



Welcome from the Department Head

The programs provided by Civil and Environmental Engineering proactively use teaching, research, and service to educate baccalaureate, masters, and doctoral students. Our goal is help our graduates to become creative, socially responsible, ethical engineers ready for a dynamic career. We feel the first, best calling of our graduates is to become a Professional Engineer and preparing them for licensure will prepare them for whatever career path they choose. This E-newsletter is our effort to share a snippet of a few of the achievements we have made during this higher education journey.

Congratulations to Dr. James L. Martin on his retirement

After 18 years of service to Mississippi State University as Professor and Kelly Gene Cook, Sr. Endowed Chair in Civil and Environmental Engineering, Dr. James L. Martin has retired. Dr. Martin demonstrated dedication to undergraduate and graduate students with a personal and professional commitment to excellence in education, research, and outreach. His mentoring activities have made a significant contribution to the quality of life of the students and faculty of this department and his departure from our ranks will not go unnoticed or unappreciated for many years to come.

Dr. Martin's career spanned four decades advancing the body of knowledge related to water quality management and modeling in freshwater, estuarine, and coastal environments. He contributed to over 170 archival publications, made over 140 professional or technical presentation internationally, and was an active participant in his professional organizations. He supported environmental protection activities of numerous corporations, companies, and governmental agencies. Examples include: the U.S. Army Corps of Engineers Engineer Research and Development Center (USACE ERDC), AScl Corporation, and the U.S Environmental Protection Agency (USEPA). He was instrumental in the development and general application of the WASP series of water quality models widely used to help develop TMDL-based waste load allocations.



Above: Dr. Martin shares his retirement gift from the department, a hand-bound book of letters from faculty, students, alumni, and former coworkers.

Rachel Booth, research assistant with the Construction Materials Research Center in the Department of Civil and Environmental Engineering; was named a Fulbright Finalist.

A Mississippi State psychology major is the university's newest Fulbright finalist.

Rachel Booth, a graduating senior from Lindale, Texas, will represent MSU and the United States while spending 10 months studying cognitive psychology and conducting research at Germany's Universität Ulm. Booth's selection marks the third consecutive year at least one MSU student has been named a Fulbright finalist. She is a member of the Judy and Bobby Shackouls Honors College and earlier this month was inducted into the Gamma of Mississippi chapter of Phi Beta Kappa at MSU.

Article by James Carskadon, originally published on Mississippi State University website. Read more at <https://www.msstate.edu/newsroom/article/2019/04/msu-psychology-major-university-s-newest-fulbright-finalist/>





Graduating Bulldog Joins the Saintsations!

Alexis Krohn graduated May 2019 with a BSCE and an environmental concentration. She has accepted a position at Ingalls Shipbuilding, and that might be where the story would end, but not for her. Alexis has just been selected as one of the newest members of the 2019 Saintsations.

Alexis Krohn has been dancing since she was four years old, and she's always dreamed of being a professional dancer. She worked towards that goal while at Mississippi State University, and danced on the MSU Pom Squad for three years while she pursued her degree in Civil Engineering. It wasn't easy, and Alexis and the other Pom Squad members all had to devote a great deal of time in addition to their studies. Alexis noted that being on the MSU Pom Squad, "entailed practicing weekly on Monday-Thursday evenings, as well as Tuesday and Thursday morning workouts at 6am before classes. We danced and cheered at all home football games on the weekends as well as home basketball games on the weekends, and even weekday nights. We traveled to all of the Men's and Women's basketball tournament games as well. We even made appearances at some baseball and volleyball games."

Alexis was one of 120 who participated in try out for the Saintsations, the cheerleading and dance team that performs for the games of the New Orleans Saints. Tryouts included professional interviews, a written test on NFL knowledge, and three rounds of choreography-based eliminations. Eventually, she was picked as one of 32 dancers to join the 2019 roster. She says, "I was nervous at first, but this ended up being one of the most positive experiences I've ever been through. Everyone was so supportive and helpful and that really boosted my confidence during the process."

