WIDENING THE APERTURE: ACHIEVING DIVERSITY IN THE SEARCH FOR EXCELLENCE

PARTNERING FOR THE MISSION: USNA, NAVY MEDICINE SUPPORT INCLUSION AND DIVERSITY

ON THE MEDICAL PATH: OPPORTUNITIES FOR STUDENTS
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MESSAGE FROM THE DIRECTOR

W hat comes to mind when you think about diversity? Initially you may think of the surface traits: race, age and gender. However, by looking just below the surface you’ll find that the majority of what makes people diverse is what we can’t see: values, experiences, education, social class and more. And it’s this diversity that will strengthen our Navy and Marine Corps and can help drive the workforce—current and future—to greater excellence and innovation.

In this edition of The Naval Edge, we highlight some of the naval STEM initiatives and investments that are working to accelerate the delivery of a diverse world-class STEM workforce ready to meet the needs of shifting threat environments. All of these investments and initiatives embrace facets of inclusion and diversity that enables the Navy and Marine Corps to recruit, retain, and constantly develop the current and future workforce. Thus, the theme of this newsletter is inclusion and diversity because it showcases DoN system commands’ efforts, coordinated and supported by the Office of Naval Research, to ensure that diversity and inclusion is an integral part of opportunities offered to the current and future workforce.

While America has been the world’s technology leader for decades, in recent years, the supply of graduates with needed STEM skills has not kept up with the ever increasing demand. Through Naval STEM programs, the DoN aims to increase and enhance the talent pool through engineers and scientists with critical STEM skills. This goal has been achieved through inclusion and diversity initiatives and investments. For Naval STEM, inclusion and diversity includes various backgrounds, experiences, and perspectives, formally known as cognitive diversity. Through diverse expertise, backgrounds and academic training, cognitive diversity not only boosts innovation for the Naval Research Enterprise, but also accelerates the current and future workforce. Chiefly, cognitive diversity is at the heart of our science and technology research innovation and will assist us in maintaining our world-class status.

I welcome you to read through the stories which provide examples of how the United States can ensure that the Navy and Marine Corps has a diverse and inclusive talent pool with the STEM skills necessary to address current and future challenges.

ICEBERG OF DIVERSITY
Office of Naval Research (ONR)-sponsored STEM outreach programs at the United States Naval Academy (USNA) have been developed to address women and other populations who remain underrepresented in STEM fields. USNA Girls Only STEM programs, focused on middle school girls, include weekend days offered twice a year and a week-long summer camp. They serve to engage young women as they consider career paths and opportunities. At these workshops, as many as 240 girls engage in hands-on activities, explore science, engineering and math concepts, and work with exciting technology provided by predominantly female faculty and practitioners.

Following an opening session, small teams of girls participate in modules promoting student engagement in a variety of fields with an emphasis on real-world applications and career connections. At lunch, female midshipmen from a wide-range of STEM majors lead a career panel, answering questions about how they chose their major, what they study and different kinds of STEM careers. In the afternoon, teams compete in an Engineering Design Challenge—an open-ended challenge to encourage students to develop problem-solving and teamwork skills.

At the last event, attendees came from 65 different schools in Maryland, Virginia, Washington, D.C., New York, New Jersey, Pennsylvania and West Virginia. Seventy-seven percent of the girls self-reported themselves as other than white American. Additionally, 77 percent indicated an interest in engineering and science fields as ultimate career choices.

Girls Tech Camp, also offered by the USNA STEM Center for Education and Outreach, was initiated in 2008, and designed to introduce middle school girls to a wide range of opportunities in technology and engineering, as well as science and math fields. The focus is not just on content and skills, but also building interest and motivation to pursue STEM as a life-long career.

Typically about 50 middle school girls participate, who are divided into small groups with a near peer mentor. The five days of camp are packed with activities including engineering design challenges, experiments and inquiry-based activities. Students learn technical skills such as soldering, data analysis and coding. During lunch each day, different female guest technologists, engineer, scientists and mathematicians join the students to share their field of interest, career path and personalize the role of a STEM professional. The week ends with a tech fair for families and guests where students demonstrate topics they enjoyed during the week.

