Missouri S&T
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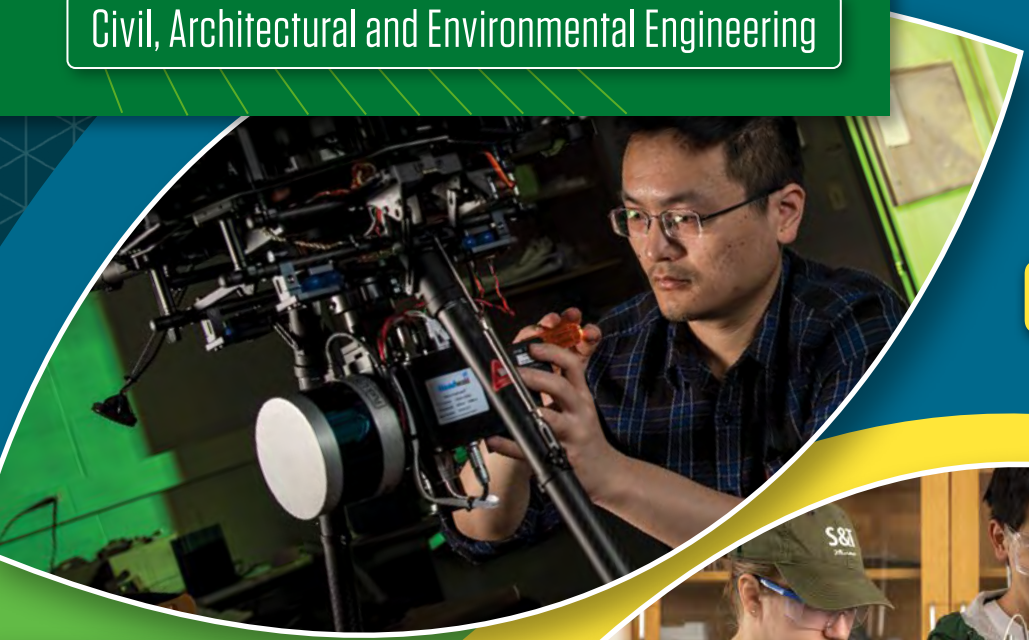
The Bridge

Civil, Architectural and Environmental Engineering



S&T earns Research 1 designation

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Academy inducts eight new members

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

Dear Alumni, Friends and Colleagues,

It is with great pride that I share the remarkable achievements of our Civil, Architectural and Environmental Engineering (CArEE) department over the past year. Missouri S&T has officially earned the prestigious Carnegie R1 Research University designation, recognizing our dedication to high-impact research and innovation. This milestone reflects the collective efforts of our exceptional faculty, staff and students, whose work continues to advance the frontiers of engineering and address critical societal challenges. (pg. 5)

Our department has celebrated numerous accomplishments. **Dr. Genda Chen** received the ASCE 2025 Charles Pankow Award for Innovation for his BIRDS robotic bridge inspection system, which demonstrates how our research is transforming infrastructure safety and resilience. I am also thrilled to announce that **Dr. Yasser Darwish** and I were recently granted a U.S. patent for an impact-protection system that enhances the resilience of bridges and critical structures. These achievements exemplify our department's commitment to innovation with real-world impact. (pgs. 19 and 22)

Our alumni continue to inspire us through their leadership, service and professional excellence. This spring, we proudly inducted eight outstanding members into the Academy of Civil Engineers. Their engagement and support — through mentoring, philanthropy and advocacy — remain vital to our mission of providing a transformative educational experience. Initiatives like LEEP-4, which will enhance our lab capabilities with advanced contact-free strain testing technology, are made possible by this incredible network.

As I complete my service as interim chair, I am honored to have witnessed the resilience, dedication and vision that define our community. I am confident that under the leadership of **Dr. Subhas "Karan" Venayagamoorthy**, our inaugural Kummer Endowed Chair, the department will continue to achieve excellence in education, research and service. (pg. 4)

Thank you for your continued support in shaping the next generation of engineers and advancing the legacy of Missouri S&T.

With gratitude and Miner pride,
Mohamed ElGawady, Ph.D.

2025 Academy of Civil Engineers Inductees (pg. 14)

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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.

COLLECTIVE EFFORTS HELP WITH RECOVERY AFTER TORNADO RIPS THROUGH ROLLA

Missouri S&T students, faculty and staff stepped up to help with recovery efforts after a category EF2 tornado hit Rolla late Friday, March 14. It would be hard to list every single organization, team and individual who contributed, but remarkable efforts helped the city recover as quickly as possible.

More on the tornado: news.mst.edu/2025/03/st-community-helps-with-recovery-efforts-after-tornadoes-rip-through-rolla/

Shanshan Shi, left, a Missouri S&T Ph.D. student in civil engineering, reviews drone footage with Kelsey Angle, center, from the National Weather Service, and Dr. Grace Yan. Photo by Terry Barner/Missouri S&T.

The Bridge

In this issue

NEW KUMMER ENDOWED CHAIR OF CIVIL, ARCHITECTURAL AND ENVIRONMENTAL ENGINEERING

Dr. Subhas "Karan" Venayagamoorthy

Photo by John Eisele/CSU

Dr. Subhas "Karan" Venayagamoorthy became the inaugural Kummer Endowed Chair of Civil, Architectural and Environmental Engineering at Missouri S&T in August.

Venayagamoorthy comes to S&T from Colorado State University (CSU), where he has served on the faculty since 2008, most recently as the Borland Professor of Fluid Mechanics and founding director of the Environmental Fluid Mechanics Laboratory. From 2022 to 2023 he was CSU's associate dean of academic and student affairs for the Walter Scott Jr. College of Engineering.

"I am honored to lead this department, which includes some of the world's best civil, architectural and environmental engineering researchers," Venayagamoorthy says. "S&T's department is well known for providing a transformational education that prepares students for success beyond graduation.

Venayagamoorthy is an expert in environmental fluid mechanics and water resources engineering.

His projects have received support from agencies that include the National Science Foundation (NSF), the Office of Naval Research (ONR), the U.S. Department of Agriculture and the Colorado Department of Public Health and Environment.

A recipient of both the NSF Faculty Early Career Development (CAREER) Program Award and ONR Young Investigator Award, Venayagamoorthy has received numerous teaching awards including the CSU Board of Governors Excellence in Undergraduate Teaching Award.

Venayagamoorthy earned a Ph.D. in civil and environmental engineering at Stanford University, where he later served as a visiting professor.

He is also an honorary professor at the University of KwaZulu-Natal in South Africa, where he completed master's and bachelor's degrees in civil engineering.

Earlier in his career, Venayagamoorthy worked in industry roles as an engineer and surveyor in multiple locations in South Africa and China.

Venayagamoorthy will succeed **Dr. Mohamed ElGawady**, S&T's Alard and Sheri Kaplan Faculty Scholar and a professor of civil engineering, who has served as interim chair since September 2024.

"This department has a strong tradition of leadership focused on student success and conducting research that will help solve society's most pressing challenges," says **Dr. David Borrok**, vice provost and dean of the College of Engineering and Computing. "It is clear Dr. Venayagamoorthy will continue this legacy and further elevate our national and international reputation."

Venayagamoorthy will also hold a joint appointment as a professor in mechanical and aerospace engineering.

Tong Zhou, a graduate student in environmental engineering, is studying PFAS plant uptake.

Photo by Michael Pierce/ Missouri S&T

Missouri S&T earns highest research designation from Carnegie Foundation

Missouri S&T has been classified as one of the nation's top-tier research institutions and now has a Research 1 (R1) designation, according to the 2025 Carnegie Foundation classifications released on Feb. 13. S&T is one of 187 institutions out of more than 4,300 nationwide to receive this distinction.

"Earning R1 status affirms Missouri S&T's excellence across disciplines and its high-impact research addressing global challenges," says S&T **Chancellor Mo Dehghani**. "S&T researchers are committed to driving innovation and addressing the world's most critical challenges."

