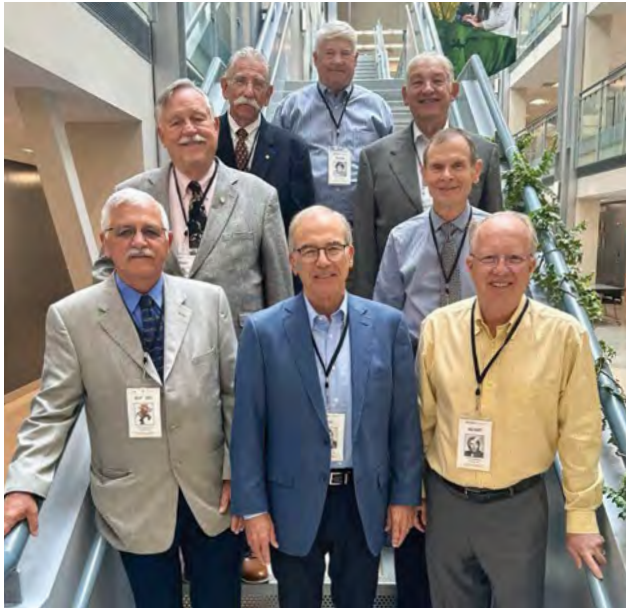
### Assistant & Associate Chairs

**Civil: Eric Showalter, Ph.D., P.E., LEED A.P.**

**Architectural: Stuart Baur, Ph.D., A.I.A.**

**Environmental: Joel Burken, Ph.D., P.E., BCEE, F.AEESP**

**Graduate Programs: Magdy Abdelrahman, Ph.D.**



## CLASS OF '74 GOLDEN ALUMNI

Golden alumni (Class of 1974) spent a few days on campus visiting with classmates, touring campus and hearing about the exciting things happening.

## NEWEST STAFF MEMBERS

Join us in welcoming our two new administration staff members to the department.



### RACHEL JOHNSON

Rachel is from Lebanon, Mo., and worked for Walmart for almost 24 years, most recently as a manager in Jefferson City. She is set to learn about our graduate student processing and programs and to work with the students. She is also excited to be closer to help her grandmother who lives in Rolla.

Rachel is married and has a daughter attending college in West Plains, Mo.



### BRITTANY PARNELL

Brittany joined our staff as an academic advisor. She has been working at Missouri S&T since 2017 and started in the registrar's office. She looks forward to working with students pursuing majors in CArEE and watching them achieve their academic and professional goals. When she is not working,

Brittany likes to be outdoors and find new trails to mountain bike on.

# THE BRIDGE



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More news online at [care.mst.edu](http://care.mst.edu).



# ElGawady named interim chair

**Dr. Mohamed ElGawady**, professor of civil engineering at Missouri S&T, was named S&T's interim chair of civil, architectural and environmental engineering beginning Sept. 1.

"Missouri S&T has some of the strongest civil, architectural and environmental engineering programs in the country, and this is evidenced by our department's outstanding research and our students' tremendous success in the field after graduating," ElGawady says. "To lead the department as interim chair will be a true honor, and I am excited to carry on the great work of my predecessor."

As interim chair, ElGawady will take the department's reins from **Dr. Joel Burken**, who served as chair since 2016. Burken, a Curators' Distinguished Professor and Mathes Endowed Chair of Environmental Engineering, will remain on the S&T faculty.

"Dr. ElGawady will bring a great deal of experience as interim chair of the department," says **Dr. David Borrok**,

vice provost and dean of S&T's College of Engineering and Computing.

"He is well respected by his students and colleagues, and it is clear he will work hard to continue the department's forward momentum as we look for a permanent chair."

S&T will continue its national search for the permanent position during the academic year.

ElGawady joined the S&T faculty in 2012 as an associate professor and was promoted to professor in 2018. At S&T, he has won multiple awards for his excellence both as a researcher and in the classroom.

He also serves as S&T's Alard and Sheri Kaplan Faculty Scholar and was previously interim director of the Center for Infrastructure Engineering Studies.

ElGawady was on sabbatical last semester with the U.S. Department of Defense, where he served as the deputy lead of the Nuclear Portfolio in the Operational Energy-Innovation (OE-I) office, under the deputy assistant secretary of defense for energy resilience and optimization. (see page 16)

ElGawady earned a Ph.D. in structural engineering from the Swiss Federal Institute of Technology at Lausanne and both a master's degree in structural engineering and a bachelor's degree in civil engineering from Cairo University in Egypt.

Before coming to S&T, ElGawady held academic positions throughout the world, including Egypt, Switzerland, New Zealand, Australia, Japan and the United States.

His research focuses on the resiliency and sustainability of infrastructure, addressing both human-made and natural hazards and incorporating the use of recycled materials. He is currently leading a national study on the dynamic performance of bridges under vehicle impacts and their potential repair options.

An analysis published by Stanford University ranks ElGawady among the researchers cited most in his field in 2022 and throughout his career. He is a Fellow of the American Association for the Advancement of Science (AAAS).

# Missouri S&T ranked as state's top public engineering school, among nation's best

This year's *U.S. News & World Report* ranking of the best universities for pursuing a graduate degree in engineering were released Tuesday, June 18, and Missouri S&T was listed as one of the nation's top institutions — and the top public university in Missouri.

"Missouri S&T's engineering programs remain focused on improving the world and solving societal challenges through our research and innovation," says **Dr. David Borrok**, vice provost and dean of S&T's College of Engineering and Computing. "Our strengths in these areas are reflected in our graduate rankings and in the notoriety of our world-class faculty members."

S&T ranks 53rd nationally among public universities for graduate engineering programs and 83rd when considering both public and private institutions.

Four of S&T's programs climbed in the overall national rankings when compared to last year, including:

- Aerospace engineering, which rose to No. 41 from No. 50 last year.
- Civil engineering, which rose to No. 42 from No. 51 last year.
- Computer engineering, which rose to No. 65 from No. 79 last year.
- Electrical engineering, which rose to No. 82 from No. 85 last year.

Other S&T engineering programs with national rankings are environmental engineering (52), systems engineering (62), mechanical engineering (63) and chemical engineering (102).

## S&T receives 4.5 star rating from Money Magazine

Missouri S&T is one of the nation's best colleges, according to Money Magazine's "Best Colleges 2024." S&T also made the publication's lists for "Best Public Colleges," "Best Colleges in the Midwest" and "Best Colleges with High Acceptance Rates."

Missouri S&T received 4.5 stars. According to the website, colleges with 4.5 stars score well on several metrics. Ratings were calculated based on 25 factors in three categories:

**Quality.** The six-year graduation rate and value-added graduation rate account for most of this measure. Money's calculations specifically include the transfer student population at each college or university, as well as the graduation rate of Pell Grant recipients.

**Affordability.** This category combines both short- and long-term affordability, including the net price of a degree and student loan default and repayment rates.

**Outcomes.** This category is based primarily on earnings and employment data as reported in the federal College Scorecard. According to the scorecard site, the median annual earnings of individuals who received federal student aid and began at S&T 10 years ago is \$82,957.



## Bradley receives Engineers' Club St. Louis Achievement Award

**Richard Bradley**, CE'88, president of the board of public service for the City of St. Louis, was recently awarded an Engineers' Club of St. Louis Achievement Award. This is the highest award bestowed upon an individual by the Engineers' Club of St. Louis for distinguished service in engineering, architecture or science.

Bradley has served the city of St. Louis government for more than 36 years and is currently the second-longest-tenured board president in the history of the city of St. Louis.

He elevates the profession of engineering with his contributions, connections, energy and presence. His achievements in his profession, as well as volunteer service to numerous service organizations and as a Miner alumnus, are exemplary.

He is also a long-standing member and leader of the S&T Academy of Civil Engineers.

# NEW FACULTY

## Dr. Emad Hassan



**Dr. Emad Hassan**, assistant professor of structural engineering, joins Missouri S&T from Colorado State University. Hassan's research explores fundamental questions related to the impacts of natural hazards on the built environment, infrastructure resilience, and disaster mitigation. His work uses multiple methods, including experimental and analytical simulations, socio-technical models, network analysis, and machine learning.