At the summer 2017 camp, students attended from 37 different schools in Maryland, Virginia, Rhode Island, Ohio and California. Thirty-eight percent of attending students self-identified as a group other than white. At the conclusion of the program, each participant completed an exit survey. When asked about their post-high school plans, students overwhelmingly expressed intent to attend college. Students were asked to name the career or major they are interested in pursuing after high school, and a large majority named a STEM field (80 percent), with popular categories including engineering, science, and medical or health fields.

For the last two years, the USNA STEM Center and Diversity
STEM outreach activities prove to be powerful and engaging tools in achieving inclusion and diversity in the naval STEM workforce. The Navy Bureau of Medicine and Surgery (BUMED)—the headquarters command for Navy Medicine—embraces the use of STEM outreach efforts as a key component in their commitment to diversity. In support of these efforts, the United States Naval Academy STEM Center for Education and Outreach recently presented a “Best Practices in STEM Outreach” workshop at the Naval Medical Center San Diego. This training was sponsored by the Office of Naval Research and was held in collaboration with BUMED. The aim of the workshop was to broaden and enhance the outreach conducted at naval commands around the nation. The training held was the 14th in a series of naval STEM workshops held since 2014, and the third workshop focused on Navy medicine.

Participants at the San Diego workshop included military and civilian members of medical commands on the west coast and from Guam, as well as Navy Child and Youth Programs staff and local teachers, all coming together to build a STEM community. Attendees explored and tested hands-on activities in health-related topics including hearing and sound, vision and optics, sensor technology in health applications and biomechanics with engineering design challenges. During a module development session, attendees developed their own activities in topic areas such as physiology and skeletal function.

The two-day training included a STEM Fair at the Admiral Hartman Youth & Teen Center, where workshop participants practiced their outreach skills by presenting STEM activities to military children. With activities focused on Naval-relevant health topics, community connections, and a proven approach for STEM outreach, participants gained valuable resources at the workshop to promote effective STEM outreach at their own commands.

Support for these programs is generously provided by ONR, the Naval Academy Foundation and Dr. Ernst Volgenau.
ON THE FRONT LINES: SHAPING A MORE INCLUSIVE AND DIVERSE FUTURE CYBER FORCE

As the Navy’s information warfare systems command, the Space and Naval Warfare Systems Command (SPAWAR) laboratories have been leading the cyber security outreach program for Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) in partnership with Cybersecurity Information Assurance Program, or CIAP.

Funded by the Department of the Navy, CIAP is designed to be the Navy’s premier outreach to undergraduate and graduate students from the nation’s HBCU/MI interested in pursuing careers in cybersecurity and information assurance.

During the initial phase, students are mentored by SPAWAR professionals who lead a series of cyber workshops which introduce students to cybersecurity fundamentals. Once completing the initial phase, students become summer cyber interns working at SPAWAR laboratories in Charleston, South Carolina; Norfolk, Virginia; San Diego, California; Philadelphia, Pennsylvania; and Pearl City, Hawaii.

While at SPAWAR laboratories, interns receive real-world cyber experience by working in team environments alongside SPAWAR technical professionals to solve current and the next generation of cyber challenges facing the Navy and Marine Corps.

The majority of summer CIAP interns working across SPAWAR laboratories are students enrolled at HBCU/MI that have attained the distinguished designation as National Centers of Academic Excellence in Cyber Defense by both the National Security Agency and the Department of Homeland Security.

A typical assignment for a 10-week internship would engage students in researching current and future issues faced by cybersecurity professionals, such as network time synchronization, Network Time Protocol and Precision Time Protocol. Students would gain in-depth knowledge of timing protocols as their necessity and impact extends across commercial and military networks. This combination of research and applied principles also provides students with a foundation for future technical and research proposal development.

To reinforce their own learning and to give back to the next STEM generation, the interns support summer Cyber STEM Camps. Working with SPAWAR professionals, the interns actively engage with the Cyber Summer Camp participants on a variety of topics from windows scripting language, social media tips on social engineering, to firewalls, routing and switching, encryption and security tools.

Maurice Civers is SSC Pacific’s Lab Coordinator

HONING THEIR SKILLS: UNDERGRADUATES GET CAREER, ACADEMIC INSIGHT FROM SPAWAR SCIENTISTS

Each spring, San Diego Mathematics Engineering Science and Achievement (MESA) hosts a science leadership summit for undergraduate MESA students attending San Diego State University, San Diego City College and Southwestern College. During the weekend camp approximately 60 undergraduate and precollege students, underrepresented in STEM career fields, hone their skills in leadership, academics and mentorship.