To qualify for R1 status for this year's Carnegie Foundation designations, institutions needed at least 70 conferred research doctoral degrees and research expenditures of at least $50 million.

"Achieving Carnegie Research 1 classification is an incredible honor for S&T and the entire UM System," says **University of Missouri President Mun Choi**. "Chancellor Dehghani, along with dedicated faculty and staff at S&T, have worked hard to meet the requirements necessary for this remarkable accomplishment. We are proud to now have three R1 institutions within the UM System, which will transform our outreach and impact across the state."

S&T's research spending in fiscal year 2023 was almost $61.5 million, and an average of 107 Ph.D. degrees were conferred over the three-year timeframe.

One of S&T's state-of-the-art research infrastructure projects is the Missouri Protoplex, a 116,000 square-foot manufacturing research and development hub set to open in 2026. The university is also on track to celebrate a 33,000-square-foot expansion and renovation of its Applied Research Center by the end of next year.

"With our new status, Missouri S&T will continue to attract top researchers, secure more funding and drive economic growth," says **Dr. Kamal Khayat**, S&T vice chancellor for research and innovation and the Vernon and Maralee Jones Professor of Civil Engineering. "Our faculty, staff and students have worked hard to achieve this milestone, and with our ongoing and future infrastructure projects to support our research and student learning initiatives, it will be incredible to see what we will achieve in the coming years."

The university's research efforts cover advanced materials, artificial intelligence, electromagnetic compatibility, critical minerals, entrepreneurship, health care, infrastructure and nuclear materials, among many other topics.

Carnegie Foundation for the Advancement of Teaching

S&T listed as a top engineering school in U.S. News rankings

The annual *U.S. News & World Report* rankings of the best universities for pursuing a graduate degree in engineering were released Tuesday, April 8, and Missouri S&T continued to be listed as the top public university in the state and among the nation's best.

"Missouri S&T has long been known as a top destination for graduate students and faculty members because they understand we are dedicated to conducting research that will help solve the world's most pressing challenges," says **Dr. David Borrok**, vice provost and dean of S&T's College of Engineering and Computing. "We recognize the importance of investing in our research infrastructure and providing the tools necessary to support innovation, and I appreciate our efforts being acknowledged."

The university rose to No. 49 (tied) nationally among public universities for graduate engineering programs, up four spots from last year. Among both public and private universities, S&T moved up two places this year and tied for No. 81.

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

- Aerospace engineering, which rose to No. 40 from No. 41
- Chemical engineering, which rose to No. 94 from No. 102
- Electrical engineering, which rose to No. 72 from No. 82
- Mechanical engineering, which rose to No. 60 from No. 63
- Systems engineering, which rose to No. 55 from No. 62.

Other S&T engineering programs with national rankings are civil engineering (43), computer engineering (85), environmental engineering (54), materials science and engineering (60), nuclear engineering (21) and petroleum engineering (16). The university's new bioengineering program, which was launched in fall 2024, was ranked No. 114 in its first year.

These rankings come after S&T earned R-1 status from the Carnegie Foundation earlier this year – classifying S&T in the highest tier of research universities.

Alumna discusses career in public service

Aruna Miller, CE'89, the 10th lieutenant governor of Maryland, spoke to a full house on campus in December about her public service and how her STEM foundation opened doors to a non-traditional engineering role.

Reflecting upon her college days nearly 35 years ago, Miller said she could have never imagined running for office and being the first female of color elected to a statewide office in Maryland. She spoke of the influence people can have in setting a course for others and specifically to **Dr. Shamsher Prakash**'s teaching and mentoring impact on her career.

Miller emphasized how connecting people can't happen without the proper infrastructure in an equitable environment. She encouraged all to be engaged and to be active in their communities.

"Progress is always under construction and takes time, and politics is everybody's business," she noted. "You've got to be tough and not let people push you around while striving to make things better."

She gave students great advice on taking opportunities as they come and saying "yes" as often as they can, never knowing what life will bring.

Miller has devoted much of her life to public service as a transportation engineer. Her policy profile includes matters relating to transportation, mental health and STEM equity.

Schonberg elected Fellow of space safety organization

Dr. William P. Schonberg, professor of civil engineering, was elected a Fellow of the International Association for the Advancement of Space Safety (IAASS).

"Being elected as a Fellow is a great honor that I am very happy to receive," Schonberg says. "I am fortunate to be part of this association, whose prime directive is to make space a sustainable place where everyone can safely live, play and work."

IAASS is focused on advancing international cooperation and research related to the safety of space missions. To be elected a Fellow, members must demonstrate outstanding achievements related to spaceflight safety and directly contribute to the goals and activities of the association. They must also hold a doctoral degree.

Schonberg has researched space-related topics for nearly four decades. Some of his focus areas include orbital debris protection systems for spacecraft and the use of materials found on the moon to support future human habitats.

He was listed among the top 2% of researchers cited in his field both for the previous year and for his career in a 2024 analysis published by Stanford University and is a two-time participant in Fulbright programs for the U.S. Department of State.

Schonberg joined the Missouri S&T faculty in 1999 and has served as visiting professor at the University College of the Cayman Islands and a visiting scholar for the Fraunhofer Society in Germany.

He has worked as a summer faculty research fellow at the NASA Jet Propulsion Laboratory, the NASA Marshall Space Flight Center and the Air Force Research Laboratory.

In 2011, Schonberg was a member of a National Research Council committee that issued a report sounding the alarm on the dangers of space debris.

Before coming to S&T, Schonberg was a professor and department chair at the University of Alabama in Huntsville. He earned both a Ph.D. and master's degree in civil engineering at Northwestern University, as well as a bachelor's degree in the same field at Princeton University.

Schonberg also holds Fellow status with the American Society of Mechanical Engineers and the American Society of Civil Engineers.

Experts in the Classroom

Dr. Joel Burken, Curators' Distinguished Professor and Mathes Chair of Environmental Engineering, talked with Rolla High School students about engineering programs at S&T during the Experts in the Classroom event.

Academic Analytics recognizes professors

Two of our named professors were recently recognized by Academic Analytics for ranking in the top 5% of their peers across four or more scholarly activity metrics.

They were:

• **Dr. Islam El-adaway**, Hurst-McCarthy Endowed Professor of civil, architectural and environmental engineering and associate dean for academic partnerships in the Missouri S&T College of Engineering and Computing.

• **Dr. Kamal Khayat**, vice chancellor for research and innovation, professor and the Vernon Maralee Jones Chair of Civil Engineering.

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Hurst-McCarthy Lecturer talks technology and team environment

During this year's Hurst-McCarthy Lecture titled "Technology is important and so are people," Dr. G. Edward Gibson Jr. talked about how the implementation of technology and its impact on the integration of project management functions has long been looked at as a game changer. In his presentation, Gibson outlined his professional journey, from almost solely focusing on technology as an improvement driver early in his career, to understanding and studying the key facets of any successful project, people, and the techno-social interface.

Gibson made a few important points during his presentation:

- **If a project starts out the right way, it will typically end that way.**
- **Projects that are well defined do better.**
- **If you don't have the right people or the right resources, you aren't going to get where you want to go.**
- **Work success is 90% people and 10% technical.**
- **It's a matter of choice.**
- **It's important to be out in the field and talk to the people doing the work.**

Gibson is president and CEO of the National Academy of Construction (NAC). He is an expert in organizational leadership and management and has held a variety of successful academic and industry positions. He served as a U.S. Army officer and worked in industry prior to spending 34 years in academia.

The professorship was established through a combined $1 million gift from Michael Hurst, CE'74, and his wife, Barbara, along with McCarthy Building Companies, where Hurst worked for more than three decades before his retirement as president and chief operating officer in 2007. Founded as a family business in 1864, McCarthy is one of the oldest privately held construction firms in the nation.

