RISING TO THE CHALLENGE
A Year in Review - 2021-2022

It is my pleasure once again to reflect on the success of the department and celebrate the many accomplishments our faculty and students have made in the 2021-2022 academic year. Our faculty, staff, and students showed great resilience and determination in navigating through many obstacles to remain on a path towards excellence in teaching, research, and service.

This academic year, the Department awarded over $33,000 of scholarships to undergraduate and graduate students with funds raised by the Visiting Council.

After nearly three years, the department held its graduation banquet to celebrate over 90 students who received their B.S. diplomas in Civil Engineering, as well as M.S. and Ph.D. degrees.

Research productivity for the department remains on an upward trajectory. Research awards received in FY 21 exceeded $1.6M, which marks the highest external research funding record for the department in the last five years. CEE faculty published nearly 70 technical papers in conferences and refereed journals, submitted 46 proposals for funding by sponsored state and federal agencies, and received 16 new research grants.

We are thankful for the continuous support and guidance from the Visiting Council in our education and research mission. We are excited to return fully to campus in the fall and resume our normal operation.

Wishing all of our faculty and students a great and productive summer!

Sherif Ishak, Ph.D., P.E., F.ASCE
Professor and Department Chair - CEE
Dr. Xixi Wang Selected as 2022-2023 Fulbright U.S. Scholar

Xixi Wang, a professor of civil and environmental engineering, will spend four months in Australia collaborating with researchers from the Center for Applied Water Science (CAWS) at the University of Canberra. Wang, whose research focuses on hydrology, hydraulics and water resources, had already developed a dry-land eco-hydrologic model that can simulate water-soil-vegetation interactions as influenced by climate variation and livestock grazing. He will work with researchers on the application and refinement of the model based on the Australian dry-land ecosystem.

"This Fulbright award offers a unique opportunity for me to exchange ideas and thoughts with the peers in Australia, where various types of dry-lands have a gross area large enough to affect continental or even global climate," Wang said.

Investigators: Kun Xie (CEE), Yusuke Yamani (Psychology), Sherif Ishak (CEE), and Hong Yang (ECE)

Automated vehicle technologies have a great potential for enhancing driving safety. Since automated vehicles can take care of some driving tasks without direct driver input, human drivers will play a completely different role in driving. This project with develop a networked driving simulation platform to study the driver's responses to safety-critical events (e.g., merging into highways, conflicts at intersections) in vehicles with different levels of automation. This project will answer some important questions such as how drivers take evasive actions in automated vehicles to avoid collisions, how are these actions related with drivers' characteristic such as age and gender, and how to better design automated vehicles to consider drivers' actions. It will lead to a systematic understanding of human drivers' role in automated vehicles and can facilitate the development of driving assistance systems to prevent crashes.

Pixels for Public Health: Analytic Collaborative Framework to Enhance Coastal Resiliency of Vulnerable Populations in Hampton Roads, VA

Investigators: Thomas Allen (Geography), Navid Tahvildari (CEE), Alex Nielsen (VMASC), George McLeod (GeoSEA), Sonke Dangendorf (Tulane), Heather Richter (HRBRC).

Coastal cities such as Norfolk, VA, are increasingly threatened by coastal flooding owing to sea level rise and climate change. Dr. Navid Tahvildari will be part of a team to receive $1.2M NASA grant to study the impact of compound flooding on public health in Hampton Roads under sea-level rise. NASA selected researchers from ODU and Tulane University for the Advanced Information Systems Technology Program (AIST-21) in support of the Earth Science Division (ESD).

