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Civil engineering students make history

Wildcard draw lands concrete canoe team in their first-ever national competition

by Keith Pierce

Civil engineering senior, Madelyn Burnett paddles away in one of several races at the ASCE concrete canoe competition in San Diego, California

Traveling nearly 50 hours on a 3,000-mile journey across the country, towing a 300-pound hunk of concrete, may not sound like fun to most, but for a group of civil engineering students at Old Dominion University, it was the chance of a lifetime. For the first time in its history, the ODU concrete canoe team was headed to nationals.

The ODU team won a wildcard invitation to the 31st Annual National Concrete Canoe Competition (NCCC), organized by the American Society of Civil Engineers (ASCE). Twenty-five teams of civil engineering college students from the U.S., Canada and China, designed, built and raced concrete canoes for a chance to win the "America's Cup of Civil Engineering," as well as academic scholarships. The competition took place at San Diego State University.

"It's kind of a miracle that we're even here," said civil engineering senior and co-captain, Kent Andrews. "We got picked in a wildcard draw, we drove 50 hours from coast to coast, nothing went wrong and nothing happened to the canoe – it all just worked out really well."

The concrete canoe competition began in the 1960s as a fun pastime. Later, the ASCE made it an official part of their society and divided the country into regions. To qualify for the wildcard draw, the ODU team had to finish in the top 50 percent of their region, score in the top third on their annual report and complete a statement of interest. Six out of 32 wildcard qualifying teams were then selected at random.

Judges evaluate teams on design and construction, a technical design paper, a formal oral business presentation and the final product, as well as race results. Though the races are the most exciting part of the 3-day event, they only count for 25% of each team's overall score. The Monarch Tide didn't place in the national competition, but Andrews says he was pleased with his team.

"Our mindset was 'don't come in last' and we didn't," he said. "Given the time we had, I think we did a phenomenal job preparing and practicing. The comradery was great. Having the opportunity to travel, see things we've never seen, do something we've never done… we grow together, we learn together and for me, that's the most exciting part."

To be eligible to compete in the NCCC, a school must have a recognized ASCE Student Chapter or ASCE International Student Group. The competition provides a practical application of the engineering principles students learn in the classroom, as well as important team and project management skills helpful in their future careers. It also encourages students to explore innovative concrete technology and discover the versatility of concrete.

"For ODU to see this is pretty awesome, especially being the only school in Virginia to make it," said civil engineering sophomore and team co-captain, Sarah Bohn. "What I have liked most about this is that I get kind of the full wrap of what engineering is."

Civil engineering students who attended the competition (from left to right), Ashley McIntosh, Drew Rosie, William Carranza, Sarah Bohn, Kent Andrews, Adele Fequiere, Madelyn Burnett and Andrew Bunn

photo by Andrea Luna

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Batten College of Engineering and Technology

College of Engineering & Technology receives $1.3 million grant from US Navy

Collaborative, hands-on projects will leverage engineering education to solve challenges faced by local naval commands

by Keith Pierce

The guided-missile cruiser, USS Monterey returns to homeport at Naval Station Norfolk, May 6, 2018, completing a seven-month deployment. (U.S. Navy Photo by Seaman Dawson Roth/Released)

The Batten College of Engineering and Technology recently received a $1.3 million grant from the Office of Naval Research (ONR) to educate a new generation of engineers on the needs of the United States Navy. Through hands-on learning, the three-year grant will focus on solving real maritime challenges faced by naval entities in the Hampton Roads area.

The project, "Rapid Solutions Learning-Projects Program (RSLRP)," will provide students and faculty opportunities to engage directly with U.S. Navy personnel at all levels, from junior enlisted to ONR science and technology advisors, to help solve problems identified by U.S. Navy commands in Hampton Roads. The program includes opportunities for students and faculty to visit naval installations and to board naval ships to examine real-time needs and priorities of the Navy.

"This program demonstrates the high value of our engineering and technology education," said Rafael Landaeta, associate dean for undergraduate studies, Batten College of Engineering and Technology, the program's principal investigator. "It not only provides students with the opportunity to solve real-world technical problems, but it provides the financial means to support such learning projects without increasing a students' tuition."

Working in collaboration with a technical contact from the Navy, several projects per year will engage undergraduate student researchers in real life challenges the military has to solve. Each project will have a working prototype or solution for test and evaluation at the end of the project period.

"Often the military has needs that go unexplored for some time," said Tony Dean, associate professor and assistant dean for research, Batten College of Engineering and Technology and the collaborating investigator on the grant. "We have bright students and world-class faculty who have the knowledge and capacity to assist the Navy with those problems. Why not turn that know-how into teachable moments and introduce our engineers to the area of naval research."

The program aims to expose the next generation of scientists and engineers to the needs of the Navy and the impact engineering has on filling capability gaps.

"Projects like this are a win-win," says Stephanie Adams, dean, Batten College of Engineering and Technology. "Our students and faculty acquire the knowledge and skills to support the needs of the Navy and the U.S. Department of Defense, while the Navy, as well as the region, benefits from a stronger workforce."