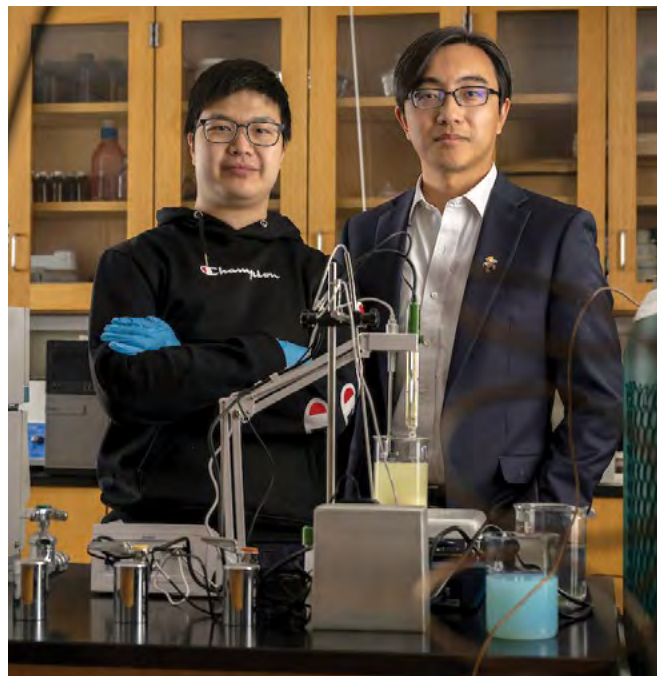
Prior to joining S&T, Hassan served as a research scientist at Colorado State University. He has been involved in various projects funded by national and international agencies. Hassan earned bachelor's and master's degrees from Cairo University and completed a Ph.D. at Colorado State University. Before joining academia, he worked as a structural design engineer in Cairo, Egypt, 2012-15.

## Dr. Hunter Schroer



**Dr. Hunter Schroer**, assistant professor of environmental engineering, joins S&T from the University of Iowa. Schroer's research is focused on mechanistic understanding and application of environmental biotechnology. His work couples fundamental laboratory and computational approaches to apply biological systems for clean water, material, and energy production.

Prior to joining S&T, Schroer served as a research scientist at the University of Iowa and as a consulting engineer at Apex Companies, LLC. He is a licensed professional engineer in the state of Colorado and earned his Ph.D. in environmental engineering from the University of Iowa.



Hongyan Ma, pictured right, with Wenyu Liao, an assistant professor, study how critical elements trapped in silicate materials can be recovered with a carbon-negative process.

## Ma named inaugural Kummer Impact Professor

**Dr. Hongyan Ma**, Fransico Benavides Scholar and associate professor of civil, architectural and environmental engineering, was selected as the inaugural recipient of the Kummer Impact Professorship, effective July 1.

His research team is investigating carbon capture in construction materials and using waste byproducts in upcycling to improve resilience and sustainability in infrastructure design.

"Dr. Ma has made revolutionary and impactful research breakthroughs in carbon neutral and carbon negative concrete and building materials, recognized with support and awards from the U.S. Department of Energy, the National Science Foundation and the U.S. Department of Defense," says **Dr. Joel Burken**, Curators' Distinguished Professor and Mathes Endowed Chair of Environmental Engineering. "His contributions can change our profession. Dr. Ma is also an award-winning educator in the classroom, and he inspires Miners to pursue innovation and change the world."

The Kummer Impact Professorship is a new initiative to advance leadership and technological innovation within the Kummer Institute. This professorship offers five years of discretionary funding totaling \$50,000, including an annual salary stipend of \$7,500 plus benefits.

Bill Baker, the engineer who developed the structural system for the world's tallest building, paid a visit to Rolla to deliver the 2024 Jones Distinguished Lecture on Tuesday, Sept. 17, in the Innovation Forum on campus.

Baker's presentation was titled "Theory and Design in Engineering." He discussed how theory can be a practical source of inspiration when engineers aim to find creative methods to accomplish feats that have never been done before.

"It is theory that enables engineers to see what others do not," Baker notes in a summary of his upcoming presentation. "It enables the identification of the 'why' when one sees a potential solution. Theory has no expiration date; it always applies."

One example of Baker accomplishing something that had never been done before was his work on Burj Khalifa — a skyscraper that stands over half a mile tall in Dubai, United Arab Emirates.

Through his work with Skidmore, Owings and Merrill, where Baker led structural engineering efforts for over 20 years and is now a consulting partner, he developed the structure's buttressed core — a system with a central core column and three arms that provides Burj Khalifa with stability and strength. Some of his other skyscraper projects include Pearl River Tower in Guangzhou, China, and Cayan Tower in Dubai, among several others.

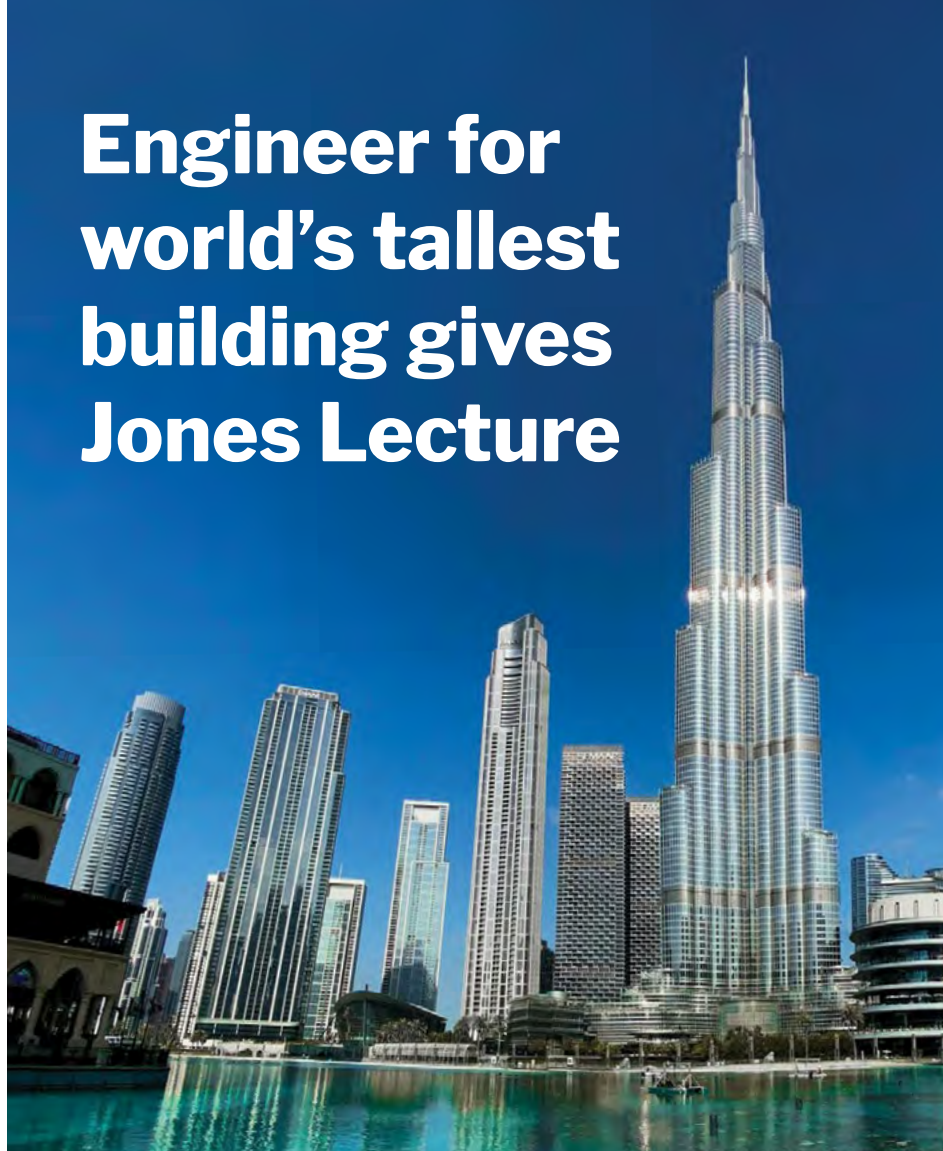
Along with super-tall structures, Baker is also known for his work with long-span roof structures and specialty structures. Past projects include the Broadgate Exchange House and Broadgate Tower in London, the entrance pavilion for General Motors' headquarters in Detroit, and the Manulife pedestrian bridge in Calgary, Canada.

His work has also led to collaborations with multiple prominent artists, such as James Turrell, Janet Echelman and Jaume Plensa.

Baker is a member of both the National Academy of Engineering and the National Academy of Construction, and he is a Distinguished Member of the American Society of Civil Engineers.

He has been awarded four honorary doctorates from universities around the globe, including the University

# Engineer for world's tallest building gives Jones Lecture



of Missouri-Columbia, where the Fulton, Missouri, native also earned a bachelor's degree in civil engineering. His master's degree in civil engineering is from the University of Illinois Urbana-Champaign.

The Jones lecture series is named for Vernon Jones, a 1953 civil engineering alumnus, and his wife, Maralee.



Pictured from left: Dr. Joel Burken, Dr. Kamal Khayat, Bill Baker and Dr. Mohamed ElGawady



# Talking cyber-physical systems education

In September, Dr. Kevin Heaslip, professor of civil and environmental engineering and director of the Center for Transportation Research at the University of Tennessee, Knoxville, gave the 2024 Abbett Lecture.

