# DR. EMMETT DAVIS, JUNIOR, '50, DEPARTMENT OF CIVIL, ENVIRONMENTAL, AND CONSTRUCTION ENGINEERING NEWS

## R(A)ISING THE PROFESSION

The Citadel's Mission is to educate and develop students to become principled leaders in all walks of life. Within the CECE, we aim to "raise" the next generation of principled leaders in the engineering profession. To do this, faculty and staff actively work to "bridge the gap" between classroom and industry through strategic classroom design projects, field trips, and guest speakers. At the same time, engineering practice is ever-expanding through a wide range of technological advances. To prepare our students to be industry leaders, not only upon graduation but beyond, faculty and students continually engage in research. Staying on top of innovative technology allows us to use it in the classroom. As our graduates walk away from LeTellier Hall, their professional trajectory is on the "rise."

## BRIDGING THE GAP

While CECE faculty are hard at work teaching in LeTellier's classrooms, they also devote time to a range of technical and educational research initiatives to remain at the forefront of their field and contribute strategically to the Department in strategic ways. Here are just some of their research projects. Funded projects allow not only for research materials, but also for paid student researcher positions- inspiring their minds.

**Dr. Tim Mays** and **Dr. John Ryan** are leading a team to improve seismic design specifications for bridge design and construction with $200K grant from the SC Dept. of Transportation. Such work allows both to stay current on SC structural engineering regulations because they are working to write the codes for bridge design.

**Dr. Dimitra Michalaka** is engaged in several inter-institutional research projects relating to non-car transportation, including a $157K funded project to assess transportation infrastructure for bicycles and $69K funded research project measuring safety and health impacts of such mobility alternatives, Dr. Michalaka's research connections support undergraduate researchers, including Joshua Wetmore (see page 2).

**Dr. Dan Nale's** relationship with the SC Aeronautics Commission and continued advocacy for the CECE Senior Capstone Course led to a $20K grant from the Commission which allows use of industry standard software, AviPlan, in the Capstone curriculum.

**Dr. Tess Doeffinger,** new CECE faculty member, continues her prior work on coastal erosion and stormwater management supported by an $8,000 grant from the SC Sea Grant Consortium, an affiliate of NOAA. Her research and industry connections in South Carolina and the southeastern US are directly contributing back into her Environmental Engineering courses.

**Dr. Stephanie Laughton** received a $100K grant from NSF to research barriers to student success in The Citadel's 2+2 Engineering Programs and develop a cohort-based scholarship program to expand this pathway toward graduating principled professional engineering leaders. Her project also takes her two days a week to the Trident Technical College campus to enhance pre-transfer advising and student support.

**Dr. Mary Katherine Watson** continues her work under her NSF "Mid-Career Award" grant ($260K over 4 years) to research carbon capture by algae in high pH environments. In conjunction with the larger laboratory facilities available at Clemson University, Dr. Watson bridges the gap between current and innovative engineering technology.

## E.G. "BUCK" SHULER, JR. MEMORIAL

E.G. "Buck" Shuler, Jr. (1936-2024)- Citadel Class of 1959 was a legendary fighter pilot and three star general for The United States Air Force, who will be missed by his Alma Mater. LTG. Shuler continues to inspire alumni and students throughout generations. His F-4C jet "Annette" is on display in front of LeTellier Hall on the parade deck.

## NED M. SANDERS MEMORIAL

Col. Ned Sanders, USAF (Ret) (1931-2024) Citadel Class of 1953, had a distinguished 33-yr. military career as a pilot and civil engineer. He served as Chair of Houston Co. (GA) Commission for 10 years and was indicted into The Citadel's Engineering Academy in 2024. Col. Sanders was a great benefactor of his alma mater and his legacy will continue to support Citadel cadets into the future.

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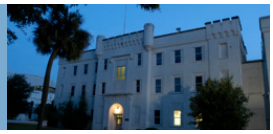


# TO THE FIELD AND BEYOND

Every semester, students have a range of opportunities to engage with professional engineers. Sometimes, this is a guest speaker who attends a class or club meeting. Other times, students leave campus to visit active work sites to see how classroom theory translates into the real world. Thank you to all guest speakers and site visit hosts!

