Hello to faculty, staff, students, and friends of Civil and Environmental Engineering Department!

During the 22-23 school year, our faculty productivity continued to be high. We have reached another milestone to double the journal publication record of the department! We also successfully brought in 16 new research contracts, including federal funds from the U.S. Department of Energy, the National Science Foundation, and the Federal Highway Administration. Partnership with the University of Missouri Kansas City (lead) and three other schools, our proposed center entitled “Environmentally Responsible Transportation Center for Communities of Concern (ERTC3)” is selected as one of the winning Tier I UTCs with a total grant of $10M for five years. As a key player, UofL’s team will focus its research sustainable construction materials and practices and soil and water pollution prevention. This grant will create opportunities to involve undergraduate and graduate students in research.

Our students are also doing great in the past year. The ASCE student chapter was recognized by ASCE with the 2023 Significant Improvement and the Honorable Mention awards for its activities recorded in 2022. A team of 20 students representing UofL attended the 2023 ASCE Student Symposium Region 4 held at Western Kentucky University. Our students placed in every single event that they participated! These future civil engineers are equipped with technical aptitude, empathy and character. They are truly the stewards and the change makers of our community!

Looking forward, we have an extensive list to accomplish in 2022-23 school year. We are endeavoring to grow our student population, regional and national recognition, and research infrastructures. I am so excited for another fantastic school year!

FACULTY SPOTLIGHT

Dr. Mark French,
Professor, Civil & Environmental Engineering, has been awarded the American Society of Civil Engineers (ASCE) Outstanding Faculty Advisor for 2022.

Outstanding Faculty Awards are given each year by the Committee on Student Members to Faculty Advisors who have demonstrated outstanding leadership and support to their ASCE Student Chapter. Sophie Lipomanis, a 2021 Civil & Environmental Engineering graduate, submitted the nomination on behalf of Speed School's student chapter.

“I promised myself that the year I graduated from college that I would honor the professor that forever changed my college experience for the best,” said Lipomanis. “I have never met a professor in the higher education world that cares about students’ academic success and professional development as much as Dr. French,” she said.

When Lipomanis first met French in 2018, the professor was a first-time faculty advisor who had just taken over a floundering ASCE student chapter. Lipomanis credits French with reinvigorating the chapter. In fact, from 2018 to 2020, the chapter tripled its membership and ASCE had blown through its goals, increasing membership 518% and launching an academic tutoring program that helped 140 students in its first year. This exponential evolution led to the chapter being recognized as the Student Organization of the Year.

Most recently, the chapter was recognized with the ASCE 2022’s Significant Improvement and Honorable Mention awards for activities recorded in 2021. “The chapter had been a ghost chapter,” said Lipomanis. “We went from nothing to being one of the top student chapters in the country.”

Lipomanis said French supports the Chapter through being a liaison and source of constant information, sending students scholarship information, flyers for events and keeping everyone in the loop for any approaching deadlines. He attends the Multiregional Leadership Conference and goes monthly to the KY ASCE meetings, supplying the group with updates. “He is a humble person that craves no renown,” said Lipomanis. “He expresses each year to our new crop of officers that he will help however he can in whatever capacity the chapter needs,” she said. “Dr. French is one of those rare professors that cares and wants to see students excel and become wonderful engineers.”

French said receiving the award was a wonderful surprise. “I feel I am simply supporting students with their initiatives for the ASCE student chapter by watching, listening, and participating as an advisor. Serving as ASCE student chapter faculty advisor has allowed me to stay connected to the views and needs of our civil engineering students. Working with our ASCE student chapter is one of the most rewarding parts of my work with students.”
**STAFF UPDATES**

**CEE WELCOMES CLAIRE TUDOR**

Gail Graves, our beloved administrative specialist retired in March 2023 after more than 36 years of service. While many of us attended the retirement reception congratulating Gail on her next milestone, we also welcomed Claire Tudor to join the CEE department as our new Administrative Specialist.

Claire is a UofL card. She graduated from the Business School with a major in Management and a minor in Marketing. Before joining CEE, Claire was working at UofL HR. Her good knowledge of the UofL system makes her a perfect fit to the department. We are all thrilled to have her on board!

**OUR MISSION:**
The mission of the Department of Civil and Environmental Engineering is to serve the university, the Commonwealth of Kentucky, and the engineering profession by providing high quality educational programs to all students; engaging in research and scholarship that will extend knowledge; and assisting the economic development of the regional, state, and national economies through technology transfer.