The lecture titled “The Need for Cyber-Physical Systems (CPS) Education and Research in Civil Engineering” touched on cyber-physical systems (CPS) that are becoming increasingly crucial in civil engineering, as modern infrastructure relies on the interaction between digital systems and physical components. From smart grids and autonomous transportation to intelligent buildings, CPS enhances operational efficiency, safety, and sustainability. However, the rapid integration of these technologies requires specialized education and research to address system security, reliability, and scalability challenges. Incorporating CPS knowledge into civil engineering curricula and advancing research in this area is essential for preparing engineers to design, manage, and secure future infrastructure.

Heaslip has been awarded over \$40M in research grants and contracts in transportation engineering, transportation technology, and critical infrastructure cybersecurity. He has over 180 peer-reviewed journal articles, conference proceedings, and technical reports. Heaslip earned his bachelor’s and master’s degrees in civil engineering from Virginia Tech and a Ph.D. in civil engineering from the University of Massachusetts Amherst.



## Abdulazez presents at TRB

**Dr. Mohanad Abdulazez**, PhD CE’17, talked about his work with seismic shear strength of hollow-core composite bridge columns and presented his poster on the experimental investigation of corroded steel H-piles repaired with ultra-high performance concrete plates under eccentric axial compressive loads at the 2024 Transportation Research Board (TRB) Research Conference held in Washington D.C. The Missouri Center for Transportation Innovation (MCTI) helped sponsor the trip.

**Binod Shrestha**, a S&T Ph.D. student, was lead author of the poster. Both research topics were carried out under the direction of **Dr. Mohamed ElGawady**, interim chair and Kaplan Faculty Scholar and sponsored by Missouri Department of Transportation.

Abdulazez works with Dr. Kristen Donnell, professor of electrical and computer engineering and interim director of the Center for Infrastructure Engineering Studies (CIES) and Dr. Mohamed ElGawady.

# S&T researcher patents sensor that tracks movement in buildings and bridges

The smallest movements in building or bridge materials can cause big problems.

**Dr. Genda Chen**, S&T's Robert W. Abnett Distinguished Chair in Civil Engineering and director of the Center for Intelligent Infrastructure and the INSPIRE University Transportation Center, has been awarded a patent for a sensor he says can track if composite building materials have even the tiniest of movements and help prevent structures from collapsing or having less integrity.

"The most common example of composite materials in construction is beams made from both steel and concrete, but the main idea is to have two different materials bonded together to enhance the strength of a structure," says Chen.

"These materials should have zero movement. If they separate for whatever reason, this can lead to some significant problems with the structure and its safety."

To monitor movements that could be as small as one micrometer — or one-thousandth of a millimeter — Chen has patented a device that uses



a mirror connected to a fiber-optic cable about as thick as a human hair follicle.

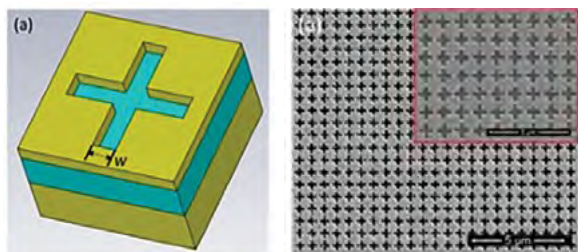
This sensor can be connected directly onto a structure's steel and concrete composites and is designed so that the mirror, which has a microscopic pattern on it, can use light and reflections in multiple ways to measure any displacement, or change in positions, between the materials.

Chen says the sensor is likely still several years away from being available on a large scale, but he is excited to be awarded the patent and begin taking the next steps toward the sensor being used by structural engineers.

"Working to develop technology that is so directly applicable to real life is dear to my heart," he says. "As I have advanced in my career over the past three decades, my research has increasingly focused on concepts that could more quickly make a tangible, real difference for society."

Other inventors on the patent include Drs. Jie Gao, a former S&T faculty member, and **Chuanrui Guo**, an S&T alumnus who earned a Ph.D. in civil engineering under Chen's supervision.

"What is exciting is this technology can be a non-destructive testing method when the sensor is installed during construction, and there is a serious need for this," Chen says. "Movements will be detected much sooner, and then engineers can work to re-bond the materials."



**Plasmonic metasurface:** (a) a cross-shaped unit cell nanostructure with cross width  $w$ , and (b) SEM image of  $60\ \mu\text{m} \times 60\ \mu\text{m}$  metasurface with a close-up view.

# Burken awarded ASCE Medal

**Dr. Joel Burken**, a longtime faculty member at Missouri S&T, has been selected as a recipient of the 2024 President's Medal from the American Society of Civil Engineers (ASCE).

The annual award was established in the 1980s to honor engineers who have made significant accomplishments and contributions in support of ASCE, their field or the public. No more than two recipients are selected each year.

"I feel humbled to receive this recognition, especially considering the list of past recipients and what they have done," says Burken, a Curators' Distinguished Professor and Mathes Chair of Environmental Engineering at S&T.

"ASCE is our nation's oldest engineering society, and I can't say enough about the great work the organization and its leaders do for our more than 160,000 members and our field. To be selected for ASCE's President's Medal is a true and humbling honor."

A member of ASCE since 1990, Burken has served in multiple local, regional and national positions.

In late 2015, Burken was named interim chair of civil, architectural and environmental engineering at S&T, and he served as the department's permanent chair 2016-24. In 2018, he was elected to ASCE's Department Heads Coordinating Council (DHCC), and he served as the council's chair 2021-23.

He is also a former associate editor of ASCE's *Journal of Environmental Engineering*, president of the Mid-Missouri section of ASCE, and faculty advisor of Missouri S&T's ASCE student chapter.

Burken has won multiple awards as an ASCE advisor, including the national 2023 Outstanding Faculty Advisor Award. He has twice won the



ASCE Rudolph Hering Medal for his outstanding contribution in environmental engineering research.

Current ASCE president, **Marsia Geldert-Murphey**, MS CE'97, and Maria Lehman, past president, both say Burken's honor is well-deserved.

"I nominated Dr. Joel Burken because he embodies the spirit of leadership and lifelong learning, and his influence reaches far beyond the classroom," Geldert-Murphey says. "He is dedicated to inspiring both students and professionals alike to do more, think bigger and stay engaged in shaping the future."

Lehman shared similar sentiments.

"Joel knows how to instill passion and leadership in our students to launch them into successful professional careers," she says. "During his tenure as chair of the ASCE Department Heads Coordinating Council, I got to see firsthand how he was looking to be the educational disruptor to make the changes we need to make in undergraduate education in order to thrive in the future."

Burken earned a Ph.D., master's degree and bachelor's degree in civil and environmental engineering from the University of Iowa. He joined the S&T

faculty, starting as an assistant professor in 1997 and rising to the rank of professor in 2008 and Curators' Distinguished Professor in 2015.

Burken is a pioneering researcher in the areas of phytoforensics and phytoremediation and was awarded a patent related to his work.



Burken receiving his medal from Geldert-Murphey. He was supposed to receive it during ASCE's convention, but Hurricane Milton had other ideas.

# 2024 ASCE Regional and Section Awards

[www.ascestl.org/awards](http://www.ascestl.org/awards)

Please join us in congratulating the following alumni and faculty on their well-deserved honors from the American Society of Civil Engineers (ASCE) Region 7 and St. Louis Section.

## Professional Progress

**Michael (Mike) T. Buechter**, CE'90, is a program manager at the Metropolitan St. Louis Sewer District. His day-to-day responsibilities include the management of a team of engineers, operators, and construction inspectors responsible for the preparation of construction documents for small to mid-sized capital and infrastructure repair projects, administration of several consulting engineering contracts, and administration of MSD's Small Contractor Program.



ASCE REGION 7 BOARD OF DIRECTORS IS PROUD TO HONOR MICHAEL BUECHTER WITH THE 2024 PROFESSIONAL PROGRESS AWARD

**MICHAEL BUECHTER, P.E.**  
Metropolitan St. Louis Sewer District

## Outstanding Faculty Advisor

**Dr. Sanjay Tewari** is an associate teaching professor in the cooperative engineering program at Missouri State University. He joined Missouri State in fall 2018 and has been promoting civil engineering education through his work with both Missouri State and Missouri S&T. With a civil engineering background, Tewari has made substantial contributions to enhancing the cooperative engineering program.

Tewari received the award for his efforts in mentoring students, guiding them through academic and professional development, and actively participating in ASCE's initiatives at various levels, including national and international engagements.



