



Welcome from the Department Head

Mississippi State's Civil and Environmental Engineering Department proactively uses teaching, research, and service to educate baccalaureate, masters, and doctoral students. We feel the first, best calling of our students is to become Professional Engineers by becoming competent, dynamic, and ethical engineers of the future. This E-newsletter is our effort to share a snippet of a few of the achievements we have made during this higher education journey.

Civil and Environmental Engineering Department Welcomes Two New Faculty Members

The department of Civil and Environmental Engineering is happy to welcome two new faculty members to our faculty.



Dr. Alireza Ermagun is an Assistant Professor who received his Pd.D. in Transportation Systems Engineering from the University of Minnesota in 2016 with a dissertation titled "Network Econometrics and Traffic Flow Analysis," and a Master of Urban and Regional Planning in 2017. His research interests include smart cities, sustainable transportation, transportation planning and economics, urban freight, and resilience and efficiency in transportation networks. Dr. Ermagun is currently involved in seven different projects, and is recruiting two Ph.D. students to start a new research team in the field of transportation engineering and planning. Please contact him for more information at aermagun@cee.msstate.edu.



Dr. Jun Wang is an Assistant Professor who comes to Starkville from McMaster University, where she recently completed her Ph.D. on "Situational Awareness for Construction Safety Risks Management." Her research interests include infrastructure and construction safety, sustainable and resilient infrastructure systems, and smart construction. Dr. Wang is recruiting a Ph.D. student, so if you are interested in sustainable and resilient infrastructure systems and human behaviors, please contact her for more information at jwang@cee.msstate.edu.

NCEES Honors Truax for Service to Engineering and Surveying



The National Council of Examiners for Engineering and Surveying recently recognized Dennis Truax, the head of the civil and environmental engineering department in Mississippi State's Bagley College of Engineering, with the NCEES Distinguished Service Award.

Truax received the award at the organization's 97th annual meeting. It was presented in honor of his dedicated service to NCEES and the engineering and surveying professions.

"It is an honor to be recognized by NCEES in this way," Truax said. "For everyone involved with the licensure board and this organization or in service to the profession, and for this organization to set me apart, lift me up as an example, is humbling and rewarding."

Read more on the Bagley College of Engineering website, at <https://www.bagley.msstate.edu/news/ncees-honors-truax-for-service-to-engineering-and-surveying/>. Article by Philip Allison.



Class of 1968 Civil Engineering Graduates Reunite on Campus

Graduates from the Class of 1968 returned to campus September 14-16th to celebrate their 50 year reunion with the Civil and Environmental Engineering department. Fourteen alumni returned to Starkville for the weekend.

Mississippi State University has changed quite a bit in the past fifty years, so alumni were treated to a tour of the campus to view the new facilities. They were also given a tour of the Mitchell Memorial Library and the library's museums. University President Mark Keenum came to personally welcome the alumni back to campus, and Bagley College of Engineering's Dean Jason Keith gave a presentation on the upcoming Rula Engineering Building. The alumni were also given a presentation by Dr. Dennis Truax about how the department itself and the requirements for the major have changed since they graduated with their civil engineering degrees in 1968.

Saturday, September 15th was a home football game, where Mississippi State University's Bulldogs took on the Ragin' Cajuns from Louisiana. The alumni enjoyed the green tailgate hosted by ASCE, before watching the Bulldogs win on their home turf.



Above: Class of 1968 alumni and their spouses

Dr. Farshid Vahedifard appointed to CEE Advisory Board Professorship



Dr. Farshid Vahedifard, P.E. was appointed to the Civil and Environmental Engineering Advisory Board Professorship.

The CEE Advisory Board Professorship was established in 2013 by the department's advisory board, a group of individuals interested in the department's programs and the students being graduated. Recipients of this recognition must prove their scholarship through success in publishing, a well-developed and sustained record of securing funding for research and supporting graduate students, and by advancing education at both the undergraduate and graduate levels. Dr. Vahedifard's appointment is in recognition of his exemplary scholarship in the areas of education, research, and outreach.