Alumna reflects on her career in Stueck Lecture

Mariana Rodriguez, who shared and reflected upon the five turning points in her career as an engineer and pioneer in higher education during this year's Stueck Lecture, told guests that the secret was in the people. Her talk was titled "From UMR engineer to starting a university: Five turning points that defined my leadership."

From her time as a civil engineering student in Rolla to being recognized for academic innovation that includes starting one of Peru's top universities, Rodriguez advanced from an educational entrepreneur to an activist leader in the improvement of education and conscious capitalism in Peru.

Rodriguez earned a bachelor's degree in civil engineering from Missouri S&T in 1980 and an MBA from the Boston School of Management in 1989. She received S&T's highest honor in 2011 when she was named to the inaugural class of Alumni of Influence. She co-founded two universities and two technical schools in Peru, and she has served as a member and leader of several Peruvian educational organizations. The Association of Private Enterprises of Peru named her Businessperson of the Year in 2022.

The presentation was part of the Neil and Maurita Stueck Distinguished Lecture. Funding for the series was established by Maurita Stueck to honor her late husband, a 1943 civil engineering graduate of S&T, and provide students with outside perspectives.

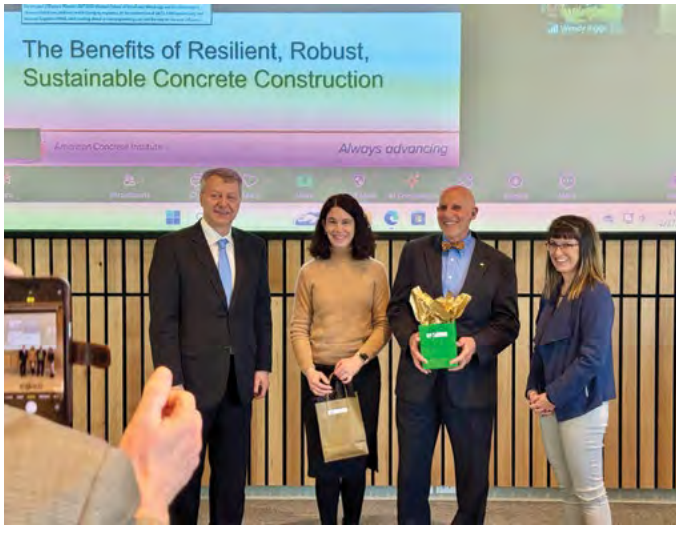
American Concrete Institute president Michael Paul gives Jones Lecture

American Concrete Institute (ACI) president, Michael Paul, visited and toured campus on Feb. 27, when he was invited to give the 2025 Jones Lecture titled "The Benefits of Resilient, Robust, Sustainable Concrete Construction."

Paul has more than 40 years of construction and engineering experience and is a recognized leader in the concrete industry. He currently serves as the principal structural engineer at Larsen & Landis, Inc. in its Philadelphia, Pa., office where he oversees the engineering, documentation, and management of structural engineering for commercial, institutional, industrial, recreational and residential projects.

Paul's experience includes troubleshooting, repair, restoration, and rehabilitation of existing concrete structures in addition to new structure design.

During the lecture he shared his insights and emphasized the best way to improve collaboration is through communication and the importance of resilience to sustainability.



American Concrete Institute
Always advancing

Waste containment expert, National Academy of Engineering member presents Prakash Lecture

Dr. Craig Benson, a member of the National Academy of Engineering, spoke at Missouri S&T on Feb. 12 as part of S&T's Shamsher and Sally Prakash Distinguished Lecture Series.

"We need to think broader and for the bigger, global impacts in our engineering practice and in our policy development," Benson told the audience as part of his lecture, titled "Does harvesting coal ash for use as a cementitious material promote sustainability?"

Benson spoke of the potential benefits of using coal ash, which may need to be removed from disposal sites to comply with environmental regulations, as a supplemental cementitious material in concrete and how it could reduce environmental harm while improving concrete quality. He says the reuse of fly ash in concrete and other products is the best approach, for health, global greenhouse gas emissions, economics, and the environment, but the regulations make it challenging.

An authority on waste management, waste containment systems and other methods of protecting the environment, Benson has published more than 300 refereed academic research articles on these topics. He was recognized by the American Academy of Environmental Engineers and Scientists as the organization's 2024 Kappe Lecturer.

Lecturer Dr. Craig Benson, pictured left, with Dr. Jianmin Wang

Benson has emeritus status as a Wisconsin Distinguished Professor at the University of Wisconsin-Madison and at the University of Virginia as dean of engineering. He is a Fellow of the National Academy of Inventors and the American Association for the Advancement of Science.

The department hosted Benson's talk in partnership with the Center for Research in Energy and Environment.

The Shamsher and Sally Prakash Distinguished Lecture Series was established through a gift from Dr. Shamsher Prakash, professor emeritus of civil, architectural and environmental engineering, and his wife, Sally.

Prakash joined the civil engineering faculty in 1978 as an associate professor of geotechnical engineering and retired in 2000.

He made numerous contributions to the field of geotechnical earthquake engineering, and he is recognized for advancing the study of soil dynamics and earthquake engineering.

New Face honoree inspired to build community

Autumn Buesking has a photo of an old friend hanging up in her office cubicle. Well, maybe "friend" isn't quite the right word.

It's a lovely black-and-white photo she took of the old Washington Bridge, a rusty cantilever truss bridge that crosses the Missouri River in Buesking's hometown of Washington, Missouri, on a hazy, foggy morning just before it was set to be demolished and replaced.

If not a friend to Buesking (she was pretty scared to drive over the bridge near the end of its life, because it had gotten so dilapidated), the Washington Bridge was a constant civil engineering presence throughout her childhood. It was there when she was in kindergarten, competing with her classmates in Penny Wars to help raise money for its replacement.

And it was still there when she was in middle school, connecting spaghetti sticks with hot glue in a "Design the New Washington Bridge" contest.

And yes, it was still there when she was a senior in high school in 2017 and the Missouri River flooded into her hometown, and that caused a lightbulb to go off in her head.

"My school district was really unique in that half is on one side of the river, half is on the other side. The hospital is also right off the bridge," Buesking said. "So this bridge is very functional. The roads to the bridge flooded, and no one could get across the river. Our school shut down. People couldn't get to the hospital. People were driving 45 minutes out of their way just to get to work."

"It really made me start to wonder why we didn't have better flood protection, and why we didn't have a new bridge. It makes you realize just how important that bridge actually is."

Not long after, Buesking started working toward a civil engineering degree at Missouri S&T.

And not long after that, the city finally got the long-sought-after Washington Bridge replacement – an improvement for the people of Missouri and forever a symbol of Buesking's origin story.

No wonder she still keeps the photo on her desk.

"Obviously, I didn't engineer any part of that bridge, but it was integral to my childhood," Buesking said. "Eighteen years of my childhood to get from where people were saying, 'Hey, this is not passing inspection. It needs to be replaced,' to finally opening the new bridge."

"It was so cool to see from start to finish. I think that really put me on a path to civil engineering. I'm not sure that people realize how much work and time went into that bridge replacement process. But I was there every step of the way."

Buesking now works as a structural engineering graduate for IMEG in Quad Cities, Iowa, where she's also active with the ASCE Quad Cities Section, the ASCE Structural Engineering Institute Young Professional Engagement Committee, and several other volunteer organizations.

ASCE honored Buesking as a 2025 New Face of Civil Engineering. She recently talked with *Civil Engineering Source* about her career.

Civil Engineering Source: What is the accomplishment or aspect of your career you are most proud of so far?

Autumn Buesking: I think the thing I'm most proud of is seeing my work and the work of my co-workers helping the community.

I'm lucky enough to have been able to design a lot of really great projects, whether it's schools, community buildings, or hospitals, that benefit the surrounding area.