ASCE REGION 7 BOARD OF DIRECTORS IS PROUD TO HONOR DR. SANJAY TEWARI 2024 OUTSTANDING FACULTY ADVISOR AWARD WINNER

**DR. SANJAY TEWARI**  
Professor of Civil Engineering,  
Missouri University of Science and  
Technology + Missouri State University

## Outstanding Younger Member

**Brenan Pool** earned dual bachelor's degrees in architectural and civil engineering in 2022, while minoring in sustainability studies at Missouri S&T. He holds several green building credentials and has led others in organizations such as American Society of Civil Engineers (ASCE), Architectural Engineering Institute (AEI), and more. ASCE's Younger Members group is committed to increasing the awareness of all ages about civil engineering. On a professional level, they provide career guidance, technical development and networking opportunities to engineering students and young professionals in the St. Louis regional area.



ASCE REGION 7 BOARD OF DIRECTORS IS PROUD TO HONOR BRENAN POOL 2024 OUTSTANDING YOUNGER MEMBER AWARD WINNER

**BRENAN POOL**  
The Ingenuity

*(continued on the next page)*

# ASCE Awards

continued...



## Service to the People Award

### Tom Sieckhaus

Executive VP, corporate business unit leader and shareholder at Clayco and a member who has made substantial contributions to the engineering profession and the St. Louis Section



## Undergraduate Scholarship Awardee

### Garrett Coggin

Missouri S&T Concrete Canoe and Steel Bridge Design Team, Chi Epsilon, EcoMiners and Wind Symphony

## Alumni elected to Region 7 Board of Officers and Directors

Congratulations to the following S&T alumni selected to join a stellar group of leaders building on previous accomplishments. They are **Shari Cunningham**, CE'97, MS CE'00, **Tony Roth**, IST'12, **Nichole Witushynsky**, AE'08, MS CE'11 and **Christopher Toenjes**, MS CE'02.

## Oerther co-authors article



**Dr. Daniel B. Oerther**, professor of environmental engineering, has co-authored an article in the *Journal of Environmental Engineering*, a publication of the American Society of Civil Engineers.

He wrote the article, titled "Environmental Engineering 3.0: Faced With Planetary Problems, Solutions Must Scale-up Caring," with Dr. Sarah Oerther, assistant professor at the Goldfarb School of Nursing at Barnes-Jewish College, and Dr. Linda McCauley, dean of the Nell Hodgson Woodruff School of Nursing at Emory University.

The article discusses the future of environmental engineering practice, addressing technological advancements supporting planetary health and improved social contracts ensuring human welfare.

## Faculty promotions and honors



**Dr. Grace Yan** was promoted to professor of civil engineering at Missouri S&T and elected as a Fellow of the American Society of Civil Engineers (ASCE). She was also selected to serve on the National Academies of Sciences, Engineering, and Medicine's committee on attribution of extreme weather events, climate change and their impact. These honors reflect her national and international research reputation on tornado resilience, coastal resilience and climate change adaptation, as well as her enthusiasm to translate her related research findings into building standards.



**Dr. Dimitri Feys**, associate professor of civil, architectural and environmental engineering, was honored with a Post Tenure Review Excellence Award. He was also selected as a recipient of the third Clyde E. Kesler Education award from the American Concrete Institute (ACI).

## Stevens Institute promotes Bao to assistant professor



**Dr. Yi Bao**, PhD'17, earned his degree under the mentorship of **Dr. Genda Chen**, the Robert W. Abnett Distinguished Professor of Civil Engineering, securing several prestigious awards from S&T, including the Dean's Scholar and the Inaugural Franklin Y. Cheng Scholar Awards.

Following a one-year postdoctoral stint under Dr. Victor Li at the University of Michigan-Ann Arbor, he assumed the role of a tenure-track assistant professor in civil, environmental and ocean engineering at Stevens Institute of Technology in August 2018.

Bao is founder of the Smart Infrastructure Laboratory at Stevens Institute of Technology. His research portfolio encompasses structural health monitoring, sustainable and resilient infrastructure, smart sensors, smart robots, machine learning, sustainable materials, and construction automation. Notably, his research group has achieved significant milestones in knowledge-guided data-driven technologies, including AI-assisted sensor design and data interpretation, auto-discovery of sustainable materials, reconfigurable sensors, and reconfigurable structures.

His interdisciplinary research initiatives have secured funding from many notable entities.



## Morgan appointed KC Water director

**Kenneth C. Morgan**, CE'83, was recently appointed as the new Water Services Director for KC Water.

Morgan has had a strong career as a leading expert in water distribution and wastewater collection systems and operations, recognized nationally within the American Water Works Association. While at S&T he was a member of the Association of Black Engineers, as well as a charter member of the Iota Omega chapter of Kappa Alpha Psi Fraternity Inc.

**Website:** [kcmo.gov/Home/Components/News/News/2185](http://kcmo.gov/Home/Components/News/News/2185)



## Myers delivers keynote at transportation workshop

**Dr. John J. Myers**, professor of civil, architectural and environmental engineering and director of the Missouri Center for Transportation Innovation (MCTI), delivered a keynote address titled "A View Towards the Development and Implementation of Lower Carbon Sustainable Concrete for Infrastructure Applications" at the Convergence of Physical and Digital Transportation Infrastructure workshop.

The workshop, co-organized by the Japan Society for the Promotion of Science, MCTI and the Environmentally Responsible Transportation Center for Communities of Concern, was held Friday, Sept. 13, on the University of Missouri-Kansas City campus.



## Yan advances tornado resilience at state and national summits

**Dr. Grace Yan**, professor of civil, architectural and environmental engineering, recently delivered speeches at two resiliency summits.

During the Missouri State Emergency Management Agency's Resiliency Summit held in Jefferson City, Yan delivered a plenary speech titled "Transforming and Harvesting Tornado Resilience through Integrated Vigorous Engineering (THRIVE)."

Her talk provided valuable insights and innovative strategies to help Missouri prepare for future tornadoes, aiming to prevent tornado hazards from escalating into disasters.

Additionally, at the 2024 Resiliency Summit hosted by the Small Business Administration, Yan addressed small-business owners nationwide with her talk, "Tornado Resilience Planning for Small Business Owners."

# Miner alumni awards

Eight Missouri S&T alumni and one faculty member were honored for their professional achievements and service contributions during the Miner Alumni Association's Legends Luncheon on Friday, Oct. 25. The awards banquet is held annually in conjunction with Missouri S&T's Homecoming festivities. Two of our exceptional alumni pictured below were honored.



## Distinguished Young Alumni Award

**Michael Hayes**, CE'07, of St. Charles, Missouri, received the Distinguished Young Alumni Award for his leadership abilities. Hayes is the vice president of planning, design and construction for BJC HealthCare.



## Jerry R. Bayless Alumni Merit Award

**Thomas Sieckhaus**, CE'88, of Fenton, Missouri, received the Jerry R. Bayless Alumni Merit Award. Sieckhaus is the executive vice president, a corporate business unit leader and a shareholder at Clayco. This award, named for Jerry Bayless, is presented to faculty, friends of the campus, or alumni for outstanding professional achievements and service to the campus or the Miner Alumni Association.

# Missouri Society of Professional Engineers (MSPE) Awards



## Government Engineer of the Year Award Julie Hawkins, P.E., CE'06

This award recognizes the accomplishments of engineers who serve local, state or federal government. Hawkins works at City of Springfield Environmental Services and is chair of MSPE's Professional Engineers in Government division. In July, she becomes the MSPE Ozark Chapter President.



## Professional Engineers in Private Practice Distinguished Service Award Rachel Goeke, P.E., CE'02, MS CE'03

This award recognizes an engineer who has made an outstanding contribution to the advancement or recognition of the role of private practice in serving the public interest. Goeke's MSPE experience began when she joined Palmerton & Parrish in 2006. Her service to PEPP took place throughout her career at PPI, which ended in 2023 when she went to work for Liberty Utilities. Goeke served as MSPE president from 2022-23.

# Forsee speaks about technology and leadership



Many thanks to proud Missourian and 1972 civil engineering graduate, **Gary Forsee**, who visited with our senior seminar class.

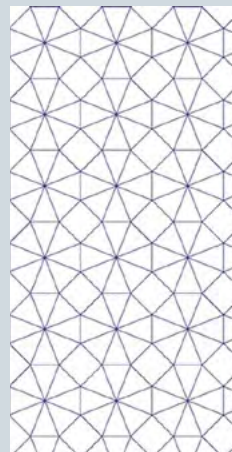
Forsee touched on his career as CEO with Sprint Nextel, the evolution of technology, his presidency and leadership within the UM System, building energy efficiency and what role we play in our global economy, the value of teamwork and much, much more.

## Talking wildfires

Did you know in California alone, an average annual direct loss of \$9.9 billion due to structural damage from wildfires has been estimated between 2017 and 2021?

Dr. Michele Barbato, professor of structural engineering and structural mechanics in civil and environmental engineering at the University of California, Davis, presented on “Wildfire risk assessment and mitigation approaches for the built environment.”