**2024 Fall Semester Guest Speakers**

CIVL 432, Gary Siegfried, PE, Exec Dir., SC Aeronautics Commission
CONE 440, Ben Kicklighter, Dakota Matting, Matting & Temporary Bridges
CIVL 432, Jeff Hurford, CFO, Eviation Aircraft, Advance Air Mobility Market
CIVL 432, Jeff Wright, CEO Heliplanners, Vertiport Planning
CONE 440, Colin Tudor, VP, Donely's Concrete, Forming, Shoring & Reshoring
CONE 440, Balfour Beaty, MUSC College of Health Professions Building
CIVL 432, James Westmoreland, Dir. of Electrification, Dominion Energy
CONE 320, Passion Masonry & Foundations, CMU/brick/mortar lab demo,
CIVL 433, Nate Ward, BETA Technologies, Advanced Air Mobility Charging
CIVL 432, Mike Wooten, PE, Principal, Bolton & Menk, Stormwater Drainage
CIVL 305, James Aton, Town of Mt. Pleasant, Transportation Engineering
CONE 320, Chip Burton, J.D., Rosen-Hagood Attorneys, Construction Law

**2024 Fall Semester Site Visits**

CONE 320, Gene Garrett, VP, Hill Construction, 10-ac site, Summerville, SC
CIVL 432, Louis Dessau, Com., Jim Hamilton LB Owens Airport, Columbia, SC
CIVL 432, Bri Barrineau, PE, AICP, WK Dickson, Airport Site Selection/Planning
CONE 320, Gene Garrett, VP, Hill Construction, 10-ac site, Summerville, SC
CONE 440, Frampton Constr., Warehouse Construction, Jedburg, SC
CONE 440, Tilt-up Wall Construction, Faison Rd., Mt. Pleasant, SC
CONE 440, Donley's Concrete, Wastewater Treatment Plant, N. Charleston, SC
CIVL 320, James Wilson, Hanahan Water Treatment Plant
CONE 440, Russell Marine, USCG Pier November Recapitalization
CONE 440, Hugh Leatherman Terminal, SC Port Authority
CONE 320, Ingleside Mutli-Family Construction, MEP, Ladson, SC

## DEPARTMENT HEAD'S MESSAGE: WILLIAM J. DAVIS, PH.D., P.E. (AL)

Greetings from LeTellier Hall! Here are a few Dept. updates for 2025 Spring semester:

**Dept. Scholarships:** 2024-25 recipients are listed on pg. 4 for 23-scholarships, presented to 54-students, totaling $318,000 in scholarship awards. Congratulations to students and thanks to scholarship benefactors!

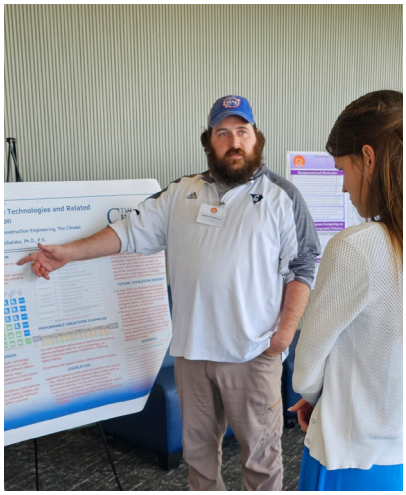
**Student/Faculty Awards:** 2024-25 external awards including: 1.) Thomas Wysockey Civil Engineering Scholarship, DFI – Thomas Morrison; 2.) Archie Higdon Distinguished Educator Award, ASEE – Dr. Timothy Wood; 3.) Mac Nigel's Scholarship, PDCA – Cadet Grady Meeks; 4.) Charley Wooten Best Paper Award, TRB – Dr. Dimitra Michalaka; 5.) SC Civil Engineering Educator of the Year, ASCE – Dr. Dan Nale; 6.) Gilbert Rowe Transportation Engineering Scholarship, ITE – Joshua Wetmore, Veteran; 7.) Professional Land Surveyor Scholarships, SCSPLS – Cadet John Peel, Reece Rivas, Alex Pratt, Alayna Dingmon.