**STAFF UPDATES**

**Faculty Recognition**

**DR. MARK MCGINLEY RECEIVES Distinguished Faculty Award for Service to the Profession**

Dr. Mark McGinley, Endowed Chair of Infrastructure Research in the Department of Civil and Environmental Engineering at the University of Louisville Speed School of Engineering, was honored with a Distinguished Faculty Award for Service to the Profession at the April 13th Presidential Excellence Awards. The award honors faculty who bring distinction to the university through their commitment to the areas of service, teaching and outstanding scholarship, research and creative activity.

McGinley, who also serves as the Theme Leader of Energy Efficiency at the Conn Center for Renewable Energy Research and the Director of the DOE-funded UofL Industrial Advisory Center, is a structural engineer and building scientist with more than 35 years of research and forensic engineering practice in building systems. As a civil structural engineer and building scientist, McGinley’s primary teaching duties are to teach the next generation of engineers how to design structurally sound building systems, as well as how to make them more energy efficient and reduce their carbon footprint.

“I’ve always enjoyed putting things together and at the same time being creative. It is very rewarding to design the infrastructure that we use every day, to have something that you were involved in creating, which typically outlast the engineers that design them, creating a legacy that allows us to significantly impact society,” said McGinley.

Involved in the development of codes and standards since 1989, McGinley slowly moved up to leadership in a number of organizations including his current role as the President of the International Masonry Society. “You can do research and publish, but to have a real impact on a day to day basis in civil engineering, you need to get involved in the building codes and the standards,” he said. “This impacts how all engineers work throughout the country.”

As for energy efficiency, it was not top of mind for McGinley until he began practicing as an engineer and discovered that many of the problems that are associated with the functioning of building systems are not just structural and material related, they’re related to the other systems in the building, such as how well does the interior environment function, and this typically is related to energy use.

McGinley has been involved with two Solar Decathlon teams, one of which he spearheaded. The first led to the building of Phoenix House, now the Conn Center headquarters. He said energy is something near and dear to his heart. “I think the energy issue and how we provide energy – we’re either going to have to solve that fairly quickly, or the world will not be as nice a place to live in.”

As the field of civil and environmental engineering has evolved over the years, McGinley said that while they are still designing buildings, roads, water systems and sewer systems, it’s being done differently than in the past. Developing new and better ways of doing this presents what he terms “grand challenges” for the future civil engineers.

“People don’t appreciate the systems that they rely on for their everyday quality of life, and it’s becoming more and more difficult to support these systems with our growing population and the lack of resources,” said McGinley. “Our future engineers are going to have to address these problems if we’re going to keep enjoying the quality of life that we have become accustomed to in this country,” he said. “The avenue for making a significant difference in the world is open to them.”

After more than three decades in the field of civil and environmental engineering, McGinley still finds inspiration in the passing along of his knowledge to the next generation of engineers.

“One of the reasons I’m still doing what I’m doing is I like working with the young people. We give them basic tools, basic understanding, but to solve some of these really thorny problems out there, it will take a lot of thinking beyond what we give them in the school and take a lot of determination, a lot of effort, a lot of banging their heads against the wall,” he said.

To McGinley, the tools, techniques and information imparted to future engineers is just one aspect of their education. “We have a duty to society as engineers to create an environment where the majority of the people can live lives that are rewarding, too,” he said. “Part of our code of ethics dictates we have responsibility for the greater good, and the welfare of society and people in general. Hopefully, they can learn from the roles and models we have presented to them and continue to give back, as well as earn from society.”
UofL CEE Department won a USDOT UTC Proposal

On February 21, 2023, USDOT announced $435 million in grant awards for 34 University Transportation Centers. The grant was highly competitive, as there were the largest number of applications ever submitted in the 35-year history of the UTC program, at 230 applications.

The UofL CEE team (PI: Zhihui Sun, co-PI: Omid Ghasemi Fare, Tyler Mahoney) partnered with University of Missouri Kansas City (lead), Washington State University, Tennessee State University, and Texas State University to compete for a Tier 1 UTC.

Their proposed center entitled “Environmentally Responsible Transportation Center for Communities of Concern (ERTC3)” was selected as one of the winning Tier 1 UTCs with a total grant of $10M for five years. The overall focus of ERTC3 is on measuring, modeling, and mitigating the environmental effects of transportation infrastructure on vulnerable communities. As a key player, UofL’s team will focus its research on (1) sustainable construction materials and practices; (2) innovative materials and technologies; and (3) soil and water pollution prevention. Dr. Sun will serve as the site director for the center.