Dr. Vahedifard is a tenured Associate Professor in CEE. His research has contributed to advancing understanding of several areas related to geotechnical engineering. While he continues working on classic and emerging areas of geotechnical engineering (e.g., slope stability, unsaturated soil mechanics, geosynthetics-reinforced soil structures), his research team also addresses the grand challenges of Resilient Infrastructure, Climate Change, and Energy. The multi-disciplinary nature of his research has enabled him to successfully establish collaborative efforts with other areas to broaden his research horizon and integrate geotechnical engineering to various engineering and science fields including climate science, hydrology, data science, geosciences, petroleum engineering, mathematics, and remote sensing.

Dr. Isaac Howard Elevated to Fellow of ASCE

Isaac L. Howard, Ph.D., P.E., F.ASCE, a construction engineer, consultant, and stalwart academician, has been named a Fellow by the ASCE Board of Direction.

Over his career, Howard has worked with a variety of construction materials, the majority of his efforts being related to asphalt paving and chemically stabilized soil. He has also worked with such building materials as fiber-reinforced polymers, concrete, and wood. His experience has made possible his guidance of over 100 undergraduate, master's, and doctoral students in research activities, and produced, as co-author, over 100 peer-reviewed papers. Currently he oversees the Construction Materials Research Center at Mississippi State University (MSU), where several groups (industry and agency) actively participate.

Howard has served as a consultant for geotechnical and paving applications, has taught over 4,000 student credit hours at the university level, has served or is serving as principal investigator for 25 externally funded research projects, and has worked or is working on several other externally funded research efforts either as a project team member or through research center programs, where his responsibilities range from project team member to task/topic leader. He has also given over 75 presentations at a variety of events nationwide, had a leadership role in a successful fundraising campaign, served as a peer reviewer for over 100 documents, and helped lead multiple technology transfer activities for practitioners. Read more on the ASCE website, at <https://news.asce.org/howard-elevated-to-fellow-status/>.





Over the moon: MSU's first Astronaut Scholar grateful for prestigious award



As Mississippi State University's first Astronaut Scholarship recipient and one of only 50 across the U.S. this year, senior civil engineering major Phong C. Ly of Brandon feels like the luckiest guy in the universe.

Receiving a \$10,000 merit-based award from the Astronaut Scholarship Foundation, Ly is pursuing an environmental engineering concentration through MSU's James Worth Bagley College of Engineering. He also is a top student in the Judy and Bobby Shackouls Honors College, home to the university's Office of Prestigious External Scholarships.

As part of the award, Ly is embarking this month on an all-expenses-paid trip to Washington, D.C., for ASF's 2018 Innovators Gala featuring the Neil Armstrong Award of Excellence. There, he will

interact with some of America's pioneering astronauts, scientists, researchers and other innovators who are making an impact and advancing science, technology, engineering and mathematics, or STEM fields.

Ly also may participate in ASF's Innovative Leadership Mentor Program and have an astronaut, executive industry leader or Astronaut Scholar alumni as a mentor. With membership in the Astronaut Scholar Honor Society, he will have opportunities to build relationships and network with peers.

In 2017, MSU became the only university in Mississippi invited into partnership with the Orlando, Florida-based Astronaut Scholarship Foundation to promote STEM fields, along with NASA research priorities at the undergraduate level. The university is among 40 top U.S. institutions selected for having strong undergraduate and graduate research programs that produce significant numbers of professional scientists, academic scientists, engineers and researchers.

The ASF Scholarship program recognizes outstanding college juniors and seniors, and students are encouraged to apply during their sophomore or junior year. For more, visit <http://astronautscholarship.org>.

"I went to Washington, D.C., once as a kid with my family, and I'm looking forward to going back to present my research and connect with other students and professionals," Ly said. "I like the mentorship aspect of the Astronaut Scholarship program. It's a really cool opportunity."

Ly has participated in multiple research experiences as an MSU undergraduate over the past few years. Among his fondest memories is his involvement in the university's chapter of Engineers Without Borders. In 2016, the student organization's members completed a five-year water well implementation project in the African country of Zambia to help provide safe, clean drinking water to children and others in rural communities.