At the 14th annual summit, Dr. Jamie Lukos, of SSC PAC served as the keynote note speaker. She inspired students with her expertise in neuroscience, kinesiology and...
prosthesis as she shared her journey to applied research along with the complexities and intricacies of replicating prosthetic hand movement.

To support the weekend’s theme of opportunities, insight was provided to students on collegiate and post-collegiate readiness through internships and opportunities such as the Science Engineering Apprenticeship Program, the Naval Research Enterprise Internship Program and New Professional Program. Post-secondary outreach events such as this provide an avenue for socioeconomically disadvantaged students interested in STEM majors to interface with naval scientists and engineers while learning about authentic naval research areas. These partnering events support naval and higher education STEM objectives of facilitating undergraduate baccalaureate success and retention by increasing access and exposure to STEM career professionals.

Yolanda Tanner is SSC Pacific’s post secondary STEM outreach coordinator.

UPFRONT AND PERSONAL: UNDERGRADUATES EXPERIENCE A DAY IN THE LIFE OF NAVAL STEM PROFESSIONALS

Students working towards STEM degrees from the University of California and other local community colleges visited SSC Pacific to get a glimpse of what life as a scientist, engineer or technician can be like post-graduation. Students toured several center facilities and got to hear from personnel in the cyber, antenna modeling, microbial fuel cell and cryogenics groups.

The visit was organized by SSC Pacific Post-Secondary Outreach and the University of California, Irvine (UCI) Office of Access and Inclusion.

“Our goal is to increase access for our underrepresented students,” said Gisela Verduzco, associate director of the UCI Office of Access and Inclusion. “Our office helps them succeed by offering mentoring opportunities, industry tours like this, connecting them with mentors from industry, and really just helping them succeed and navigate through the college experience.”

Students heard from both federal civilians as well as military personnel, including the SSC Pacific commanding officer, about the wide variety of STEM work that goes on at the center, and how a degree in these difficult subject areas can position them well after school. After touring several facilities and speaking with center personnel from various fields, the students attended a session on intelligence quotient versus emotional quotient—which focuses on the importance of not only having innovative ideas, but communicating those ideas and collaborating with others for practical applications to solve real problems.

Yolanda Tanner, the SSC Pacific post-secondary STEM outreach coordinator, and Dr. Sharnnia Artis of UCI, said they believe visits like this are important for students for many reasons, including the opportunity to engage with STEM professionals about engineering as a career, the chance to see theoretical concepts in an applied environment, the ability to observe first-hand STEM interdisciplinary project environments and getting to learn the importance of teamwork and soft-skill development.

According to Tanner, the SSC Pacific STEM training academy and tours is part of a series of events with UCI that support the shared goal of STEM retention among undergraduates underrepresented in STEM career fields.

Patric Petrie is a member of SSC Pacific's Public Affairs Office.

A diverse workforce is an absolute necessity in today’s competitive environment. Making diversity succeed takes more than good intentions—it involves creative thinking and the whole organization working together.

For 70 years, the Office of Naval Research (ONR) has diligently pursued a single vision: Sailors and Marines carrying a decisive technological advantage into every battle wherever they are engaged. While this mission is laser sharp, this always will be an evolving challenge. A wide open aperture to a workforce of excellence without boundaries is an essential prerequisite. Our goal as the ONR Diversity Council is to ensure that that aperture remains open, and to find ways to make it even wider.

A Perspective on Diversity

Diversity can be an awkward subject. The conventional definition focuses on categorical differences among people, which often drives a quota-based approach to staffing. This is “identity diversity,” and while it serves the useful purpose of presenting an outward portrait of an organization in which more people might “see” themselves fitting inclusively, it also has become the basis for negative stereotypes, biasing us to think about diversity superficially. Some of these misperceptions emerged in a recent employee survey. While most respondents saw ONR as a diverse organization, concerns remain that diversity focuses on numbers rather than talent.

As a science and technology (S&T) organization focused on the primacy of excellence, we transcend stereotypical, traditional paradigms and understand the importance of cognitive diversity (diversity of thought) and its role in technology...
innovation. In our quest for cognitive diversity we have a responsibility to open our aperture and remove barriers in our search for talent. This is not to suggest that everyone can be a great scientist or engineer, but that we must recognize great science and engineering can come from anywhere.