Vulnerable urban communities contend with the legacy of racial segregation and discrimination, with manifest disparities leading to unmet health related social needs (HRSNs) such as access to basic resources and health care to treat higher hazard exposures. To address hazards and proactively mitigate future vulnerability, the team will design and demonstrate an operational system linking an Earth Observation (EO) data source (Virginia Open Data Cube), a socio-spatial-health information (Hampton Roads Biomedical Research Consortium), hydrodynamic models for compound (storm tide and rainfall driven) flooding and flood sensor networks. Although individual technologies are fairly mature, they remain isolated and uneven, with limited interoperability. Researchers will explore using the technology systems to demonstrate new analytical and collaborative approaches for timely and equitable flood response and planning.
The Civil and Environmental Engineering Department and ODU ASCE Student Chapter were honored to welcome Dr. Dennis D. Truax, the American Society of Civil Engineers National President, to our campus on March 25, 2022. The campus visit was part of President Truax's statewide student chapter road show to celebrate 100 years of engineering excellence in the Commonwealth. President Truax enthusiastically presented on ASCE's current and future activities supporting the Civil Engineering profession, and shared the importance of retaining civil engineering students to professional membership and the great opportunities that lie ahead as civil engineers.

STC-21 Scholarship gave him the flexibility to learn and work. Christopher Kelly is a December 2020 CEE graduate, majoring in Civil Engineering with a minor in Military Leadership. He is currently serving as a Construction Manager with the U.S. Navy Civil Engineer Corps in Norfolk. Christopher attended ODU after selection to the Seaman to Admiral-21 (STA-21) commissioning program. The highly-selective program is designed to allow active-duty sailors to gain a college education and become commissioned officers upon graduation.

While at ODU, Christopher was the recipient of multiple scholarships including the NSF S-STEM Pathways Scholarship, ASNE Scholarship, and VWEA Scholarship. He founded the Monarch Wardroom, which serves as a means for ODU students that are pursuing a commission in the Navy or Marine Corps to develop themselves professionally and to foster a culture of esprit de corps in accordance with core values of Honor, Courage, and Commitment. Christopher encourages all CEE students to "practice developing a healthy work/life balance. The stress of balancing the engineering curriculum is the real prep for life after graduation. Stay the course!"

Dr. Isao Ishibashi will retire on May 25, 2022. Dr. Ishibashi came to the University in 1986 as a professor in the Civil Engineering Department. He served as the graduate program director of the department (1997-21) and as acting assistant chair (2017-22). He obtained bachelors and master's degrees from Nagoya University, Japan. After earning his Ph.D. from the University of Washington, Seattle, he taught and was on the research faculty at the University of Washington and Cornell University before moving to Norfolk.

An expert in the area of geotechnical and earthquake engineering, he has authored or co-authored more than 100 technical papers and published four textbooks. His textbook, "Soil Mechanics Fundamentals and Applications" is used at institutions around the world. In addition to serving as graduate program director and associate chair, he took on membership and leadership roles on many University-level committees.

The CEE department and CEEVC are pleased to honor Dr. Ishibashi for his many years of service, dedication, and commitment to the Batten College of Engineering and Technology. Effective June 1, 2022, Dr. Ishibashi was granted the title of Professor Emeritus of Civil and Environmental Engineering.
Civil and Environmental Alumni Association

Did you know that the ODU CEE program has over 2,000 alumni? The chapter was launched in 2013 and officially recognized with a ceremony in 2014.

If you have any questions about chapter membership or events, please contact the ODU Alumni Association at odualumni@odu.edu.

To close out AY 2021-22, CEE celebrates the following achievements:

- CEE awarded nearly $33,000 in scholarships to graduate and undergraduate students.

- A group of ODU CEE and CET students who developed adaptive design strategies to alleviate flooding in Portsmouth’s Port Norfolk neighborhood won first place and awarded $2,500 at ESPEX 2022.

- The ODU Virginia Water Environment Association Student Chapter won first and second place in student competitions at the 19th Annual VWEA Student Design Competition.

The CEE Department Faculty and Staff would like to acknowledge the members of the Civil and Environmental Engineering Visiting Council, Civil and Environmental Engineering Alumni Chapter, and community partners for their continued support of our students and programs.

THANK YOU!

Save The Date

**Summer 2022**

- June 17, 2022
  - CEEVC Summer Council Meeting

- August 12, 2022
  - CEEVC Golf Tournament

**Fall 2022**

- November 2, 2022
  - CEEVC Fall Seminar

- November 2022
  - CEE Graduation Banquet

- December 17, 2022
  - Winter Commencement