Seeing those projects go from 2D on paper to 3D models to actually existing in the world is really awesome. I love those ribbon-cuttings and ground-breakings where you see how excited the community is for the project. Knowing that it really benefits people is something that I'm really proud of.

Source: What are some specific projects that come to mind?

Buesking: One that really stands out to me is called The Landing. It's an ice rink and pool for the city of Bettendorf (Iowa), which is about 20 minutes away from me.

They had an existing pool and an ice rink they would put up temporarily. But they needed to upgrade the pool and add some water slides and make the ice rink permanent. So that was a really fun one.

It was a very challenging project engineering-wise, just with some different materials, but it turned out so great. They had the ribbon-cutting with a Christmas tree-lighting ceremony, and there were a lot of people out for that.

Another one I've done is an elementary school. That one is under construction now, and it's a pretty big project. They brought all the students from the old elementary school out to the new one for the groundbreaking. They gave them all plastic hard hats, and they got to see where their new school is being built. A bunch of the students gave speeches. So, it's rewarding to see the direct impact that the building is going to have on those students and future students.

(continued on page 24)

Academy of Civil Engineers inducts eight new members

Eight professionals were inducted into the Missouri S&T Academy of Civil Engineers during a ceremony held Thursday, April 10, in Rolla.

The academy recognizes outstanding alumni who bring honor as engineering practitioners and leaders in community affairs.

Their goals are to:

- Provide organized assistance to the department.
- Improve the educational experience of the students.
- When called upon, to provide advisory guidance and counsel to the department chair, faculty or students.
- Strengthen the dedication to and understanding of students to civil engineering through personal and professional example.
- Advance the objectives of the development program by identifying, securing, and providing financial support for the department.
- Help the university achieve national prominence in civil engineering education.

Kevin Alexander

Kevin Alexander of Carlsbad, California, deputy general manager of Inland Empire Utilities Agency (IEUA), earned a bachelor's degree in civil engineering from Missouri S&T in 1994. His career has exemplified continuous learning, growing and giving back to the engineering community. The projects he is most proud of include the City of Scottsdale Water Campus in Arizona, the Orange County Water District Groundwater Replenishment System in Fountain Valley, California, and the Western Corridor Program in Brisbane, Australia. Early in his career, Alexander was named vice president of SPI. In 2013, he was hired as the west region manager for Hazen and Sawyer, where he grew the region from five employees to over 260 employees and increased annual revenue from $300,000 to over $30 million. In 2024, he became deputy general manager for IEUA, an agency that provides water and wastewater services to 950,000 customers in San Bernardino County, California. Born in Clovis, New Mexico, Alexander was the first in his family to graduate from college. He was a member of S&T's Society of Hispanic Professional Engineers, Tau Beta Pi and Chi Epsilon. He and his wife, Lanaya, have been married for over 11 years. Their daughter, Kendall, started college in 2023 at California Polytechnic State University. Alexander enjoys hiking, biking, fishing and hunting.

Amanda Derhake

Amanda Derhake of St. Clair, Missouri, principal engineer and senior partner with Rocksmith Geoengineering, earned a bachelor's degree in biological sciences in 1999, a master's degree in environmental engineering in 2002 and a Ph.D. in civil engineering in 2006, all from Missouri S&T. As a student, she excelled academically, played collegiate soccer for four years and was an active member of the Eta Kappa chapter of Chi Omega. Derhake has worked in environmental consulting for 18 years and is now part-owner of Rocksmith Geoengineering, an environmental and geological engineering consulting firm. She and her husband, Bob, are busy professionals raising a family with 7-, 9- and 11-year-old children. They play soccer, basketball, volleyball and football, and have the makings of budding engineers or scientists — three future Miners.

Dr. Kamal Khayat

Dr. Kamal Khayat of Rolla, Missouri, Vice Chancellor for Research and Innovation at Missouri S&T, is an honorary inductee. He earned five degrees in the areas of construction materials, structural engineering, and construction engineering and management from the University of California, Berkley, between 1982 and 1990. Khayat had a successful 21-year career at the Université de Sherbrooke in Quebec where he led substantial research projects, including serving as the industrial research chair of NSERC, a consortium of 17 industrial partners from Canada and the U.S. In 2011, Khayat joined Missouri S&T as the Vernon and Maralee Jones Professor of Civil Engineering and director of the Center for Infrastructure Engineering Studies. He currently serves as S&T's vice chancellor for Research and Innovation. During his career, he has secured research grants of approximately $35 million as principal investigator (PI) and $14 million as co-PI. He has mentored 33 Ph.D. students, 44 master's students and 21 postdoctoral fellows and visiting scholars. He has co-authored over 450 peer-reviewed publications and was recognized in the top 2% of cited scientists in his field by Stanford University and Elsevier from 2018 to 2024. Most recently, he was ranked 19 out of over 43,000 scientists in the building and construction sector. Khayat and his wife, Gina, have been married for 34 years, and they have two adult sons, Michael, who holds a bachelor's degree in ceramic engineering from S&T, and Patrick.

Anne Lamitola

Anne Lamitola of Webster Groves, Missouri, senior director of public services for the city of Ladue, earned a bachelor's degree in civil engineering from Missouri S&T in 2000. Currently senior director of public services for the city of Ladue, she previously served as director of public works. Lamitola oversees the departments of public works, building and zoning, administration, and finance, and she serves as the mayor's liaison to various outside entities. Lamitola donates time and leadership to community and professional organizations including in her current role as the chair of the Webster Groves School District Building Advisory Committee, and she has served as president of both the St. Louis and Missouri chapters of the American Public Works Association (APWA). She received the Missouri Chapter of APWA's Professional Engineer of the Year award in 2015 and the D Squared award in 2023. When not busy with her career or volunteer positions, Lamitola enjoys hiking, reading, traveling and spending time with family and friends. She and her husband, Steve, who earned a bachelor's degree in chemistry from S&T in 1999, have two daughters who are now freshmen in college.

Mariana Rodriguez

Mariana Rodriguez of Lima, Peru, founding member of the board of directors for the Universidad Peruana de Ciencias Aplicadas, earned a bachelor's degree in civil engineering from Missouri S&T in 1980 and an MBA from the Boston School of Management in 1989. She received Missouri S&T's highest honor in 2011 when she was named to the inaugural class of Alumni of Influence. **Frank Benavides**, a 1970 civil engineering graduate of S&T, nominated Rodriguez for the Academy of Civil Engineers. She co-founded two universities and two technical schools in Peru and has served as a member and leader of several Peruvian educational organizations. The Association of Private Enterprises of Peru named her Businessperson of the Year in 2022. Rodriguez and her husband, Juan Remar, have been married for over 30 years, and she has two adult stepdaughters, Daniella and Mellissa. Rodriguez is an avid equestrian and has competed in national championships. Her three brothers, Daniel, Diego and Gonzalo, are all Missouri S&T alumni.

Sondra Rotty

Sondra Rotty of Sunset Hills, Missouri, chief operating officer of St. Louis-based general contracting, construction management and design-build firm Tarlton Corp., earned a bachelor's degree in architectural engineering in 2004 and a master's degree in engineering management in 2008, both from Missouri S&T. Rotty's construction experience has centered around large, complicated projects completed in fast-track time frames.

(continued on the next page)

Academy of Civil Engineers continued...