Cognitive diversity is our ultimate goal. We believe the best outcomes emerge when differing ideas and perspectives contribute to the solution. More importantly, cognitive diversity brings with it a new culture of inclusion and fosters greater opportunity for employees to work collaboratively toward successful solutions.

Cognitive diversity contributes to knowledge in four ways: access to a broader range of knowledge leads to a greater accumulation of information; interaction among diverse individuals leads to deeper and shared understanding; analysis is enhanced when diverse individuals discuss and deliberate viewpoints; integration of the best knowledge through debate and discussion creates the best solutions.

The pursuit of cognitive diversity requires access to STEM performers who, for a variety of reasons, may have been overlooked, or prevented from participating in naval S&T research by barriers of which we’re not necessarily even aware. Discussing biases openly and acknowledging that excellence includes diversity can help us fully answer leaders’ call for enhancing our technology advantage. Achieving S&T excellence through cognitive diversity presents three challenges. One is finding STEM excellence, sometimes in new and unexpected places. Another is attracting STEM excellence—can diverse people “see” themselves as an integral part of our organization? A third challenge is elevating the appreciation of cognitive diversity above the barriers of stereotypes and breaking up antiquated hiring stovepipes.

To meet all three challenges, we must acknowledge the misperceptions and stereotypes we are all familiar with and not allow them to impose barriers. The NRE aspires to reflect the promise of America—that excellence defies boundaries. Talented people from around the world or with different life experiences can flourish here in a melting pot of diversity. We need to leverage this advantage, one that is not found in abundance among some competitor nations. In short, diversity is our collective national strength.

To read the article in its entirety, please visit: http://futureforce.navylive.dodlive.mil/2016/06/widening-the-aperture/

Current members of ONR’s Diversity Council: Thomas Fu; Mickale Jones; Melanie Alston; Dr. Sarwat Chappell; Luis Delgado; Dr. Roderick French; Timoty Hairston; Curtis Howard; Lt. Cmdr Jonathan Jackson; Shea Kersey; Luis Leme; Catherine Mulé; Dave Nystrom; Georgianna Sheppard; Starleta Spratley; Brian Tonthat; Karl Berry; and Will Brown.
Capt. Mark Vandroff, commanding officer of Naval Surface Warfare Center, Carderock Division, recently signed an Education Partnership Agreement (EPA) with the University of Iowa at Carderock’s West Bethesda, Maryland, headquarters.

“The idea is to get students interested in hydrodynamics,” said Dr. Thad Michael, a naval architect with Carderock’s Propulsors Branch and the partnership program manager for the EPA. Michael received his doctorate in computational hydrodynamics from the university.

The partnership started with the naval hydrodynamic certificate program for undergraduates, which is intended to provide students with a solid technical and leadership background that will help graduates to thrive in civilian careers in Navy science and technology positions, and in supporting industry, according to the university website.

Even before this EPA was formalized, Michael said Carderock had a partnership with the University of Iowa, and that he and other Carderock employees have advised student projects, via Skype or teleconference, at the university. He said their partnership has been funded by the Office of Naval Research, which provided the school with a small tow tank that the students can operate themselves.

Dr. John Barkyoumb, Carderock’s director of strategic relations, heads Carderock’s EPA programs. The programs are geared toward public school systems and colleges that want to partner with the Navy to increase awareness for students in STEM career paths, potentially leading them to a career in a Navy lab.

The University of Iowa is the 15th EPA that Carderock currently has with schools and colleges. Located in Iowa City, Iowa, the university has one of the nation’s oldest fluids laboratories within their IIHR-Hydroscience and Engineering Center. The IIHR used to be called the Iowa Institute of Hydraulic Research, and although the name has changed, Iowa’s college of engineering maintained the acronym for historical reasons. With labs situated alongside the Iowa and Mississippi rivers, IIHR focuses on hydraulic engineering and fluid mechanics, including basic fluid mechanics, laboratory experimentation and computational approaches, something Carderock can lend expertise to.

“There is a long history of hydrodynamics with Iowa,” Barkyoumb said. “It’s not something many people think about in terms of Iowa, but with the Mississippi River there, there are a lot of hydrodynamics to think about, such as navigation, flood control and power.”

Barkyoumb said EPA partnerships allow schools to tap into the vast resources at Carderock, such as the engineers and scientists and their expertise pertaining to naval warfare science and technology; the base’s world-class facilities and equipment; and computer software and analytics.