The seminar was organized by the Center for Intelligent Infrastructure (CII).





Pictured from left: Dr. Eric Showalter, Cruz Becerra, Ciarra Bell, Tristen (T.J.) Riley and David Barlow.

## Students awarded builders scholarships

Six Missouri S&T students received scholarships from The Builders, a chapter of the Associated General Contractors of America in Kansas City.

The following students were honored at the 2024 Scholarship Winners and Benefactors Celebration in Kansas City on Aug. 10:

- **David Barlow**, a civil engineering student, received the George J. Shaw Construction Co. scholarship.
- **Cruz Becerra**, an architectural engineering student, received the McCownGordon Construction Co. scholarship.
- **Ciarra Bell**, an architectural engineering student, received the Turner Construction Co. scholarship.
- **Tristen (T.J.) Riley**, a mechanical engineering student, received the William L. Hutton Memorial scholarship.
- **Victoria Voelkel**, a civil engineering student, received the Patricia A. Carroll Scholarship.
- **Rachel Winingear**, an architectural engineering student, received the V.S. DiCarlo Memorial.

## Highfill receives Remington R. Williams Award



**Ryan Highfill**, an undergraduate student in civil, architectural and environmental engineering, is among the second class of Remington R. Williams Award recipients, announced by the UM System Board of Curators. Ryan is also the incoming executive director for the Associated Students of the University of Missouri.

The Remington R. Williams Award recognizes exceptional student leaders who have made an impact on their respective institution, inspired growth and development of fellow students in

both academics and extracurricular activities and exhibited outstanding character and collaborative spirit at all times.

## ElGawady spends year in Energy-Innovation Office



**Dr. Mohamed ElGawady**, interim chair and Alard and Sheri Kaplan Faculty Scholar, spent his sabbatical year as a deputy lead of the Nuclear Portfolio in the Operational Energy-Innovation office, under the deputy assistant secretary of defense for energy resilience and optimization. He is pictured attending the Nuclear and Emerging Technologies for Space (NETS 2024) in Santa Fe, New Mexico.

## Yan delivers keynote at international conference on wind and structures

In August, **Dr. Grace Yan**, professor of civil, architectural and environmental engineering, delivered a keynote speech titled “High-fidelity Tornado-community Interaction Modeling and Its Application to Enhance Tornado Resilience” at the 2024 International Conference on Advances in Wind and Structures (AWAS24), as a part of ACEM24/ Structures24 Congress. This forum brought together academics and practicing engineers to exchange results under the topics of infrastructure, environmental and materials research.



## MISSOURI CONSORTIUM for **CONSTRUCTION** iNNOVATiON

The Fall MO-CCI Industry Night was a resounding success. Many thanks to our construction companies that answered questions, shared their insight, expertise, and exchanged contact information with our students.

## Students intern with Archer-Elgin

These four men gained valuable experience and made professional connections working for Archer-Elgin, one of our local industry partners who actively seeks our students for internship opportunities. Along with learning more about different aspects of civil engineering, they applied classroom theory to real work situations and gained an understanding of workplace culture.

Pictured from left: Sean Adkison, environmental engineering; Andrew Nicholson, architectural engineering and Miners football linebacker; Charleton Prewett, mechanical engineering; and Jonah Adkison, civil engineering.



# DOE selects two S&T students for summer program at Argonne National Laboratory

**Kaylee Denbo** and **Ginger Ramirez**, environmental engineering students at Missouri S&T, were not on the university's campus much this summer, but their absence doesn't mean they will stop learning important skills for their future profession.

Both students were awarded Science Undergraduate Laboratory Internships from the U.S. Department of Energy and spent 10 weeks working at Argonne National Laboratory in Lemont, Illinois.



**L-R: Ginger Ramirez and Kaylee Denbo near the entrance of Argonne National Laboratory**

This marks Ramirez's second summer working at the national lab. In 2023, she worked with the division of nuclear, waste and site services, but her focus this summer will be with the division of energy system infrastructure assessment.

"Last year, I didn't do much actual research during my internship, instead focusing on learning about proper processes for the disposal of radiological waste," says the senior from Ballwin, Missouri. "This summer, I'm going to work for a senior researcher and will mostly collect and process data to evaluate the potential impact of future bioenergy development on freshwater resources."

Her research experiences as part of S&T's Opportunities for Undergraduate Research Experiences (OURE) program have covered a different topic, but she says she anticipates this program will give her a solid starting point as a researcher when she begins her new undertaking with the national laboratory.

"My research at Missouri S&T is on phytoremediation," Ramirez says. "More specifically, I am studying the ability of certain fungi to assist roots of native plant species with

growing in soil contaminated with mine tailings. I was excited when I started on the project last year because I am most interested in doing research related to plants."

For Denbo, a senior from Rolla, Missouri, this was her first time working in Argonne National Laboratory, but far from her first time being involved with research.

She says her work for S&T's OURE program has similar roots to her national lab internship in the sense that it relates to plants and improving the environment. However, her OURE project has covered the remediation of dioxane, a harmful chemical, from plants, while her internship at Argonne will focus on crops used for bioenergy.

"For my internship, I will work with other students and members of Argonne's environmental science research group and focus on using bioenergy crops to provide ecosystem services," Denbo says. "Some of the services could include improved water quality, biodiversity, reduced soil erosion and reduced greenhouse gas emissions. These crops could be something a farmer could plant in the off-season that would improve their crop yield the next season."

"This is something I'm passionate about, because it has the ability to improve the environment for generations to come."

She says this internship helped her have a stronger idea for what specific environmental engineering career path she will eventually take.

"Having the ability to conduct research at S&T as an undergraduate student has been amazing, and this internship at a national laboratory will help take my skills to an even higher level," she says. "Research is something I find very exciting, and this opportunity will allow me to explore what it would be like to do this as a career."

**Dr. Joel Burken**, Curators' Distinguished Professor and chair of civil, architectural and environmental engineering, says he is excited to see what both students take away from the experience and how they can use what they learn to support the department's mantra to "change the world."

"Being accepted for this highly selective internship program and going to a national laboratory is a huge opportunity for our students," he says. "Kaylee and Ginger are both already talented undergraduate researchers, so I know they will make our department proud and get the most they can out of this experience."

# Missouri S&T TedX

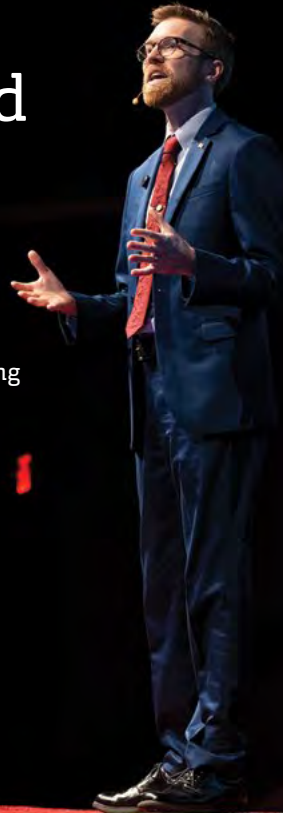
## Resiliency in our World

Eight speakers spoke on the theme of resiliency during Missouri S&T's TEDx event. One of our young alumni, **Malachi Rein**, ArchE'16, shared his perspective about unveiling the hidden potential of buildings.

Rein is director of the Building Energy Exchange St. Louis, an initiative dedicated to fostering conversations, connecting partners, building project pipelines, and providing resources to enhance the efficiency of the St. Louis region's building stock at scale.

He holds degrees in architectural engineering and communications and has experience in construction, facility, and operations management. He's dedicated to providing his community with a perspective on the impacts and opportunities of the built environment, helping them to achieve their best selves.

Rein was recognized in St. Louis Magazine as one of the Ones to Watch: St. Louisans Leading Sustainability Initiatives Across the Region.



## Steel factory field trip

**Dr. Mohanad Abdulazeezour** took the Advanced Steel Structures Design Class (CE5210) on a field trip to Jefferson City to visit DeLong's, Inc. steel factory. The trip was funded by the American Institute of Steel Construction (AISC) Education Foundation and the CAREE department.

This field trip allowed students to see inside steel manufacturing facilities, mainly structural steel sections and connections, to further develop their skills and knowledge in structural steel behavior and design.

**Website:** [www.aisc.org/education/university-programs](http://www.aisc.org/education/university-programs)

# Army promotes Goetz to brigadier general

By Brian Hill, Fort Leonard Wood Public Affairs Office

**Col. Joseph Goetz**, MS CE'01, U.S. Army Engineer School commandant, was promoted to brigadier general during a ceremony May 30 in Lincoln Hall Auditorium.