CLASSROOM DEDICATED TO PROFESSOR

A classroom housed in WS Speed Hall was dedicated in honor of Dr. Joe Hagerty’s 40 years of teaching in civil engineering. Pictured from left: Dr. Emmanuel Collins, dean of Speed School; Peggy Hagerty Duffy, Dr. Joe Hagerty, and Dr. Zhihui Sun, chair of Civil and Environmental Engineering.

A beloved, iconic Civil Engineering Professor was honored with a classroom dedication and ribbon-cutting on September 27. A plaque dedicated to Dr. Donald Joseph Hagerty, PE, D. GE, PhD, has now found its home on the wall of Room 108 in the W.S. Speed Building. Currently a Professor Emeritus, Hagerty was a CEE Professor at Speed School from 1970-2010.

He taught geotechnical engineering for 40 years and has more than 55 years of experience in the field, serving as an expert witness in hundreds of blasting cases. He has also overseen and executed pivotal research on riverbank erosion, including two complete assessments of the entire length of the Ohio River.

A student favorite renowned for his friendly demeanor and sense of humor, Hagerty once insisted his students find the jokes that were hidden in the textbook he was using for class. “Students need to get real and relax sometimes,” said Hagerty. “They’ll come back more interested in what they’re reading.”

He established and in many cases, maintained close relationships with his students, counseling them on academics, career choices, personal decisions. Hagerty said he remembers in his first year, to his surprise, one student even asked his advice about getting married. “He actually felt ok asking me about something that was really close to him in his personal life, and I felt greatly complimented by that.”

Still to this day, students remember him and approach him to talk and ask for advice or selfies when he is recognized around town. Daughter Peggy Hagerty Duffy, now owner of Hagerty Engineering, followed in her father’s geotechnical engineering footsteps and got her Bachelor’s and Master’s in Civil Engineering (’90). She said for her it all started in a canoe. “I never intended to go into engineering, but I was inspired when we were doing an erosion research project,” she said. “I liked putting it together and figuring out how all these mechanisms worked together,” she said. “There was an engineering problem, and eventually there would be math involved, but at first it was just getting out in the field and figuring out what was going on.”

Years ago, Hagerty was his daughter’s grad school advisor at Speed School, but the two have worked together the last 12 years. At the dedication ceremony, examples of Hagerty’s impact on the school were ubiquitous. Dr. Sun, Professor and Chairperson of the CEE department, spoke of Dr. Hagerty as her mentor. Madison Hamilton, a current freshman Speed School student from Eastern Kentucky thanked Hagerty for helping her to get into Speed School.

Daughter Peggy talked about the ripple effect of her father’s influence. “As engineers, he taught us how to make observations, how to care about doing a thorough job, but he also taught us how to think about your future, how to be a good spouse,” she said. “If you think about the effect of just one person he touched, and then how that affected their life and how that affected who they know … there was 40 years of that,” she said. “His legacy is so much more than a classroom, but it’s nice to have something physical to remind everyone of what he did. The effects and influence of Joe Hagerty will go on for a long time.”

Dr. Hagerty said at the ribbon-cutting ceremony that it felt really nice to be honored with the classroom dedication. “The things I got out of teaching all those years was the contact with the students. I just loved what I was talking about, and I would look around the classroom and a student would get it, I could see it,” he said. “To see that light go on – that was so thrilling. That’s what I got out of teaching, and why being here with all of you means a lot to me.”

PROGRAM EDUCATIONAL OBJECTIVES:

In accordance with our mission statement, within three to five years of graduation;
• Our graduates will grow from technical competency to professional proficiency.
• Our graduates will engage in professional development and lifelong learning.
• Our graduates will exhibit leadership and team-building skills.
• Our graduates will provide service to the profession, and to society.
Engineering students visit LOUVAMC construction site

Engineering students from the University of Louisville had the opportunity to visit the site of the new Louisville VA Medical Center where they were given an overview of the project as well as a site tour April 13.

More than 20 seniors and juniors in the Construction Materials course taught at the University of Louisville took part in the field trip.

Dr. Tharshikka Vickneswaran, assistant professor for the University of Louisville’s Civil and Environmental Engineering Department, said the students’ visit to the construction site would provide them with a better understanding of how what they have been learning can be applied after graduation.

“This course mainly talks about major construction materials used. Therefore, visiting the site would help the students to connect with the things that they learned in class to real-world applications,” she said. “Visiting a construction site like this will help the students to understand their role in this society as civil engineers. Also, they will know how to face challenges on a construction site.”

Engineering student Caroline Watkins said the presentation about the project was useful in learning what goes into such a large construction mission.