Now that her dance career goals are coming true, Alexis is hoping to work on her career goals in civil engineering, as well. She majored in civil engineering because always had a passion for math and science, and was drawn to the environmental engineering concentration. She said, "knowing that one day I will make an impact on being able to make sure the Earth will be in good condition for those who live here in the future is a wonderful feeling." While at Mississippi State University, Alexis worked with the Construction Materials Research Center, and helped create several Construction Matters videos, such as this one about Safety Matters in Construction: <https://www.youtube.com/watch?v=0QDpYdB8dWM>, which are hosted on the YouTube page for the Bagley College of Engineering. Dr. Isaac Howard, Materials and Construction Industries Chair and Director of the Construction Materials Research Center, says "It takes someone with a lot of talent and dedication like her to pull off double duty like this. People like Alexis are what fuel CMRC."



Mississippi State University Chapter of Engineers Without Borders takes first steps on project in Ecuador



In early May, the Mississippi State Engineers without Borders (EWB) chapter set out on an assessment trip for their new project in Santa Teresita, Ecuador, located in a rural area approximately four hours from Ecuador's capital city, Guayaquil, at an elevation of about 7,500 feet above sea level. The community has a 32-years old water supply and distribution system originally funded by USAID. Landslides, earthquakes, exposed system infrastructure and improper repairs have reduced this system, dependent on mountain springs originating at about 9,000 feet, to a point where supply for the community is unreliable in terms of quantity and quality.

Representatives of the Instituto de Ecologistas del Tercer Mundo (Institute of Third World Ecologists) and the Peace Corps working in the area approached EWB-USA and the chapter about helping to reestablish a sustainable supply of potable water for this community comprised mainly of farmers growing squash, corn, beans, blackberries, and tomatoes. Five undergraduates (Phong Ly, Daniel

Rester, Maddy Murphy, Awbrey Foster, and Craig Schexnaydre), a Practitioner Advisor (Mr. Bill Mitchell) and the two faculty advisors (Dr. John Ramirez-Avila and Dr. Dennis Truax) made up the team to visit.

The results of the trip indicate the community needs to develop an organized system for managing and maintaining the water supply system. Working with the IETM and Peace Corps contacts, this is currently underway. The MSU EWB team discovered there was no reliable data on supply or system operations and are working with the community to develop a data collection system. The team is also evaluating options for replacement and upgrade of two existing ground storage tanks, addition of a third water supply, and improvements to the water distribution system to increase flow and pressure. Disinfection powered by solar panels is also being considered.



Vicksburg native Richard Rula honored as MSU National Alumnus of the Year

For five decades, Richard Rula has bled maroon and white.

Now, the Vicksburg native holds the honor as Mississippi State University's National Alumnus of the Year.

Rula was recognized as the university's top alumnus during campus ceremonies in Starkville where he was honored during the MSU Alumni Awards banquet.

Rula and his wife Sherry, also a Vicksburg native, have a deep connection to the River City. The couple, who have been married for 47 years, are graduates of H.V. Cooper High School.

Her father, former mayor John D. Holland, is credited for attracting the Miss Mississippi Pageant to Vicksburg in 1958 after first being elected in 1957. He remained mayor until 1968.

"I come back all the time," Sherry Rula said. "We still go back and Richard has jobs there."

She said her husband was very surprised about being chosen by MSU as the national alumnus of the year when he got the call in December.

"He didn't even believe it when they called him. Richard said 'What?' He couldn't believe and it took Richard the length of a phone call to understand what he was saying. He was very surprised, but I think he deserves the honor very much."

Rula, the son of the late Adam and Anna Rula, earned his bachelor of science in civil engineering from MSU in 1970. He has enjoyed success in the construction industry and received the Lifetime Achievement Award from the Associated General Contractors of America for his accomplishments. He holds a professional engineering license and is a member of the Society of Civil Engineers.