Her wide-ranging projects have included buildings on the campus of Washington University in St. Louis, buildings for the General Services Administration, the Saint Louis Art Museum East Building, the former Post-Dispatch building, and the Old Courthouse in St. Louis. Well-versed in sustainable construction, she has worked on numerous LEED projects, holds the U.S. Green Building Council's LEED AP BD+C accreditation and serves on the Missouri Gateway Green Building Council board of directors. Rotty is also board vice chair for the Building Division of the Associated General Contractors of Missouri and serves on the diversity committee for CREW-St. Louis (Commercial Real Estate Women). In 2024, she received CREW's Economic Impact award for overseeing Tarlton's construction at CityPark (now Energizer Park), home of St. Louis City SC. Rotty has received several commendations, including the "30 Under 30" and "40 Under 40" awards from the *St. Louis Business Journal*, and she was listed among *Missouri S&T Magazine's* "30 Under 30" in 2010, and she received the Women in Construction Award from the St. Louis Council of Construction Consumers in 2023. At Missouri S&T, Rotty was named the Civil Engineering Exemplary Young Professional by the Academy of Civil Engineers in 2011, and she was inducted into both the Academy of Engineering Management and the Academy of Miner Athletics. A former runner at S&T, she is an enthusiastic participant in Tarlton athletic and philanthropic activities. Rotty and her husband, Bryan, enjoy watching their sons, Logan and Gavin, play soccer and swim competitively.

Matt Sander

Matt Sander of St. Louis, vice president of ARCO Construction Holdings Inc., has been with ARCO for 25 years, with nearly a decade as vice president. He joined the company as a project manager in 2000 after earning a bachelor's degree in civil engineering from Missouri S&T. Beyond project management, Sander is a recruiter, mentor, and key contributor to ARCO's growth and success. He volunteers with organizations such as the Ronald McDonald House of St. Louis and Places for People. Beyond his professional and philanthropic pursuits, Sander maintains strong ties to his alma mater and visits Missouri S&T multiple times a year to mentor students, provide career development guidance and recruit top talent for ARCO. He and his wife, Christina, an S&T alumna, live in Fenton, Missouri, with their children Olivia, Jake and Will. In his free time, Sander enjoys spending time with his family, hunting and golf.

Sabin Yañez

Sabin Yañez of Kansas City, Missouri, senior vice president of Cook, Flatt & Strobel Engineers, earned a bachelor's degree in civil engineering from Missouri S&T in 1985. He began his professional career as a traffic studies engineer for the Missouri Department of Transportation and progressed through many roles, ending with district engineer for Kansas City. Since 2004, Yañez has served as senior vice president for the civil engineering firm Cook, Flatt & Strobel Engineers. During his nearly 40-year career, Yañez has experienced an extensive array of projects but has also worked closely with a lengthy list of colleagues who would call him a friend and mentor. Yañez was born and raised in Kansas City, Missouri, and is a graduate of St. Pius X High School. He and his wife, Angel, have been married for 41 years. They have raised four children and currently have seven grandchildren and live north of the river in Kansas City, Missouri.

2025 ACADEMY AWARDEES

Joseph H. Senne Jr. Faculty Scholarly Achievement Award
Islam El-adaway

Joseph H. Senne Jr. Faculty Teaching and Service Achievement Award
Magdy Abdelrahman
Sanjay Tewari

CArE Engineering Exemplary Young Alumni Awards
Trevor Becherer, CE'14
Saki Urushidani, EnvE'16

Neil Stueck Outstanding Senior Awards
Garrett A. Coggin
Seth Filipsen
Anna LaMartina
Savannah McKay
Rachael Puls

CArE Engineering Outstanding Support Staff Award
Madison Keim

ARCO Construction with student interns

Neil Stuck Outstanding Seniors

Tracy Thomas visits with students

Bob Sieckhaus and Matt Coco

Dr. Mohamed ElGawady and Dr. Bob Holmes talk with students during the social hour

ACADEMY OF CIVIL ENGINEERS: MAKING A DIFFERENCE IN STUDENT LIVES

Since 1972 the Academy of Civil Engineers (ACE) has been contributing to the growth and careers of Missouri S&T students. Members are recognized for their contributions to the profession, leadership, community and involvement with Missouri S&T.

Their support has five strategic initiatives. One of those initiatives is advancing CArEE department objectives through financial support. Within that initiative is a campaign named "Laboratory Equipment Enhancement Program," (LEEP) which was started in 2021. Last year we initiated LEEP-3 with a $180,000 goal to replace the Universal Testing Machine. It was a matter of weeks following ACE membership notification that the goal was reached! The equipment is working through the procurement channels and should be available to students soon.

This is a clear example of how ACE supports generations of students through attitude of their members and their devotion to the university and student body. One of our contributing members, **Greg Junge**, offers these thoughts:

> ***"I've made donations over the years, and I wanted to fund something more substantial and lasting. Then LEEP-3 came along. What could be more substantial and lasting than that? I hope all students will benefit from the use of the equipment for generations to come."***

Our new initiative, LEEP-4, is focusing on expanding capabilities and strengthening leadership in the industry. Two pieces of equipment for contact-free strain testing are our targets. The fundraising goal is $220,000.

Giving is not limited to ACE members.

If you would like to be a part of the LEEP-4 campaign, go online to **donate.mst.edu**.

Or mail a check to:

Academy of Civil Engineers
Attn. Madison Keim
211 Butler-Carlton Hall, 1401 N. Pine St.
Rolla, MO 65409-0030.

Be sure to include "Account 717075" on your payment.

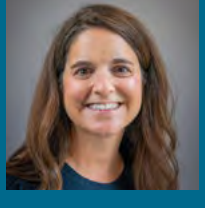
MSPE St. Louis Chapter Awards

The following alumni were honored at the Missouri Society of Professional Engineers (MSPE) St. Louis Chapter's annual awards banquet:

• **Jennifer Kuchinski**, CE'95, MS CE'02 (WSP) Outstanding Professional Engineer in Private Practice

• **Jon A. Jacobsmeyer**, CE'88 (McCarthy Building Companies Inc.) – Outstanding Professional Engineer in Construction

• **Marc Eshelman**, CE'85, MS CE'91 (M3 Engineering Group) – Professional Engineer of the Year



• **Jennifer Welsch**, CE'99 (Metropolitan St. Louis Sewer District) – Outstanding Professional Engineer.

ASCE leaders attend workshop

Great to see so many Missouri S&T alumni and friends representing ASCE St. Louis Section during the workshop for section, branch and institute leaders.

Pictured back L-R: Dakota Jarosz, Garrett Coggin, Tony Roth, Landon Winters and Brenan Pool. Pictured front L-R: Kelly Tuong, Shawnna Erter, ASCE 2025 President Feniosky Pena Mora, Nichole Witushunsky and Lena Mais.

Engineers Club of St. Louis spotlights Eisenbath

Kurtis Eisenbath, CE'00, MS CE'02, senior engineer at EDM Inc., was featured in a membership spotlight for the Engineers Club of St. Louis in January.

With over two decades of experience, Eisenbath has played a vital role in impactful engineering projects like the Timber Trail to Briar Ridge Channel Project, the Stan Musial Veterans Memorial Bridge, and MSD's Deer Creek Sanitary Tunnel. His expertise in water resources has advanced infrastructure and improved lives across St. Louis.

As a member of the Engineers Club, Eisenbath has served on the board of directors, chaired committees, and actively supported the club's mission of community and professional development. His contributions extend far beyond technical work — he's a leader and mentor in the St. Louis community.

Eisenbath's lifelong passion for water resources began on the banks of the Mississippi River, exploring creeks and building sandbars as a child. That passion continues to inspire his work today, as he drives innovation and excellence in engineering.

Robotic bridge inspection system wins ASCE's 2025 Pankow Award

Dr. Genda Chen developed a robotic system to make bridge inspections faster, safer and more comprehensive. His invention, called BIRDS, was selected for the American Society of Civil Engineers (ASCE) 2025 Charles Pankow Award for Innovation.

"Data from the U.S. National Bridge Inventory shows that over 600,000 bridges in our nation cross roadways and rivers, and over 40% of those bridges are over 50 years old — making regular and thorough inspections crucial," says Chen, S&T's Robert W. Abbett Distinguished Chair in Civil Engineering and director of the Center for Intelligent Infrastructure and the INSPIRE University Transportation Center.

"Up until now, bridge inspections have been a visual process conducted manually by human inspectors, and this has been cumbersome, expensive and with safety risks," he says. "But BIRDS will revolutionize bridge inspections, and it is humbling to me for ASCE to recognize this with the Charles Pankow Award for Innovation."