“The most useful part of the visit was the overview presentation that informed us of the progress and design of the site. It was also great to see a visual made of what the building and site will look like once it is finished,” she shared. “There is a lot of work still left but it was great to see the structure being built. I also found it interesting that they planned the layout according to the neighbors. For example, they will place the emergency section and trash near the highway, so it doesn't disrupt the neighbors.”

Vickneswaran said she was appreciative of the VA team’s willingness to host the group and share details of what goes into such a large project.

“I love the way how the team accommodated us on this visit. It was interesting to see how the challenges of a vertical construction project in the middle of an urban area were overcome through different strategies,” she said.

Carl Lindsay, lead quality assurance representative for the Louisville VA Medical Center mega-project, who led the tour ended it by sharing some of his enthusiasm for being a part of the project.

“When you graduate and are thinking of where you would like to work or what you would like to do, keep the Corps of Engineers in mind. We are always looking for engineers, and this is a project that will make a difference in so many lives. I’m proud to work on a project that will benefit so many and provide care for my fellow veterans. Our veterans deserve the best care possible, and I hope my little part in this will help ensure that’s available to the thousands of veterans that will walk through those doors in the future.”

The $900 million project includes the construction of a new 910,115 square-foot medical center, parking structures, a 42,205 square-foot central utility plant, roadways, sidewalks, and other site improvements.

The new 104-bed, full-service hospital will provide world-class healthcare for more than 45,000 Veterans in Kentucky and Southern Indiana by integrating modern patient-centered care concepts to provide the best possible care for Veterans. In addition, to specifically address the needs of women Veterans, the new hospital will include a Women’s Health Clinic with four Patient Aligned Care Teams.

The project designed by URS-Smith Group Joint Venture is being constructed by Walsh-Turner Joint Venture II, Chicago, Illinois. Construction is anticipated to be complete in 2026.

To learn more about the project visit: www.va.gov/louisville-health-care/programs/new-robley-rex-va-medical-center.

CEE Students attend American Concrete Institute 2023 Spring Convention in San Francisco

CEE undergraduate students Payton Scott and Jake Schneider attended their very first American Concrete Institute 2023 Spring Convention in San Francisco. The convention is a semi-annual event for the concrete society to get together exchanging new ideas and findings on concrete research. More than 1200 college professors, graduate students, undergraduate students, and concrete professionals attended the event. Payton and Jake attended student research session, observed student concrete bowling ball competition, student and young professional networking event, and many more! Their trip was sponsored by KY EPSCoR through a research grant entitled “Using Lightweight Aggregates as the Internal Curing Agent for Concrete Pavement” (PI: Zhihui Sun).
Student Honors & Awards

School-Wide Honors and Awards
J.B. Speed School of Engineering Alumni Award - Sara Durr
Departmental Alumni Award - Jake Schneider
Co-op of the Year Award - Shane Hesse

Civil & Environmental Engineering Departmental Awards
CEE Undergraduate Recognition Award - Nevada Lomax
CEE Graduate Recognition Award - Jackson Stewart
Kentucky Section ASCE Scholarship Award - Camille Davis; Bill Montgomery
Whittenberg Construction Scholarship Award - Dylan Jamison
Matthew Aldridge Cowan Endowed Fellowship Award - Sara Durr; Jansenne Mitchell; Jackson Stewart
David P. Wagner Scholarship Award - Cheyenne Wimsatt
LECGI Scholarship Award - Bryce Dhom
Stanley J. Gordon Jr. Scholarship Award - Camille Davis
Hazelet & Erdal Scholarship Award - Payton Scott
Schoettler Scholarship Award - Claire Mathauer; Luke Ott
Steven V. Biyen Scholarship Award - Almendra Espinoza
Caldwell Tanks and Preload Scholarship Award - Zoe Cook; Bryson Cissell; Abigayle Crites

XE Chi Epsilon (2023-2024)

Back Row: Bill Montgomery (President), Jake Schneider, Luke Ott (Editor), Jonathan Clausen
Front Row: Adam Cantrell, Megan Farney (Sec-Treas), Payton Scott (Marshall), Matt Arnold, Sarah Crockett, Cheyenne Wimsatt, Bri Kozlowski, Casey Race (Vice President)


Conferences


Construction Operations Undergraduate Certificate

COMING FALL 2023

The certificate in Construction Operations is designed to provide students with training in skill sets needed for construction related duties, such as land survey, material testing, construction equipment, and construction management. The certificate will provide professional engineering career paths for civil engineering students and provide more opportunities for leadership roles in construction companies.

• 12 Credit Hours
• The certificate requires the completion of 12 credit hours with a GPA of 2.25 or higher.