Read more on the Bagley College of Engineering website, at <https://www.msstate.edu/newsroom/article/2018/08/over-moon-msu-first-astronaut-scholar-grateful-prestigious-award/>. Article by Sasha Steinberg.

Thirty-four hours across America

Getting from Starkville, Mississippi to San Diego, California isn't all that difficult. Even with a layover in Atlanta, two flights will get you there in a single morning; however, when part of your "luggage" is a 200-pound concrete canoe, figuring out your travel plans becomes a little more complicated.

For the Mississippi State University Concrete Canoe team, the outrageous cost of shipping a canoe made out of concrete made driving it the obvious choice. When civil engineering majors Justin Gilliland, Morgan Cowles and Jennifer Deignan volunteered for the cross-country trek, the question of who would drive it had an easy answer.

After making sure the concrete canoe was safely loaded into a large trailer, the three Bagley College of Engineering students started the long journey from Starkville to San Diego for the American Society of Civil Engineers' 31st annual National Concrete Canoe Competition.

The trip took 34 hours to complete and the team stopped every two or three hours for fuel and bathroom breaks, only stopping for the night at less than luxurious motels in Midland, Texas and Tucson, Arizona. Gilliland did most of the driving due to the fact he is well versed in pulling trailers, but had help from Cowles and Deignan.

"We had to be careful not to crack the canoe when we were driving," Gilliland said, "but I was more scared of other drivers around us when we were pulling the trailer."

Read more on the Bagley College of Engineering website, at <https://www.bagley.msstate.edu/news/thirty-four-hours-across-america/>. Article by Julia Gibson.



The MSU Concrete Canoe team's co-ed race participants. Bottom row (from left): Caitlin Nash and Jennifer Deignan. Top row: Morgan Cowles and Justin Gilliland.



Bagley students claim top two writing awards at national conference



Students from Mississippi State’s Bagley College of Engineering took home first and second place in the undergraduate student paper competition at the recent World Environmental and Water Resources Congress.

Phong Ly captured first place in the undergraduate student paper competition with his paper “Green Alternatives: Analysis of Rain Garden Hydrology and Water Quality Performance.”

James Steele earned second place with his paper “Analyzing Suspended Sediment Transport in Catalpa Creek.”

Ly is a senior majoring in civil and environmental engineering at Mississippi State, while Steele graduated from the same department in spring 2018. In their papers, both students reported on results of their undergraduate research work, which was performed within Mississippi State’s Watersheds and Water Quality Research Lab during the fall of 2017.

“It was a big pleasure and immense honor to see Phong and James receive their awards. It’s a deserved recognition for their hard work” said John Ramirez-Avila, assistant professor of civil and environmental engineering and the research advisor for the two students.

The two awards marked the third time in the last three years that a Mississippi State student has been recognized by the conference. Civil and environmental engineering alumna Emily Farrar earned first place for her paper at the 2016 conference.

Read more on the Bagley College of Engineering website, at <https://www.bagley.msstate.edu/news/bagley-students-claim-top-two-writing-awards-at-national-conference/>. Article by Philip Allison.

Top photo: Phong Ly,
Bottom: James Steele

Bagley alumna tapped for SWE chapter leadership position

Civil & environmental engineering alumna Victoria Malley was recently named to the Executive Committee of the Greater New Orleans chapter of the Society of Women Engineers.

Malley will serve as president of the organization for the coming fiscal year. She is a 2017 graduate of Mississippi State University’s Bagley College of Engineering and currently serves as a project engineer at Digital Engineering in Kenner, La.

The Society of Women Engineers (SWE), founded in 1950, is a non-profit educational and service organization. SWE is the driving force that establishes engineering as a highly desirable career aspiration for women. SWE empowers women to succeed and advance in those aspirations and receive the recognition and credit for their life-changing contributions and achievements as engineers and leaders.

The mission of the SWE Greater New Orleans chapter is to “stimulate women to achieve full potential in careers as engineers and leaders, expand the image of the engineering profession as a positive force in improving the quality of life, and demonstrate the value of diversity.”

Article originally posted on the Bagley College of Engineering Website, at <https://www.bagley.msstate.edu/news/bagley-alumna-tapped-for-swe-chapter-leadership-position/>. Article by Phillip Allison.



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