After receiving his degree, Rula worked for W.J. Runyon Construction Company and Lester Engineering before joining Florence-based Hemphill Construction Company Inc. in 1979.

Following progressive roles, Rula became owner and president of the company in 1984. Since then, he has led the small, locally based construction company into a prosperous firm well-recognized throughout the southeastern United States. The multi-faceted contracting company is licensed to perform work throughout the region involving heavy and highway construction, utilities, and commercial and industrial site development.

Rula also is the proprietor of Suncoast Infrastructure Inc., a leading trenchless contractor, and Maintenance Systems Inc., which focuses on operations and management of water and wastewater treatment plants.

Rula earlier was recognized by Mississippi State as the James Worth Bagley College of Engineering Alumnus of the Year for 2017 and a Distinguished Engineering Fellow in 2006.

A love for MSU

An active volunteer at his alma mater, Rula serves on the Bulldog Club board, MSU Foundation board, and the Bagley College dean's advisory council. Beyond MSU, Rula has served on the boards of the Kidney Foundation, Madison County Association, and the Tennis Foundation of Mississippi.

At Mississippi State, Rula's cornerstone contribution is helping make possible a new 70,000-square-foot, state-of-the-art facility under construction to house the Department of Civil and Environmental Engineering; classrooms and offices; teaching, research and chemistry labs; and high bay areas for the Bagley College. In his honor, the facility will be known as the Richard A. Rula Engineering and Science Complex.

Within the college, Rula's support extends to the Richard A. Rula Professorship in Construction Engineering and Management for a distinguished faculty member, and the Richard A. Rula Doctoral Assistantship for a top-caliber graduate student.

In athletics, his philanthropy includes the Mize Pavilion's Rula-Dampier Courts for men's and women's basketball practice. A planned indoor facility for Bulldog tennis also will benefit from his support.

Article by Rob Sigler. Originally published in the Vicksburg Post, <https://www.vicksburgpost.com/2019/03/13/vicksburg-native-richard-rula-honored-as-msu-national-alumnus-of-the-year/>.



MSU President Mark E. Keenum, right, recognizes the university's 2019 National Alumnus of the Year, Vicksburg native Richard A. Rula, who was formally presented with the honor during the MSU Alumni Association's annual awards banquet March 1.



CIVIL AND ENVIRONMENTAL ENGINEERING



Shanika Musser, an undergraduate Civil and Environmental Engineering student at Mississippi State University, was awarded 1st Place at the ASCE-EWRI Undergraduate Paper Contest. Her paper titled “Influence of Riparian Vegetation on Stream Health and Water Quality” resulted from her undergraduate research work supported by the Bagley College of Engineering Undergraduate Research Grant and the Bagley College of Engineering Stream Restoration Working Group.

Congratulations to Veera Ganeswar Gude who achieved his Diplomat, Water Resources Engineer (D.WRE) board certification. Dr. Gude was board-certified as a D.WRE for his advanced expertise, advanced education, and attainment of specialized body of knowledge in water resources engineering.

Dr. Gude is currently an associate professor at Mississippi State University, with nearly two decades of academic, industrial and research experience in environmental & water resources engineering. His background include industrial experience designing water and wastewater treatment systems and his research efforts include low-temperature desalination, energy-positive wastewater treatment and resource recovery, and biofuel production.



Dr. Gude receiving D.WRE certificate with (from left) KN (Guna) Gunalan, Vijay Singh and Dennis L. Richards, P.E., D.WRE at AAWRE ceremony in Pittsburgh on May 20, 2019. Photo by Jeff Callen.

A recent *Science* publication with MSU Civil Engineering faculty Dr. Farshid Vahedifard and Dr. Alireza Ermagun as lead authors was discussed in the Spring 2019 issue of NEXUS, A Magazine by NSPARC at Mississippi State University. Read about it on page 16 here: <https://www.nsparc.msstate.edu/wp-content/uploads/2019/04/NEXUS-SPRING-SCREEN-SPREAD.pdf>



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