

**UNITED STATES NAVAL ACADEMY
STEM CENTER FOR EDUCATION AND OUTREACH**



www.usna.edu/stem
usnastem@usna.edu



Spring 2023



STEM Educator Training

USNA Faculty and Midshipmen provided in-person professional development to over 130 K-12 educators in topic areas including Photometry, Computer Science, Alternative Energy, and more. This twice-yearly program is sponsored by the Office of Naval Research (ONR), DoD STEM, and the Naval Academy Foundation, with generous support from Northrup Grumman, and Dr. Ernst Volgenau.



Middle School Girls STEM Day

Over 200 Middle School girls attended this day-long event to foster interest in STEM through hands-on activities. USNA midshipmen led modules in topic areas of Coding, Robotics, Optics, Applied Math, Structural Engineering, and more. This program is offered each semester through sponsorship from ONR, Naval Academy Foundation, DoD STEM, Northrup Grumman, and Dr. Ernst Volgenau.



High School Biotech Day

Eighty-six students from the region attended the day of innovation and discovery in Biotechnology topics. STEM Center faculty, staff, and volunteers from Naval Research Laboratory, University of Maryland Terrapin Teachers, USNA Midshipmen, USNA Medicine Club, and mentors from the Uniformed Services University of the Health Sciences made this day possible with sponsorship from DoD STEM.



CMIT Academy STEM Day

USNA STEM Center faculty, staff, and thirteen midshipmen provided hands-on activities during an interactive day with students at CMIT Academy North High School in Prince Georges County, MD. Topics included Electrochemistry, Neuroscience, and Bioterrorism, among others. Programs such as this are possible through the generous support of DoD STEM, the Office of Naval Research, and the Naval Academy Foundation, with special thanks to Dr. Ernst Volgenau.



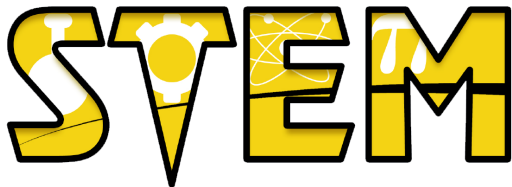
Army Navy STEM Day

STEM Center Director CAPT (Ret.) Joe McGettigan and four Midshipmen traveled to West Point for the 2nd Annual Army Navy STEM Day, where Middle School teams under Midshipmen tutelage competed against Army-led teams in STEM Challenges. Navy successfully brought the trophy home to Annapolis. Many thanks to Army for hosting the event, and to Midshipmen Brant Purcell, Michelle Sosa, Anna Drinkert, and Chad Bo.



High School Girls Space Day & Astronaut Convocation

Sponsored by the Maryland Space Grant Consortium, ONR, DoD STEM, and the Naval Academy Foundation, with special thanks to Dr. Ernst Volgenau, nearly fifty high school girls attended this annual event which included Rocketry, Robotics, an ISS Simulation, and a Planetarium Show. The day culminated in attending the annual Astronaut Convocation, and a Meet and Greet with the Astronauts. Many thanks to the Aerospace Engineering Department, the Midshipmen AIAA Club, and USNA Faculty and Staff for support and use of their spaces.



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Navy League Sea Air Space Expo

Midshipmen and USNA STEM Center Faculty and Staff provided hands-on STEM activities to the crowd of 3000+ in attendance at the STEM Expo, produced and organized by the Navy League. A popular stop, the STEM Center booth provided hands-on activities which included Straw Rockets, Corrosion, and Ciphers. These events help to raise awareness of U.S. Sea Services, including the Navy, Coast Guard, Marine Corps, and Merchant Marines.



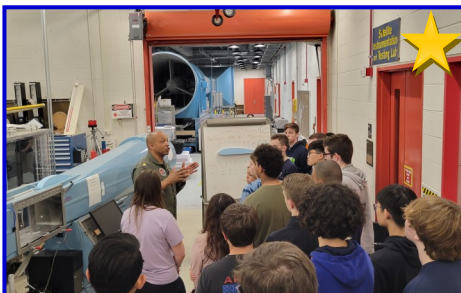
Maryland Regional SeaPerch Challenge

Sixty-one Middle and High School-aged teams competed in the Annual USNA Regional Competition for the opportunity to secure a berth at the International Seaperch Competition to be held mid-May. Many thanks to Navy Reservists and a myriad of volunteers from USNA and all over the region who supported this event, as well as the staff of the Hydromechanics lab for their support and use of their spaces.