Presiding officer for the ceremony, Maj. Gen. Christopher Beck, Maneuver Support Center of Excellence and Fort Leonard Wood commanding general, called Goetz's promotion a "well-deserved recognition of his potential and his leadership."

"We're here to celebrate the promotion of one of our great engineer officers and a superb Army leader," Beck said. "This promotion is not a prize; it's not a reward, and it's not a thank you. Generals are not promoted for what they've already accomplished, but rather for what our nation needs them to do in the future. It's about potential, the ability to serve and the ability to solve our nation's most-difficult challenges."

Beck said Goetz was one of 4,277 Army officers commissioned in 1997, and he noted just 17 of those officers have been nominated for brigadier general.

"That's .003% to this point," Beck said. "That's an incredible, incredible accomplishment."

But no one accomplishes anything of that magnitude in this world alone, Beck added, and he thanked Goetz's family, including his spouse, Beth, and his children Ben, Charlie and Addy, for their support.

"What an amazing testament this family is to the service of our great nation and our workforce — just a great example of an Army family, so thank you," Beck said.

After Goetz's family members pinned on his brigadier general rank, Beck administered the Oath of Office and the general officer flag, belt and pistol were presented.

Goetz, who hails from Rome, New York, thanked his family, friends and fellow service members in attendance, before speaking about a conversation he once had with his father, when he referred to himself as "a self-made man."

"And he gave me one of those non-committal responses, like, 'Oh, you think so?' — indicating to me that he might not be fully on board with my way of thinking," Goetz said, before noting the myriad of people throughout his personal and professional life, "who have, in fact, made me."

"I am no self-made man, and I am better for it," he said.

Goetz has degrees in civil engineering from the U.S. Military Academy at West Point, Missouri S&T and the University of Texas at Austin, and is a graduate of the Army War College.

His awards and decorations include the Legion of Merit, Bronze Star Medal, Defense Meritorious Service Medal, Meritorious Service Medal, Ranger Tab, Sapper Tab and Senior Parachutist wings.



**During a May 30 promotion ceremony in Lincoln Hall Auditorium, Col. Joseph Goetz, U.S. Army Engineer School commandant, has his brigadier general rank pinned on by his spouse, Beth, and daughter, Addy, as his sons, Ben and Charlie, look on.**

# Alumna speaks on never giving up



Soldier and Miner alumna **Lisa Jaster**, MS CE'04, captured her audience's attention with her vibrant personality and remarkable life adventures during senior seminar, and her talk titled "Never Letting the Quit In!" The talk was cohosted with the Society of Women Engineers (SWE) and the LIFE program in the S&T College of Engineering and Computing.

Jaster discussed why people's adjectives aren't their destinies and how she didn't confine herself to the adjectives of "middle-aged" or "female" when becoming one of the first three women to graduate from the United States Army Ranger Program. She kept going through many challenges, never quitting, and demonstrating her fortitude as a Ranger.

She stressed always having a Plan A, Plan B and a Plan C, having a great support system, and having real reasons to move forward. Some other good advice she passed along was to speak with people so they can hear you and don't quit because you don't know who you might be influencing. She also highlighted her goals to be a positive influence, to use her voice to help

others reach their goals and to make a positive difference in the world.

Twenty years down the road, she wanted fellow Miners to remember these two things:

1. Really know your true why
2. Build a proper team.

Lt. Col. Jaster has been deployed twice in her career and her military awards include the Bronze Star Medal and the Meritorious Service Medal. In 2018, she was inducted into the U.S. Army Women's Foundation Hall of Fame.

Jaster graduated from West Point with a bachelor's degree in civil engineering and later earned a master's degree in civil engineering from Missouri S&T. She served as an Army Engineer 2000-07, and today she continues to serve in the U.S. Army Reserve as an engineer officer. Her corporate career includes time as a project manager for Royal Dutch Shell, director of civil engineering for M&S Engineering, executive coaching, and now program manager for Team Housing Solutions.



**Lisa Jaster, MS CE'04**  
"Never Letting the Quit In!"

## Liu named ELATES Fellow in national leadership program



**Dr. Jenny Liu,** James A. Heidman Professor in Civil Engineering, has been selected as a Fellow

in the 2024-25 cohort of Drexel University's Executive Leadership in Academic Technology, Engineering and Science (ELATES) program.

ELATES is a national leadership development program designed to promote senior women faculty, and faculty allies of all genders, in leadership for academic engineering, computer science and other STEM fields into effective roles within their institutions.

The program, which is committed to increasing the representation of women in STEM, is designed to address four fundamental competencies: strategic finance and resource management, personal and professional leadership effectiveness, organizational dynamics, and communities of leadership practice.

Liu was nominated for the program by **Dr. Joel Burken**, John A. and Susan Mathes Chair of Environmental Engineering, **Dr. Franca Oboh-Ikuenobe**, associate dean for academic affairs for the College of Engineering and Computing (CEC), and **Dr. David Borrok**, vice provost and dean of CEC.

## Missouri S&T professor receives Champion of Nursing Award



**Dr. Daniel B. Oerther**, environmental health engineering professor at Missouri S&T, has been awarded the Champion of Nursing Award from the American Nurses Association (ANA).

"It is a true honor to collaborate with outstanding members of the nursing profession and receive this recognition from ANA," Oerther says. "When nurses and engineers work together across disciplines, we can make great strides in providing communities with clean drinking water and sanitation, nutritious food, and other basic health needs."

Oerther was presented the award, which is given to an extraordinary leader or organization not in the nursing profession, during a ceremony in Washington, D.C.

S&T faculty member since 2010, he has published multiple articles focused on the convergence of nursing and engineering in academic journals and other publications.

He is a lifetime honorary fellow of the American Academy of Nursing; a lifetime honorary member of Sigma Theta Tau, the international honor society of nursing; and a lifetime honorary fellow of the National League for Nursing's Academy of Nursing Education.

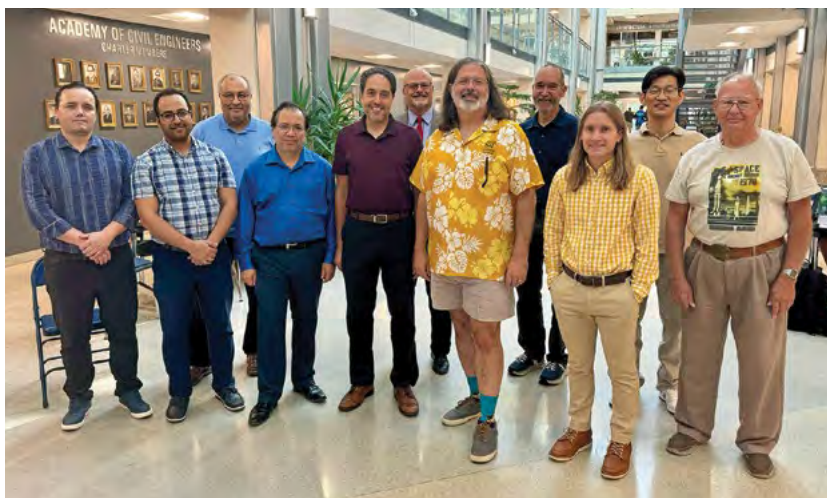
Oerther is also a fellow of the Society of Environmental Engineers, the Society of Operations Engineers, the Chartered Institute for Environmental Health, and the Royal Society for Public Health, among other organizations.

Oerther serves as executive director of the American Academy of Environmental Engineers and Scientists and was the first person to be recognized by the organization with board certification as both an environmental engineer and environmental scientist.

He is a professor of nursing by courtesy for Duquesne University, treasurer and a member of the board of directors of Engineers Without Borders USA, president of the Council of Engineering and Scientific Specialty Boards, and chair of the Missouri Hazardous Waste Management Commission.

Oerther earned a Ph.D. and master's degree in environmental engineering from the University of Illinois, Urbana-Champaign, as well as bachelor's degrees in both environmental engineering and biology from Northwestern University.

# Celebrating Fitch's retirement



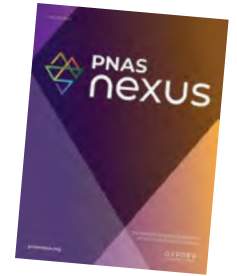
The campus community was invited to celebrate **Dr. Mark Fitch**, associate professor of environmental engineering, on Sept. 19, in the atrium of Butler-Carlton Civil Engineering Hall. He officially retired Sept. 1.



During his 28 years of service to S&T, Fitch served as an assistant chair of the environmental engineering bachelor's degree program, and he played a key role in guiding the S&T campus through the Higher Learning Commission and ABET accreditation processes. He served six years as an officer of the Faculty Senate, which included four years of service on the University of Missouri System Intercampus Faculty Cabinet. For his dedication and service, he received the 2019 UM System President's Award for University Citizenship – Service.