The Pankow Award recognizes the contributions of organizations working collaboratively to advance the design and construction industry by introducing innovation into practice. Chen is the principal investigator for BIRDS, which includes three primary components: a hybrid unmanned aerial vehicle (UAV) that flies and can attach to and crawl on bridge girders to capture inspection data with infrared cameras and lidar; a second UAV that carries and deploys a small bicycle-like crawler to inspect steel components with a microscope or crack probe; and a third UAV equipped with a manipulator to perform maintenance tasks and defect testing on concrete.

"Federal standards require regular bridge inspections, which can be a challenge due to the sheer number of bridges and their difficulty to access," Chen says. "The inspection data we can retrieve from BIRDS will help tremendously with these issues, ensuring that structures are safe and well-maintained and ultimately lowering their life-cycle costs."

Chen says the next steps for the BIRDS project, which began in 2019 and has received over $1 million in funding from the U.S. Department of Transportation's University Transportation Centers Program and matching sources, will be to continue testing potential areas for improvement with the technology and working with agencies and companies to pursue its widescale adoption.

> "Data from the U.S. National Bridge Inventory shows that over 600,000 bridges in our nation cross roadways and rivers, and over 40% of those bridges are over 50 years old — making regular and thorough inspections crucial."
> — Dr. Genda Chen

Chen's collaborators on the project include Donn Digamon, state bridge engineer for the Georgia Department of Transportation; Dr. Bryan Hartnagel, state bridge engineer for the Missouri Department of Transportation; Dr. Hung La, assistant professor of computer science and engineering at the University of Nevada, Reno; Michael Premo, assistant chief structures engineer for the Nevada Department of Transportation; and Dr. Yang Wang, professor of civil engineering at Georgia Institute of Technology.

Oerther receives Duncan Fraser Global Award for Excellence in Engineering Education

Dr. Daniel B. Oerther, an environmental health engineering professor at Missouri S&T, was awarded the Duncan Fraser Global Award for Excellence in Engineering Education from the International Federation of Engineering Education Societies (IFEES).

"Professor Fraser was passionate about empowering students through his teaching, and I strive to approach my work with students in the same way," Oerther says. "Engineering educators carry a great responsibility to train and inspire students from diverse backgrounds so they can address global challenges.

Dr. Daniel Oerther, pictured center, with P.J. Boardman, MathWorks, left, and Dr. Michael Milligan, CEO of ABET.

"I am honored to receive this award, but it's crucial to recognize this would not be possible without the thousands of incredible students I've had the privilege of teaching and mentoring throughout my career."

The International Federation of Engineering Education Societies website notes this honor is for educators "who have made innovative and meritorious contributions with a significant impact on the advancement of engineering education."

Oerther received the honor during the World Engineering Education Forum in early December in Sydney, Australia. His teenaged son, Barney, joined him at the ceremony.

The award is named in memory of Dr. Duncan Fraser, an emeritus professor of chemical engineering at the University of Cape Town in South Africa who was on track to be president of the International Federation of Engineering Education Societies before his death in 2014.

Oerther was nominated by the American Society for Engineering Education, where he is a two-time recipient of the Best Paper Award from the Environmental Engineering Division and a winner of the Robert G. Quinn Award for excellence in experimentation and laboratory instruction.

In a letter supporting the nomination, University of Missouri System President Mun Choi wrote: "Dan is a dynamo. He looks over the horizon for future opportunities in research, and he brings these opportunities to his students to find solutions in the classroom, the laboratory, and beyond the institution embedded in the community."

A Missouri S&T faculty member since 2010, Oerther has earned several S&T awards for teaching, including the 2023 Faculty Teaching Award, the 2022 Outstanding Teaching Award, the 2022 Experiential Learning Award, and the 2017 Service Learning Award.

Some of his other teaching-focused awards include the 2023 Joe Beck Educational Contribution Award from the National Environmental Health Association, the 2020 Gordon Maskew Fair Distinguished Engineering Educator Medal from the Water Environment Federation, the 2019 Engineering Education Excellence Award from the National Society of Professional Engineers, and the 2014 Excellence in Environmental Engineering Education Award from the American Academy of Environmental Engineers.

Oerther earned a Ph.D. and a 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.

He is a Fellow of the Association of Environmental Engineering and Science Professors, 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.

Financial support for the Fraser Award, including round trip travel to Australia, lodging, and a $1,000 cash prize were provided through sponsorships by MathWorks and ABET, Inc. ABET was formerly known as the Accreditation Board for Engineering and Technology and is a non-governmental accreditation organization for college programs.

40 Under 40

As a professional engineer for the city of Springfield since 2017, **Saki Urushidani**, EnvE'16, experienced her pinnacle moment last year when she unveiled the city's Fairgrounds Green Infrastructure Project.

Read the full story: http://bit.ly/3GXl09g

Building in KC

After graduating from Missouri S&T, **Daniel Edwards**, ArchE'11, and his wife, Ebony, returned to Kansas City. He never imagined he would one day own the very lumber yard that had shaped his youth. He hopes to create affordable homes for local residents.

Read the full story: http://bit.ly/473CzPr

ARCO hosts MO-CCI board meeting

Missouri Consortium for Construction Innovation (MO-CCI) is grateful to ARCO Construction Co. for hosting the fall 2024 board meeting, which brought together leading construction industry executives for an engaging afternoon of collaboration and strategic planning. Discussions included advancements in research and reflections on key professional development events. Group members are excited about the progress made and the innovative directions shaping the future of the construction industry.

Pictured are:

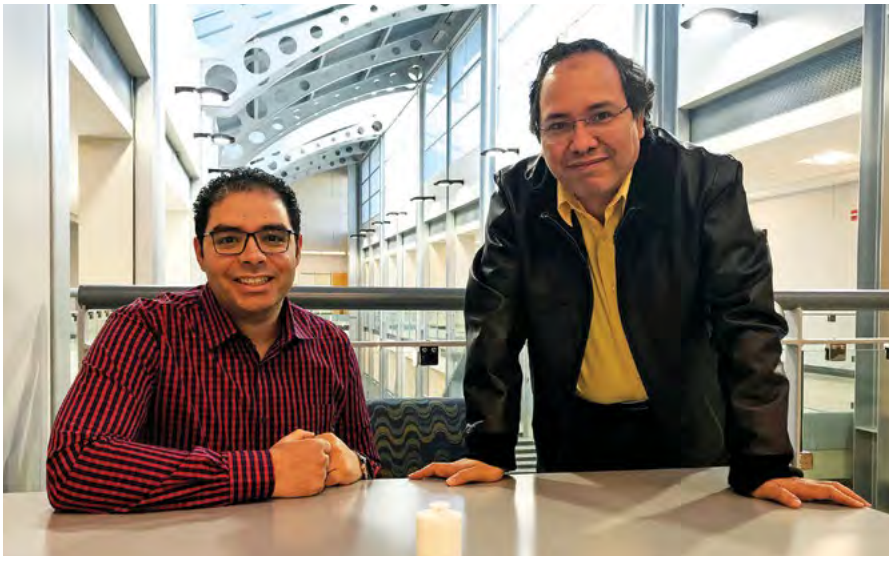
- **Alberici Constructors:** John Smith
- **ARCO Construction Co.:** John Komlos and Kristina Licklider
- **Brinkmann Constructors:** Brian Satterthwaite and Jeremy Dotson
- **Clayco:** Steve Sieckhaus and Trevor Becherer
- **McCarthy Building Companies Inc.:** Christopher Nisbet
- **Missouri S&T:** Islam El-adaway
- **UB Greensfelder:** Jennifer Therrien
- **Good Developments Group:** Greg Gleicher
- **NorthPoint Development:** Logan Fitch
- **PARIC Corp.:** Steve Emmons.