DoDEA Puerto Rico Educator Training and STEM Day

USNA STEM Center Faculty and Staff traveled to Puerto Rico to provide hands-on training to DoD Educators in Antilles and Ramey. Topics included Biotechnology, Circuits, Cryptography, Hydraulics, and Engineering Design. The week was made possible through DoDEA Americas Mid-Atlantic, DoD STEM, ONR, and the Naval Academy Foundation.



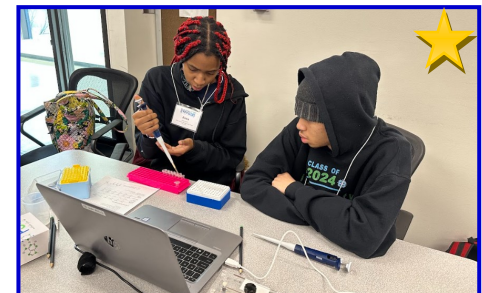
High School Flight Day

USNA STEM Center faculty and staff, USNA faculty, guests, Navy Reservists, and Midshipmen provided hands-on flight-related activities for the inaugural USNA Flight Day. High school students from across the USA attended the day-long event which included Rockets, Gliders, and Rotorcraft. Many thanks to the Aero lab for use of their spaces, and to LCDR Diallo Wallace, Professor Scott Davids, and Professor Greg Eggleston for making the day possible.



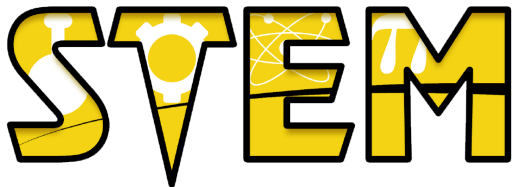
STEM Day at Bowie Baysox

USNA STEM Center faculty and staff, Midshipmen, and Navy Medicine Corpsmen took part in STEM Day at the Bowie Baysox Stadium, with 2,000 local elementary and middle school students in attendance. The STEM Center provided hands-on activities in Rockets, Electrical Etching, Catapults, Cryptography, and Sound & Light. Many thanks to the Baysox organization for the opportunity to showcase STEM organizations and activities, and for a great day at the ballpark. Go Baysox!



Building STEPS

Fourteen high school students from Building STEPS Baltimore attended a day-long event at USNA, touring labs and attending workshops in topic areas that included Biotechnology and Machine Learning, led by STEM Center Associate Director Dr. Sarah Durkin and Instructor LCDR (Ret.) Ray Guethler. Building STEPS provides high schoolers with the opportunities for exposure to and support necessary for college and career success.



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San Diego Festival of Science & Engineering Expo

USNA Professor Mark Murray and seven Midshipmen provided hands-on opportunities for attendees at the San Diego Expo where over 1,500 local family members attended. Modules included Corrosion, Chemistry, Aerodynamics, and Electromechanics, among others. Many thanks to all who traveled for this event.



WA State Boys & Girls Club

Twelve Midshipmen with the USNA Midshipman Action Group (MAG) traveled to Washington State during Spring Break to volunteer with Snohomish County Boys & Girls Clubs in both Everett and Lummi Nation in Bellingham. In its seventh year, this annual event exemplifies the unwavering service Midshipmen provide to community partners around the United States.



FIRST Robotics

Nearly a dozen Midshipmen volunteered their time and talents with two FIRST Robotics events this Spring. They served as Judges for an FLL event in Baltimore, and for the FTC Championship in Severn MD. Their expertise, experience, and enthusiasm were highly valued at these events which saw over 70 teams compete.



National JSHS Awards

USNA Professor CDR (Ret.) Mark Murray served as Judge and Presenter at the event in Chesapeake, VA, attended by over 200 high school competitors and 130 teachers, mentors, university faculty, military personnel, and more, to compete and celebrate achievement in the sciences. The event also included lab tours, social events, and a career fair.