**Update on engineering replacement building**: Planning and fund raising are underway for a new 105,000 sq. ft., 3-story, state-of-the-art school of engineering building that will replace historic LeTellier Hall. Completion is expected within 5-years.

**2025 ASCE Carolinas Conference**: Citadel students and faculty advisors will participate in the annual ASCE Carolinas Conference, Apr. 10-12, 2025, hosted by Clemson Univ. including 15-academic competitions and over 250-civil engineering students.

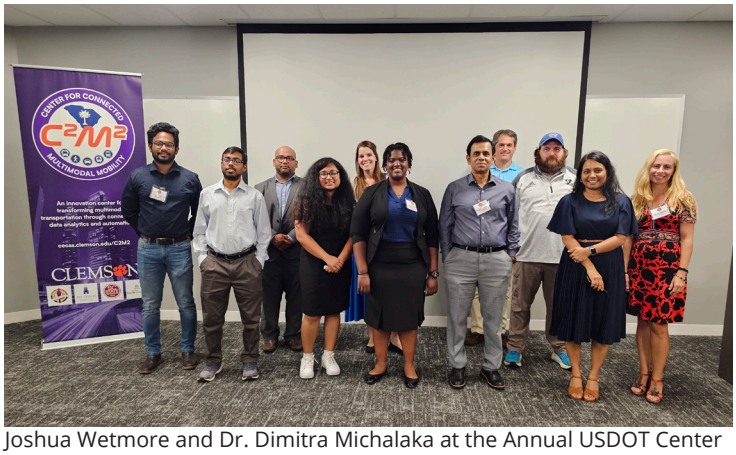
Please visit, or reach out, if you would like info about students, programs, or Dept. events! **<go.citadel.edu/civil-environmental/>**

# (SELF) DRIVING STUDENT VETERAN RESEARCH



Wetmore at the C2M2 Research Conf.

Air Force veteran and Civil Engineering senior **Joshua Wetmore** has worked with Dr. Michalaka over the past year and a half on a research project investigating how varying levels of automation in cars and various levels of market penetration of the technology could enhance road safety. He created a network simulation in AIMSUN using a real-world road system from the Netherlands, where Dr. Michalaka was on sabbatical last year. This research has wide-reaching implications for the future of transportation from both technological and economic perspectives.




Joshua Wetmore and Dr. Dimitra Michalaka at the Annual USDOT Center for Connected Multimodal Mobility (C2M2) Conference.

Josh is not only gaining experience by doing research but also presenting the work at various conferences. Notably, at the eighth Annual US DOT Center for Connected Multi-modal Mobility (C2M2) Conference in August 2024, Josh's work was presented as one of eleven live technical demonstrations and one of ten poster presentations. Even though many other presenters were Ph.D. students, Josh placed first in the Technical Demonstration category for his computer software model of roadways and third for this poster on the legal implications of automated vehicle market penetration.

# EVENING STUDENT SPOTLIGHTS

Nathan Henigan, pictured with wife Jaclyn Hawn, PharmD.

The Citadel is synonymous with cadet life and the military history of South Carolina, but since the 1980s, the Civil Engineering program has had a thriving bachelor's degree transfer program for non-cadets to take classes at The Citadel and graduate ready to be principled leaders in the engineering profession. Here we spotlight some of our current non-cadet students:

**Nathan Henigan** is a 10-year Navy veteran who worked in nuclear submarine operations. However, he quickly learned there is a stark difference between engineering and operations—engineering has far better air conditioning – and thus his career trajectory was set. Although his military service feels like a lifetime ago, the "Nuke" program left an impression on him, instilling a strong work ethic, a questioning attitude, and a commitment to first-time quality. Transitioning to school became his next mission, but it was not a smooth journey. Nathan says that having a dedicated support system and understanding faculty made all the difference. From getting married during his first semester of college to welcoming his son just a week before finals— now expecting his second child the week before finals and graduation — he says it was essential to have approachable and empathetic faculty.

David Ulit plans to get is P.E. ASAP!