Carderock has several employees who are University of Iowa graduates, working on projects like the Very Large Test Apparatus being tested at Carderock’s Large Cavitation
Channel in Memphis, Tennessee.

And former employees have gone on to teach at the university, like Louis Landweber, once head of the Hydrodynamics Division at Carderock. Long before Landweber passed away in 1998, he had initiated Iowa’s major ship hydrodynamics research program, which continues under Professor Fred Stern.

“Whenever I talk to new employees at Carderock, I always

impress upon them that all business is a people business, because it is people who accomplish missions of the organization,” Vandroff said. “Partnerships like this are a way to help us attract great people and maintain a top-notch workforce and tap into the expertise at these schools, too.”

Kelly Stirling, Naval Surface Warfare Center, Carderock Division

STUDENT SPOTLIGHT: SAGE GLIDEWELL

INTERNSHIP(S): Science and Engineering Apprenticeship Program (SEAP); Naval Research Enterprise Internship Program (NREIP); and the Department of Navy Pathways Internship Program

SCHOOL: College of Charleston in Charleston, South Carolina

WORKFORCE LOCATION: SPAWAR Systems Center Atlantic

Glidewell began working for SPAWAR Systems Center Atlantic as a high school intern via SEAP—an internship program sponsored by the Office of Naval Research—in the cyber security program. In the summer of 2017, she was accepted into the NREIP and Pathways internship programs.

In her spare time, Glidewell volunteers at Hanahan High School in South Carolina, where she helps mentor students as they prepare for the annual Cyber Patriot and Digital Forensics Competitions. She is also involved in the College of Charleston cyber club and supports SPAWAR Systems Center Atlantic’s cyber summer camp.

STUDENT SPOTLIGHT: SAM WILSON III

INTERNSHIP(S): Science and Engineering Apprenticeship Program (SEAP); Naval Research Enterprise Internship Program (NREIP); and the Department of Navy Pathways Internship Program

SCHOOL: University of South Carolina

WORKFORCE LOCATION: SPAWAR Systems Center Atlantic

Wilson was first introduced to the SEAP program via a career fair and engineering speaking engagement at his local, title-one high school. He worked as a SEAP and NREIP intern at SPAWAR Systems Center Atlantic, and is currently on the path to become a SPAWAR Systems Center Atlantic engineer as part of the Pathways intern program. He will graduate in May 2018 with an engineering degree from the University of South Carolina, College of Engineering and Computing. He is involved with Brothers of Nubian Descent at the University of South Carolina and serves as the recording secretary and community service chair.
Mentoring Maven: STEM Educator Receives Award at 2018 Engineers Week Event

One of the objectives for the Department of Defense (DoD), defined in the 2018 National Defense Strategy, is to cultivate workforce talent.

To help meet this goal, the Naval STEM Coordination Office based at the Office of Naval Research (ONR), is leading the effort to develop a diverse, innovative, world-class STEM workforce to maintain U.S. Navy and Marine Corps technological superiority.

During the 13th Annual Engineers Week event at the Pentagon, Dr. John DiCecco—an engineer at Rhode Island’s Naval Undersea Warfare Center Division Newport, Undersea Warfare Weapons, Vehicles and Defensive Systems Department—was presented the DoD STEM Education and Outreach Advocate of the Quarter Award.

Dr. Michael Simpson, director of ONR’s Naval STEM Coordination Office, advanced DiCecco’s nomination to the Office of the Assistant Secretary of Defense for consideration.

“Every quarter, all of the services nominate individuals who go above and beyond for the advancement of STEM education and outreach,” said Simpson. “Last quarter, we had one really standout nominee: Dr. DiCecco. He has established programs all the way down to kindergarten, guiding teachers on how to inspire students to pursue STEM.”

Not surprisingly, DiCecco is a strong advocate for students interested in technology and science fields.

“I’m stunned to receive this award. There are so many people who do so many great things for STEM education,” said DiCecco. “It’s hard for me to process this. I feel honored to be recognized amongst my amazing peers.”

Since 2009, DiCecco has actively participated in the expansion of the SeaPerch program. SeaPerch is an innovative underwater robotics program that gives teachers and students with the resources to build an underwater remotely operated vehicle, in either an in-school or out-of-school setting.

He also created the Undersea Technology Apprentice Program, a three-week intensive apprenticeship for high school students.