Stephanie Adams earns ASEE's Harriet Tubman Award for 2018

by Lango Deen
via blackengineer.com

Stephanie G. Adams, dean of the Frank Batten College of Engineering and Technology at Old Dominion University, was honored with the Harriet Tubman Award at the American Society for Engineering Education (ASEE) conference in June.

The Tubman Award is given annually to someone who has fought to increase gender and racial diversity within the 350 accredited engineering schools that operate in the United States.

To date, African American women account for just 0.54 percent of the nation's roughly 28,000 engineering faculty members and fewer than 1 percent of U.S. engineering students.

Jeffrey Harris, founder and managing partner of a consultancy that specializes in the recruitment and advancement of traditionally underrepresented groups in engineering, technology and medicine, presented the award in Salt Lake City.

"Harriet Tubman admonished us never to stop — to keep going," Harris said. "Dean Adams' career is a model for Ms. Tubman's words."

Harris told Adams that he couldn't imagine anyone more deserving of this year's award — or more representative of its namesake, the 19th century abolitionist who led hundreds of enslaved people to freedom via the Underground Railroad, an elaborate network of safe houses.

An honor graduate of North Carolina A&T State University, where she earned her bachelor's degree in mechanical engineering, Adams, 52, was selected as president-elect of the 12,000-member ASEE this March. She is committed to advancing women in academic engineering during her term in 2018-19.

"If we want to see a shift among women in engineering, we need to acknowledge that, just like in Hollywood, we must start doing some things differently," Adams said. "Change is needed at every level."

Stephanie Adams

American Society for Engineering Education indicates that there are 368 engineering colleges in the United States.

According to the Society of Women Engineers (SWE), there were 63 female engineering deans or directors across the country in January 2018, representing approximately 17% of the total leaders of engineering colleges in the U.S.

ASEE's four-day event drew thousands of engineering deans, faculty, and industry representatives to Salt Lake City, where the Old Dominion dean was honored for working to break down inequality in the nation's tech sector.

In the spotlight...

photo courtesy of : American Society for Engineering Education

Alok Verma, professor of Engineering Technology, received the Isadore T. Davis Award presented for excellence in collaboration of engineering education and industry. Bevlee Watford, (right), president of the American Society for Engineering Education (ASEE), presented the award at the 2018 ASEE Annual Conference in June.

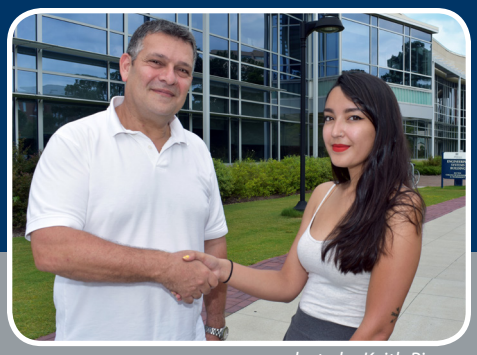

photo by Keith Pierce

Julianna Padre, a mechanical engineering senior, received a Frankie Gale Moore Endowed Scholarship. The $2 thousand award targets female undergraduates majoring in engineering, with an interest in aerospace and a GPA of 3.0 or better. Above, Sebastian Bawab, chair of the Department of Mechanical and Aerospace Engineering, congratulates Padre.

photo by Keith Pierce

Kim Miller, the fiscal technician for Engineering Management & Systems Engineering (EMSE), received a $2 thousand ODU Dream Fund Award which includes five paid days off. The privately funded award is granted to full-time classified staff and administrative and professional faculty members to fulfill a long-held dream, such as pursuing studies in an area unrelated to work, traveling to another country, or visiting family far away. Miller's dream was to travel to Africa. As a bonus, she will visit Kenya to attend the wedding of Kevin Muchiri, a current graduate assistant in EMSE.

Having a blast with BLAST

Eighty rising 9th- and 10th-graders from across the Commonwealth recently got an early taste of university life at the ODU BLAST camp.

Photos by Chuck Thomas

They came for the robots and drones, but high school students from across the Commonwealth walked away with STEM knowledge related to climate change and sea level rise. BLAST (Building Leaders for Advancing Science and Technology) is an intensive 3-day, residential, hands-on, academic learning program.

Designed to excite high school students about STEAM-H (Science, Technology, Engineering, Agriculture, Mathematics and Health), this year's camp focused on the need to build community and world-wide resilience to climate change and sea level rise. ODU BLAST has served almost 400 students and teacher-chaperones across Virginia since 2016.

BLAST is a partnership between the Virginia Space Grant Consortium, ODU, University of Virginia, Virginia Tech and the Commonwealth of Virginia. The program is funded by the General Assembly for the purpose of increasing the number of high school graduates pursuing STEM careers by increasing student access to STEM enrichment experiences.

See more in this brief video:

Above: Students test their rain gardens to see how long they can hold water.

Vukica Jovanović (right), associate professor, engineering technology, shows Rocio Cruz more ways to program her ev3 robot.

George McLeod, assistant director, geospatial and visualization services, demonstrates how data from drones can be used to make elevation maps.

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The ***illuminator*** is a publication of the Batten College of Engineering & Technology

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