Fitch is probably best known for his service work with Engineers Without Borders (EWB). He was the chapter's advisor 2013-20, led students in projects for four developing countries, traveled with student groups to Bolivia and Guatemala 10 times, and helped the organization raise more than \$1.1M.

## Yan publishes in PNAS Nexus

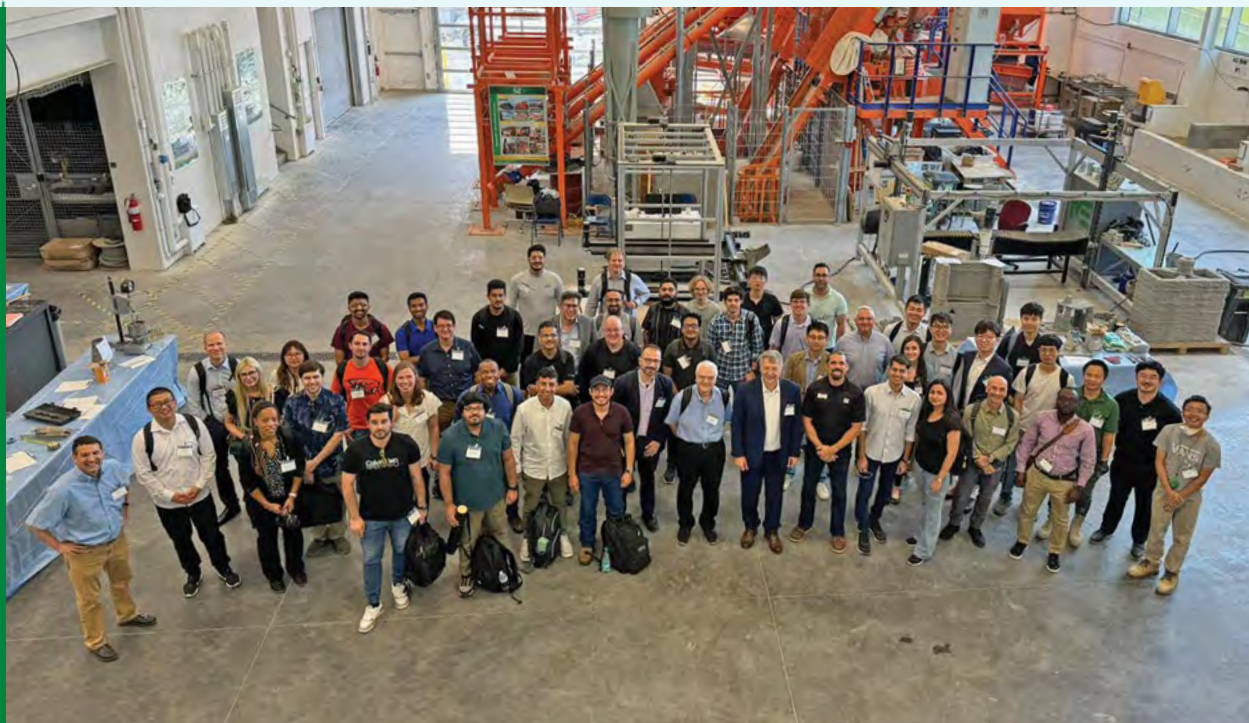


**Dr. Grace Yan**, professor of civil, architectural and environmental engineering, along with a group of fellow researchers, published a paper titled "Equitable Infrastructure: Achieving Resilient Systems and Restorative Justice through Policy and Research Innovation" in *PNAS Nexus*. *PNAS Nexus* is a National Academy of Sciences (NAS) journal dedicated to publishing high-quality original research from across the biological, medical, physical, social, and political sciences, and engineering and mathematics, promoting collaboration across diverse fields. To view the article, go to: [doi.org/10.1093/pnasnexus/pgae157](https://doi.org/10.1093/pnasnexus/pgae157)

## Yan talks digital twins for disaster resilience at Geo-Resolution 2024

**Dr. Grace Yan**, professor of civil, architectural and environmental engineering, was invited to talk about Digital Twins for Disaster Resilience (DTDR) at the 2024 Geo-Resolution conference. The conference was organized by Taylor Geospatial Institute. In the first panel discussion of the conference, "Digital Twins: Geospatial Approaches to Modeling in Real-Time," along with colleagues from NASA, NGA and blackshark.ai, Yan shared the success that S&T achieved and the roadblocks that they addressed in developing the DTDR. She also called for actions to encourage data sharing and participation of the industry to facilitate DTDR in being implemented to enhance community resilience. The related recording can be found at [slu.edu/geoslu/georesolution/index.php](https://slu.edu/geoslu/georesolution/index.php)

# S&T hosts workshop on rheology, 3D printing of concrete



Missouri S&T hosted a workshop on rheology and 3D printing of concrete Aug. 5-7. The event attracted 55 participants. It was organized by the DuRe-Transp University Transportation Center (UTC) and co-sponsored by the National Science Foundation (NSF) AccelNet.

The workshop was chaired by **Dr. Kamal H. Khayat**, associate director of the UTC and vice chancellor for research and innovation at S&T, and Dr. Jan Olek, theme leader of the UTC and co-principal investigator of NSF AccelNet from Purdue University.

The program focused on rheology-based investigations for cement-based materials, aiming to enhance the performance of high-performance concrete and 3D-printed concrete. Khayat presented on using rheology

to quantitatively analyze the flow behavior of construction materials, providing insights beyond traditional workability methods. **Yucun Gu** and **Seongho Han**, postdoctoral researchers in Khayat's group, introduced testing methods for evaluating the performance of 3D-printed concrete. A poster session showcased related research projects.

In addition to presentations, participants engaged in demonstrations of 3D printing testing methods and toured the Clayco Advanced Construction and Materials Laboratory. The second and third days featured breakout sessions in which attendees discussed opportunities and challenges in the topic area, and brainstormed ideas for future development.

In addition to Missouri S&T, participants included graduate students, faculty and industry professionals from the following institutions listed below.

Arizona State University  
Clemson University  
Drexel University  
ICON Technology  
Iowa State University  
Louisiana State University  
National Institute of Standards and Technology  
Northwestern University  
Oklahoma State University  
Purdue University  
Texas A&M University  
University of Puerto Rico at Mayaguez  
University of Florida  
University of Mississippi  
University of Notre Dame  
University of Texas at Arlington  
U.S. Army Corps of Engineers  
West Pomeranian University of Technology in Szczecin, Poland



## Liu co-chairs conference

The International Conference on Transportation Infrastructure and Materials (TIM2024) was held in June in Chongqing, China. More than 500 people attended this event. **Dr. Jenny Liu**, James A. Heidman Professor and Dr. Yuanming Lai, President of Chongqing Jiaotong University and member of the Chinese Academy of Sciences served as co-chairs of the conference.

Liu and Dr. Xiong Zhang were invited to give keynote presentations at the conference titled “Developing Stone Matrix Asphalt with Alternative Aggregates,” and “Recent Advances in Measuring Volume of Soil Specimen in Triaxial Testing.”

**Website:** [ictim2024.cqjtu.edu.cn](http://ictim2024.cqjtu.edu.cn)

## Zhang delivers keynote, organizes short course

**Dr. Xiong Zhang**, professor of geotechnical engineering, was invited to give a keynote presentation titled “Indefinability of Effective Stress for Unsaturated Soils” at the International Yuelu Symposium on Geotechnical and Underground Engineering held at Hunan University in Changsha, China, on June 18, 2024. He also organized a short course titled “Simple methods to rapidly characterize and model unsaturated soil behavior,” at the 2024 GeoShanghai International Conference, held in Shanghai, China, in May.