**David Ulit** is a graduating senior from Summerville, SC in the Civil Engineering Program. Like many "2+2" students, he began working toward his bachelor's degree at Trident Technical College while working in the construction industry. This means, by the time he graduates, he already has several years of work experience on his resume! David says his favorite experiences at the Citadel include gaining leadership experience through projects such as Capstone and ASCE competitions along with building relationships through the Citadel network. During his senior year, he began working toward his master's degree in civil engineering and joined Phi Kappa Phi, Tau Beta Pi, and the Order of the Engineer, all while working full-time for a civil engineering firm and keeping a 4.0 GPA. Once he has his diploma in hand, he will have his EIT certification. He plans to work within the Civil Site/Water Resources sector along and aslo securing his PE license as soon as possible.

# 2024-2025 DEPARTMENT STUDENT AWARDS

**Col. Loring K. Himelright Award**
Caden Leckelt

**Ambrose G. Hampton, Sr., Scholarship**
Grady Meeks
Jacob Thompson

**ADC Engineering Scholarship**
Louise Bonnimond

**Civil & Environmental Engineering Scholarship**
David Ulit
Chris Vego

**Col. Thomas R. Dion, P.E., P.L.S., Class of 1968 Scholarship**
Landon Gregory

**Davis Family Scholarship**
Michael Barnes
Harrison Bishop
Louise Bonnimond
Ryan Brozek
Blake Buchholz
Luke Crouch
Jake Debenport
Tilden Fowler
Landon Gregory
Clay Gurley
Levi Hogemeyer
Anna Jones
Robert Johnson
Paul Maskery
Aryan Patel
Scott Rayack
Daniel Ramirez-Vital
Charles Walker

**Russell Stout Jr. Scholarship**
Anna Jones

**David A Falatok Class of 2006 Scholarship**
Thomas Purdy
Nicholas Riechers
Barrett Thompson

**X.O. Bunch, Jr., Class of 1940 Scholarship**
Jackson Clemmons

**Dr. Robert L. Vecellio Transportation Eng. Scholarship**
Natalie Mueller

**Harry McCollough Mims, Sr., Scholarship**
Aaron Corbett

**Jack C. McCormac Class of 1948 Scholarship**
Grady Meeks
Nathaniel Standing
Jacob Thompson

**Lt. Col. Jay Beam, Class of 1991 Scholarship**
Shane Brennan
Bretton Cobb
Brett Gray
Reece Rivas
William Roberts
Derrick Talley

**Smith-Barnett Scholarship**
Ronan Certa
James Crowther
Tilden Fowler
George Mandon

**SAME NYC Post Scholarship**
Jordan Olheiser

**Kenneth C. Dufford Scholarship**
Sam May

**Psillos Family Scholarship**
Marshall Brown
Charles Burton
Austin Hammond
Bryson Peppers

**Anthony Parker CE Scholarship**
Ryan Beam

**George Walker White Scholarship**
Derrick Talley

**Richard B. DeYoung Scholarship**
Daniel Ramirez-Vital

**National Science Foundation ExCEL Scholarship**
Micah Crosby
Jake Debenport
Tilden Fowler
Gabriel De Gusmao
Austin Hammond
Bryson Peppers
Breeze Robertson
Annika Trochesset
Daniel Ramirez-Vital

**Shuler Family Scholarship**
Jake Debenport
Tilden Fowler
Austin Hammond

**Benjamin W. Ingram, Jr., Class of 1940 Scholarship**
Joseph Combs
Jesse Fields
Dylan Fudge
Jackson Lyda
Wade Rothmyer

**Mac Nigels Scholarship**
Grady Meeks

**Roscoe Ashley "Trip" Page III Scholarship**
Gabriel Gusmao

## GIVING TO CECE

Sustaining the level of student success shown in the newsletter is only possible through the support of our benefactors. You can donate your time and expertise to the department as a guest speaker or site visit host (call CECE at 843-953-5083). If you can make a monetary donation, you can do so through The Citadel Foundation <foundation.citadel.edu>. Be sure to designate it for Civil, Environmental, and Construction Engineering.