Schonberg publishes article in Royal Astronomical Society Journal

Dr. William Schonberg, pictured left, professor of civil engineering at S&T, recently collaborated internationally with Dr. Shirin Haque, professor of astronomy at the University of the West Indies, St. Augustine, Trinidad and Tobago. This collaboration resulted in an article published in the *Royal Astronomical Society Journal*. Their article, titled "Re-analysis of the anthropogenic effect of the COVID-19 global lockdown on nighttime lunar surface temperatures" appeared on the journal's monthly notices and letters webpage.

Schonberg and Haque re-examined data from a previous study and its claim that the global lockdown during COVID-19 in early 2020 reduced nighttime surface temperatures on the moon. Their analysis, while showing the temperature reduction during the months of the COVID-19 lockdown, also revealed that the downward trend in lunar temperatures began as far back as 2018-19. As a result, they concluded that the reduced nighttime temperatures on the lunar surface in early months of 2020 could not be attributed solely to reduced human activities during the global COVID-19 lockdown.

To read the full manuscript, visit: doi.org/10.1093/mnrasl/slaf002



ELGAWADY, DARWISH GRANTED U.S. PATENT TO ENHANCE RESILIENCE

Dr. Mohamed ElGawady, Alard and Sheri Kaplan Faculty Scholar and a professor of civil engineering, and **Dr. Yasser Darwish**, a 2021 Ph.D. graduate in civil engineering, were granted a U.S. patent for an impact protection solution that enhances the resilience of critical structures, mitigating damage from vehicular collisions, extreme forces and accidental impacts. The patent title is "Energy Dissipation Using Negative Stiffness Shells."

By improving safety and cost efficiency in infrastructure maintenance, this technology will help extend the service life of bridges and other essential assets.

Leveraging advanced mechanics applications, their approach strengthens structural integrity, reduces repair costs, and ensures long-term durability against unexpected impact events.

Beyond infrastructure, this technology can also be used as a liner in helmets to provide superior shock absorption for head protection. It also has potential applications in safeguarding critical nuclear components and protecting artwork from impact damage, which demonstrates its broad impact in engineering and preservation.

Baur contributes to This Old House article

Dr. Stuart Baur, assistant chair of architectural engineering, contributed to an article on This Old House sharing his expertise on key areas where people can focus their home energy efficiency improvements.

Read the article.
www.thisoldhouse.com/windows/home-energy-efficiency-statistics

Future City Competition

In January, middle school students from across the state competed in the eighth annual Missouri Future City Competition on the Missouri S&T campus.

Each year middle schoolers learn about engineering through problem solving by tackling a topic in a city 100 years in the future. Emphasizing the engineering design process and project management, students collaborate in teams, led by coaches, to create an essay and a digital model that showcases a sustainable city to solve the annual challenge. The competition culminates in a live presentation before a panel of STEM professionals.

During the 2025 competition students tackled the challenge: "Above the Current." Participants envisioned sustainable, floating cities that address rising sea levels and climate change, demonstrating creativity, engineering prowess and teamwork.

Alumni and faculty from our department take on the difficult task of judging. Judges for 2025 included **Dr. Joel Burken**, **Dr. Stuart Baur**, **Nichole Witushynsky,** ArchE'08, MS CE'11, **Richard Kinsey** ArchE'16, and **Natalie Kost**, a small-business owner in Rolla.

The St. Clair Junior High School team of Isla de Diamantes participated and went on to represent the State of Missouri, placing fifth in the international competition in Washington, D.C., during National Engineers Week.

Additionally, a new high school program that lets students imagine, research, design and build cities of the future selected 20 teams from 83 to participate in their national competition, two teams were from Missouri.

Oerther elected to second term as CESB president

Dr. Daniel B. Oerther, professor of environmental health engineering, was elected to a second term as president of the Council of Engineering and Scientific Specialty Boards (CESB).

Founded in 1990, CESB accredits programs offering advanced specialty certifications to engineers and applied scientists, with over 30,000 professionals currently holding CESB-accredited credentials. During his first term as president, Oerther introduced a new marketing approach to enhance the value of CESB. In 2025, he plans to focus on the role of artificial intelligence in education, professional practice, licensing, certification via examination and CESB's internal operations.

In addition to his role with CESB, Oerther serves as executive director of the American Academy of Environmental Engineers and Scientists, which offers three certifications accredited by CESB.

Photo by Dr. Scott Smith/ University of Adelaide

Myers gives lecture at fiber-reinforced polymer conference

Dr. John J. Myers, professor of civil, architectural and environmental engineering and director of the Missouri Center for Transportation Innovation, delivered an invited lecture at the Ninth Asia-Pacific Conference on FRP (fiber-reinforced polymers) in Structures held in Adelaid, Australia. His lecture was titled "Database Review and Analysis of Reduced Bonded Embedment Lengths of BFRP Bars In Concrete." He also presented a second paper with civil engineering master's student **Lauren Coulter** titled "Interface Shear Transfer of Basalt Fibre-Reinforced Polymer Bars in RC using the Push-off Test."

As part of his conference duties, Myers chaired a session on FRP-space application usage and led an international panel discussion on the future of fiber-reinforced composites in construction.

New Face honoree (continued from page 13)

Source: What motivates all that you do for the community?

Buesking: Yes, I'm pretty involved with the community. Whether it's our local ASCE Section or Junior Achievement or the United Way Emerging Leaders program, I get to go into classrooms and teach students about how community works.

The Emerging Leaders program has been really unique. It focuses on our young professional development, but then it also focuses on community development and what young professionals can do for the community. We volunteer at schools, asking students about the future of our area and what future needs may be. We're also focused on improving college readiness for high school students in our area. Getting to give back that way is really awesome.

I never had that engineering role model when I was younger. My parents both worked in the medical field, so I didn't know anything else. So I like to spark that interest in kids who may want to be engineers, being that voice telling them that they can achieve whatever they want to achieve. That's really what got me into community involvement, and then it kind of branched out from there. I'm always willing to help out. I don't like saying no. Just being there for others is something that brings me a lot of joy.

Source: What kind of impact do you want to make on the profession?

Buesking: I don't want to put myself in a box or put engineering in a box. I think something great about engineering is that it's always changing and developing. Ten years from now I want to be known as someone who transitioned well from being a young leader to a professional leader in the industry. But I don't want to limit myself to a specific path. I want to be able to grow as needed. I want to be on the front lines, paving the way for what the future will look like.

One of my strengths is quick-start. That's what we call it where I work. Our company has everyone take different personality tests. One is called your Kolbe score. There are different categories. And I tested very well with quick-start, which is pretty rare among engineers.

A lot of engineers are fact finders. They want to know all the details and all the numbers before they start. There's not a lot of people in the engineering industry who can just dive right in.

But I'm very much like, "Let's just get started with what we can do right now to make this better." And I think that also plays into volunteering and a lot of the committees I'm on.

I'm just a "yes" girl. I'm there. I'm ready to go, ready to help out. Where do you need me? What do you want me to do? You don't have to ask me twice.

So, I'm very much looking forward to using that quick-start ability to help the industry in the future.

Laboube received research award at MBMA Symposium

Dr. Roger Laboube, pictured above right, Curators' Distinguished Teaching Professor emeritus in civil, architectural and environmental engineering, received the 2025 Dr. Duane S. Ellifritt Research Award by the Metal Building Manufacturers Association (MBMA) in February.

Named after the association's original director of research and engineering, this award is given to researchers whose contributions advanced the metal building systems industry. The award was presented at the 2025 MBMA Research Symposium in New Orleans.

Myers offers continuing education course

Dr. John Myers, professor of structural engineering and director of the Missouri Center for Transportation Innovation, presented a continuing education seminar through the Masonry Institute of St. Louis titled "Durability and Performance of FRP in Masonry Structures" on Feb. 19. This was an in-person event that offered continuing education credits.