**Websites:** [ce.hnu.edu.cn/info/1065/12722.htm](http://ce.hnu.edu.cn/info/1065/12722.htm). and [www.geo-shanghai.org](http://www.geo-shanghai.org)



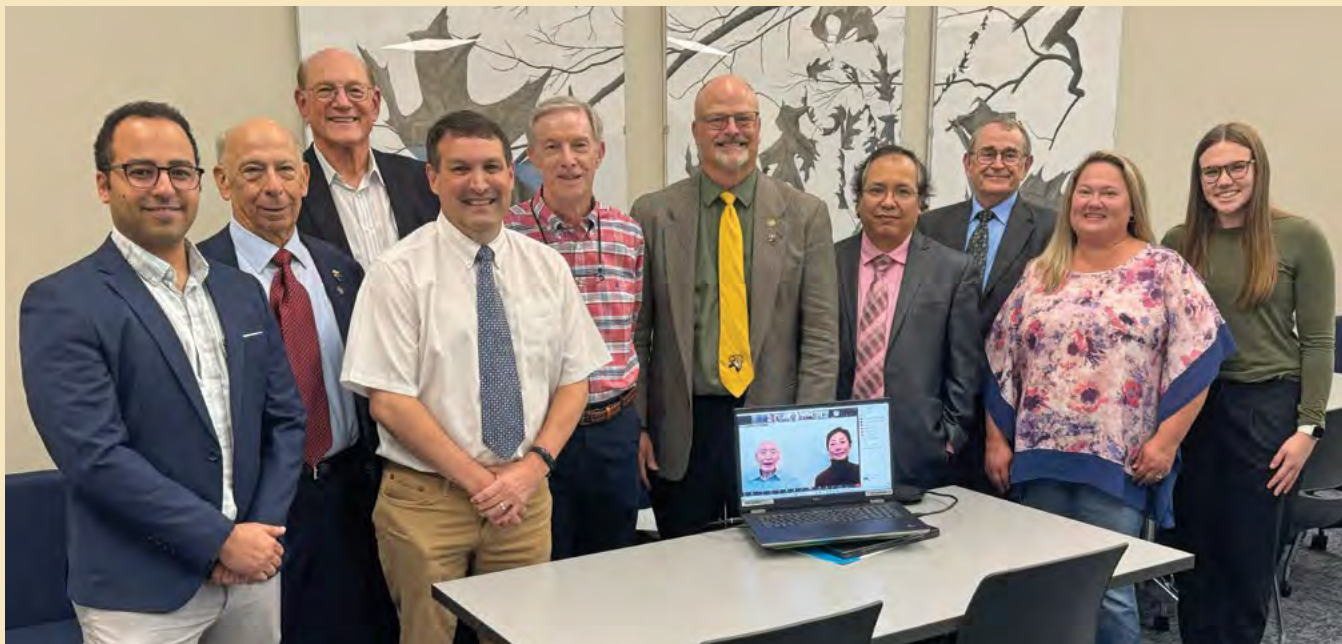
The ACI Concrete Innovation Council with **Dr. John Myers** (front row, left) and committee chair **Col. Brian Green**, senior research geologist with the U.S. Army Engineer Research and Development Center (front row, right).

## Myers organizes ACI technology forum

As a member of American Concrete Institute (ACI) Concrete Innovation Council, **Dr. John Myers**, director for the Missouri Center for Transportation Innovation and professor of civil, architectural and environmental engineering, helped organize the ACI Foundation 2024 Technology Forum. The event was held in May in Santa Fe, New Mexico. The three-day event featured advances in concrete materials, concrete production, structural design and construction and was limited to 80 attendees who are experts in the field of concrete technology and innovation.

**Website:** [acifoundation.org/technology/forums](http://acifoundation.org/technology/forums)

# Yu Knowledge Center dedication



Some attendees of the Dr. Wei-Wen and Yueh-Hsin Yu Knowledge Center, Oct. 25, 2024

We enjoyed a nice turnout in Butler-Carlton Civil Engineering Hall to celebrate the impact and global visibility of **Dr. Wei Wen Yu's** legacy as part of Missouri S&T's Homecoming events.

Former friends and colleagues gathered in the newly renovated Dr. Wei-Wen and Yueh-Hsin Yu Knowledge Center made possible by support from Yu, Curators' Distinguished Professor Emeritus of civil engineering, and his family. The space served as the Center for

Cold Formed Steel (CCFS) library and administrative offices and was converted into a place for students to study, meet about class and extracurricular topics, and relax. The renovated space also displays Yu's career and his remarkable accomplishments in the field of cold-formed steel design, education and innovation.

Yu's career started 56 years ago, and his work and leadership brought high research visibility to our department and the S&T campus. Yu initiated the Center for Cold Formed Steel (CCFS) in 1990 as one of the early centers at S&T. Campus historian, **Dr. Larry Gragg**, noted Yu's impact at a time of transition and that he was in the inaugural list of the most impactful faculty in S&T's 150-year history. **Dr. David Borrok**, vice provost and dean of the College of Engineering and Computing, also noted the importance at a time when expanding research and technology transfer were campus goals.

Yu also started the International Specialty Conference on Cold-Formed Steel Structures, later re-named in his

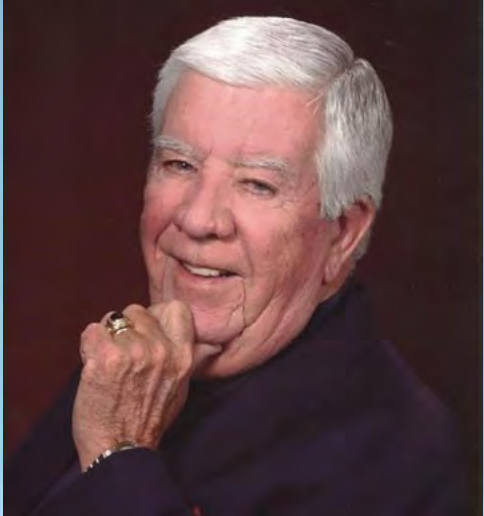
honor. His former Ph.D. student and longtime S&T professor, **Dr. Roger LaBoube**, Curators' Distinguished Teaching Professor Emeritus, spoke at the dedication and recounted the impact Yu had on the field in establishing S&T as a leader in cold-formed steel design and research. LaBoube led the center and library from 2000 to 2020 and carried on the leadership of the international conference.

The CCFS library was one of the first to transition knowledge and education in books to a digitized worldwide system at S&T. The top two downloads from our university are from the digital reserves, and over 1.5 million downloads have occurred after the digitization of the resources housed in the center. The transition of knowledge of the CCFS continues today, while the space will serve to gather students in further learning for generations to come as the Dr. Yu Knowledge Center.

We were extremely fortunate to have Yu, at the age of 101, join us online with his daughters, Dorothy and Julie, and his son, Gordon, for the event.



Yu and his daughter, Dorothy, online from Boston



# Remembering John C. "Jack" Wright Sr.

July 23, 1939 — Sept. 30, 2024

**John C. "Jack" Wright** was a lifelong resident of St. Louis. He attended Christian Brothers High School where he was a member of the rifle team and ROTC. Wright received his degree in civil engineering in 1961, along with an honorary doctorate from Missouri S&T. He also earned a master's degree from Washington University and was a U.S. Army veteran.

As a builder of the Gateway Arch, he enjoyed attending Builder's Day every October, where he would talk to Arch visitors about how the monument was constructed. He remained in the heavy construction industry until he retired due to health issues. Wright enjoyed playing golf and skeet/trap shooting. He was a board member at St. Louis Skeet and Trap Club, as well as a member of the Academy of Civil Engineers at Missouri S&T. He served as an usher at St. Clement Church for over 20 years.



Wright was preceded in death by his loving wife of 56 years, Lynda (nee Langhi). He is survived by son John, Jr. (Bridget) Wright, daughter Susan Wright, grandchildren Evan and Natalie Wright, brother Tom (Gayle) Wright, and partner Mary Lou Mucha. He also leaves behind many brothers- and sisters-in-law, nieces, nephews, cousins, and dear friends.

Visitation was held at Bopp Chapel on Friday, Oct. 11, followed by a 1 p.m. service. Interment was at Resurrection Cemetery. In lieu of flowers, please consider donating to Missouri S&T or the Alzheimer's Association.

**Connect with us.**

Email your news to: [care@mst.edu](mailto:care@mst.edu)

# BY THE NUMBERS

[care.mst.edu](https://care.mst.edu)

## HIGHLY RANKED

UNDERGRADUATE CIVIL ENGINEERING #31

GRADUATE CIVIL ENGINEERING #42

ENVIRONMENTAL ENGINEERING #52

*U.S. News & World Report (2024-25)*

**25** Full-time  
faculty  
members

**16,000** ft<sup>2</sup>

NEW LAB SPACE IN 2020

CLAYGO ACML

Advancing S&T's leadership in  
infrastructure engineering research  
(Opened 2021)

**820+**

CAREE student enrollment

**8** GRADUATE CERTIFICATES  
Start earning college credit  
toward your master's degree.  
(Learn more: [distance.mst.edu](https://distance.mst.edu))

TOP 15 ONLINE GRADUATE PROGRAMS  
*U.S. News & World Report Rankings*

**34%**

CAREE department  
undergraduate  
female engineers

Peer-reviewed  
journal articles  
per faculty  
member in 2023

**6.6**

**\$6.8M** Research  
expenditures  
(FY 2024)

**7** DEGREE  
PROGRAMS

### CIVIL ENGINEERING

Bachelor of Science (B.S.)

Master of Science (M.S.)

Doctor of Philosophy (Ph.D.)

Doctor of Engineering (D.E.)

### ARCHITECTURAL ENGINEERING

Bachelor of Science (B.S.)

### ENVIRONMENTAL ENGINEERING

Bachelor of Science (B.S.)

Master of Science (M.S.)

**\$1.3M**

Annual alumni scholarships  
awarded to CAREE students