Sea Air & Land Challenge

Instructor Kris Endy and CAPT (Ret.) Joseph McGettigan of the USNA STEM Center, along with five Midshipmen, participated in the Berks County (PA) Sea Air and Land Challenge which saw 70 high school students compete in robotics challenges, mimicking those encountered by DoD personnel. CAPT McGettigan provided the Keynote address while the Midshipmen served as Judges.



STEM On Deck

Two STEM on Deck events held at USNA reached nearly 100 high school students from Suitland (MD) High NJROTC, and the Men of Honor Youth Mentorship program. Students visited USNA and got hands-on experience with Robotics, Aerospace, Machine Learning, and Cyber modules. In coordination with USNA Admissions, STEM Center faculty and staff, along with Midshipmen, provided informative sessions, a campus tour, and an information brief regarding USNA.

THANK YOU for your generous support and ongoing acknowledgement of the positive impact these programs have on our nation's students and educators.

Volgenau Chair for Education and Outreach



International Science & Engineering Fair

Professors Mark Murray, Ray Guethler, Jim Cowart, Charles Nelson, and Owens Walker traveled to Dallas, TX to serve as the Navy Judging Team for the 2023 ISEF Fair in support of ONR's Science Awards Program. Over 1,700 students from around the world were expected for the competition.



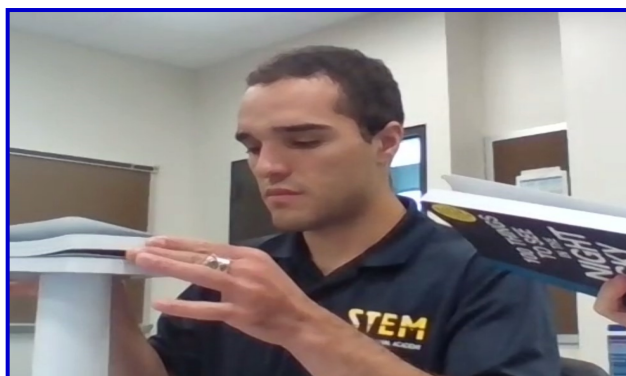
Talbot County School Visit

Nearly eighty elementary school students attended a STEM Event at USNA in conjunction with the Oceanography Department. 2nd grade students attended a USNA Meteorology class with Professor Alex Davies, launched a weather balloon, and toured lab spaces. 5th grade students enjoyed hands-on modules in Electrical Circuits, Electrochemistry and Turbines. All attended a Planetarium show presented by CAPT (Ret.) Joseph McGettigan.



Middle Schools STEM Outreach

STEM Center Director Joe McGettigan and Instructor Antje Hlavaty participated in two STEM nights coordinated by local schools, bringing a STEM Center Rocket module to Magothy River (Anne Arundel County) and Farquhar Middle Schools (Montgomery County). These expo-style events allowed for hand-on STEM content and fun for students and their families.



1/C Midshipmen Awards

Seven graduating 1/C STEM Midshipmen were recognized for their outstanding commitment to STEM educational outreach while at USNA. MIDN 1/C Adan Valdez was awarded the annual USAA Service and Leadership Award in STEM Education and Outreach, and received the Military Outstanding Volunteer Service Medal for 500 hours of community service.

Many thanks and best of luck to: Sophie Dobbs, Celeste Duran, Lian Dunlevy, Sean Kulig, Trayvon Poe, Ebissa Sambo, and Adan Valdez. Fair Winds and Following Seas!

UPCOMING EVENTS: Summer 2023

- Summer Heroes Youth Program, 30 May—23 June
- SeaPerch Showcase, 2 June
- Summer STEM Program, 5 June—22 June
- DoDEA Educator SeaPerch Training, 26—27 June
- SET Sail Educator Training, 10 July—20 July
- STEM On Deck, TIES Group, 28 July
- STEM On Deck, 19 Aug
- Baltimore County Professional Development Day, 22 Aug

* Schedule subject to change