Myers discussed the different types and advances in FRP bar materials and how they could be used in new masonry construction and how to reinforce and strengthen existing masonry with real-world examples.

SOME 'STAR WARS' STORIES HAVE ALREADY BECOME REALITY

For those who enjoy celebrating Star Wars Day, here's a fun article co-authored by **Dr. Daniel Oerther** and **Dr. William Schonberg** that celebrated the galactic occasion on The Conversation.

Read the full story: http://bit.ly/3H3l0EG

Earth Day 2025
Our power, our planet

Earth Day 2025 was a blast with ECO Miners, Engineers Without Borders (EWB) and Water Environmental Federation (WEF) students leading the way. Over 350 students participated. A huge thank you to everyone who came out and supported the event, which was filled with incredible booths, hands-on activities, and inspiring organizations.

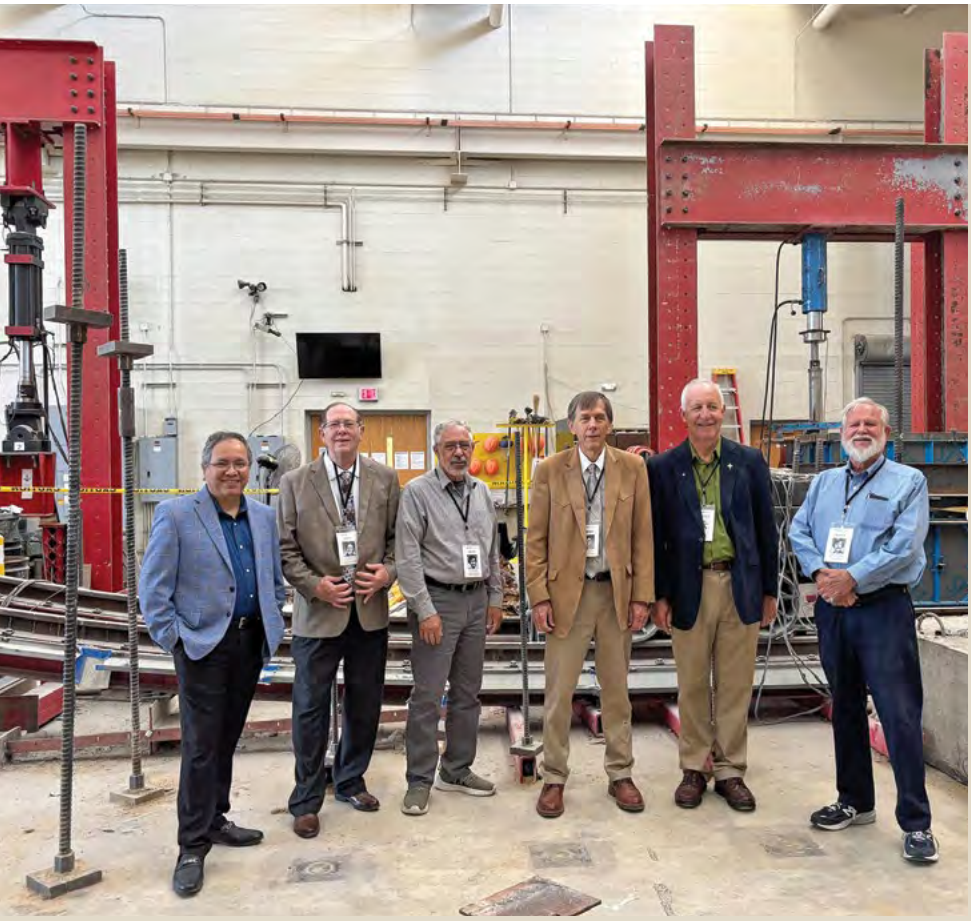
Also, thanks to **Dr. Joel Burken** for the amazing green roof tour.

Tewari delivers virtual talk

Dr. Sanjay Tewari, associate teaching professor of civil, architectural and environmental engineering, delivered a virtual talk at the Pacific School of Engineering. The talk was part of the Faculty Development Program approved by the All India Council for Technical Education and was organized under its Training and Learning Academy. Tewari spoke to about 200 professionals and faculty on exploring electrochemical supplementary wastewater treatments.

Morrissey retires

Sarah Morrissey, (pictured above) administrative assistant II, in our Missouri State University (MSU) cooperative program, retired at the end of 2024 after 31 years of service at MSU. She was with the program since its beginning.



CLASS OF '75 GOLDEN ALUMNI

In May, we had the pleasure of welcoming back our distinguished alumni from the Class of 1975 for their Golden Anniversary celebration. It was truly inspiring to see these trailblazers return to campus, reconnect with former classmates, and tour the department's labs and facilities.

Their visit was filled with stories, laughter, and a profound sense of pride as our alumni reflected on how far the department has come since their graduation. Their passion and support continue to shape the future of our students and our field.

Pictured from left to right: Dr. Mohamed ElGawady, Bernard Held, Larry Finley, Dennis Wood, Bill Lueckenhoff and Mark Young. Attendees not pictured: Thomas Mittler and Thomas Schneider.

CArEE staff members nominated for awards

During Staff Appreciation Week the following colleagues were nominated for awards to recognize their hard work and dedication and the real difference they have made in our students' lives and our department's success. We are lucky to have such outstanding staff!

Those nominated were:

- **David Basford** – Staff Excellence Award (Hospitality Category)
- **Madison Keim** – Outstanding Newcomer Award
- **Brittany Parnell** – Bridge Builder Award
- **Jeremy "Dusty" Thomas** – Outstanding Newcomer Award
- **John Whitchurch** – Staff Excellence Award (Excellence in Work Category).

S&T CEC faculty, staff receive awards

The following team members received awards during S&T College of Engineering and Computing Fall 2024 awards ceremony.

- **Dr. Sanjay Tewari**, associate teaching professor, received the Dean's Educator Award, which highlights teaching excellence.

- **Joann Stiritz**, senior communications coordinator, received a Staff Loyalty Award.

Burken leads Engineers Day discussion at Capitol

Dr. Joel Burken, Curators' Distinguished Professor and Mathes Endowed Chair in civil, architectural and environmental engineering, gave opening remarks and led a panel discussion with freshmen state senators to kick off Engineers Day at the Missouri Capitol on Feb. 5. The event is coordinated by the Missouri chapters of the American Council of Engineering Companies, American Public Works Association, American Society of Civil Engineers and Missouri Society of Professional Engineers. The purpose of this day is to educate legislators on the important and diverse roles that engineers play in our community, and to increase presence and voice in the public policy process. Burken and S&T students joined to meet with state legislators and Governor Mike Kehoe.

AEI reimagining the future of buildings

Dr. Stuart Baur and a group of S&T students attended the 2025 Architectural Engineering Institute (AEI) Conference in downtown Kansas City. This year's conference was focused on creating more adaptive, healthy and sustainable structures. Baur gave two well-received presentations entitled "Virtual Reality in Architecture and Architectural Engineering Education" and "Using Virtual Reality Technologies in Built Environment Education."

MISSOURI S&T
Civil, Architectural and Environmental Engineering
211 Butler-Carlton Hall, 1401 N. Pine St.
Rolla, MO 65409-0030

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Email your news to: care@mst.edu

GIVING INITIATIVES

Whenever you are ready, here are two ways you can help support our educational programs, research endeavors and student opportunities for generations to come.

Bayless Fellowship Initiative

The goal is to raise more than $1.1 million towards an endowment for the Bayless Fund. This fund will help establish the fellowship, which currently supports two students at $2,000 annually. The fellowships are awarded to students who are advancing their education through graduate work at S&T.

LEEP-4 Initiative (NEW!)

This new initiative focuses on expanding department capabilities and strengthening its leadership in the industry. The goal is to raise $220,000 towards two pieces of equipment for contact-free strain testing.

Bayless Fund

LEEP-3

LEEP-4 Equipment

Designate your gift online at:

donate.mst.edu