“The Undersea Technology Apprentice Program is really my baby. It’s the program that I helped cultivate from the ground up,” said DiCecco. “I feel the most proud at the end of those three-week sessions, and I speak with each kid and hear their reflections on their experience.”

According to DiCecco, no team ever
makes a vehicle that looks like any of the other teams’ vehicles. “Each of the five teams has their own design, which is such a powerful example of why we need different backgrounds and diversity in our system,” he said. “Diversity produces things that are different. Not always better, not always worse, but different. When we make a disruptive technology, it’s generally because someone thought to do something different than everyone else.”

Moving forward, the strategy of the Naval STEM Coordination office includes further development and retention of the future workforce. “What I focus on are the people. I want to make sure that Department of the Navy has given the people the necessary skills to perform the research and innovate for the future,” said Simpson. “We achieve this by directly interacting with students at the high school, college and graduate level—and connecting them with a scientist or engineer to solve a real-world problem.”

Bobby Cummings is a contractor for ONR’s Corporate Strategic Communications.

Other Nominees for Quarter One

Name: Kathleen Gately Miranda
Warfare Center: Space and Naval Warfare Systems Center Pacific
Location: San Diego, California

Name: Midshipmen STEM Outreach
Warfare Center: U.S. Naval Academy
Location: Annapolis, Maryland

Name: Tony Peters
Warfare Center: Naval Surface Warfare Center
Location: Crane, Indiana

Name: Thompson Middle School STEM Book Club Mentors
Warfare Center: Naval Surface Warfare Center
Location: Newport, Rhode Island

HOMETOWN STEM: MEET THE NAVY NOMINEES FOR THE DOD STEM ADVOCATE OF THE SECOND QUARTER OF 2018

Name: HM3 Breyona Kyler
Warfare Center: BUMED, U.S. Naval Hospital Rota
Location: Rota, Spain

Name: Command Diversity Council
Warfare Center: BUMED, Navy Medicine Professional Development Center
Location: Bethesda, Maryland

Name: Saturday Scholars Program
Warfare Centers: Surface Warfare Medical Institute and Navy Enlisted Training Element
Location: San Diego, California
The Health Occupation Students of America (HOSA) District Competition—hosted by Falls Church Academy—took place with 334 high school students who represented Chantilly Academy, Falls Church Academy and West Potomac Academy’s Health and Human Services courses. In addition to the many competitive events, a healthcare fair was held where 14 colleges and healthcare career representatives presented educational and career options available from departments representing INOVA Health System, U.S. Navy Bureau of Medicine and Surgery (BUMED), Fairfax County Fire and Rescue, the American Dental Education Association, Brother’s Brother Foundation, Fairfax County Community Emergency Response Team and Capital Caring. Colleges attending were Uniformed Services University of the Health Sciences, VCU School of Medicine, George Mason University, Shenandoah University, Jefferson College of Health Sciences and Northern Virginia Community College Medical Campus.

Representatives from BUMED presented career options for both active-duty and civilian Navy employees. The Medical, Nursing, Medical Service, Dental, Hospital and Civilian Corps consist of multiple specialties within and supportive of healthcare occupations. The BUMED team had hands-on tools, microscopes and multiple teaching displays that engaged students and opened conversations about career choices.

In addition to providing education and conversation regarding health care fields, BUMED representatives participated as judges in multiple student competitions that ran throughout the day and included: Career health display, job seeking skills, clinical specialty, extemporaneous health posters, medical photography and the HOSA Bowl—which was much like the game Jeopardy—where students competed in question and answer rounds regarding healthcare knowledge.

This event was so successful from the perspective of colleges, organizations, teachers and students that an additional healthcare career fair is being planned and will be open to all Fairfax County Public School high school students interested in health and human services professions.

**What is HOSA?**

HOSA is an international student organization whose goal is to provide a program of leadership development, motivation and recognition for secondary, postsecondary, adult and collegiate students enrolled in health science education and biomedical science programs. For more information visit: [http://www.hosa.org/](http://www.hosa.org/).
Top left: Rommi Hooper, a seventh grade student at James Madison Middle School and a member of Team Illusion, part of the For Inspiration and Recognition of Science and Technology (FIRST) Robotics Program, talks with Sophia DeCecca, during the 2018 Engineers Week celebration held at the Pentagon Library and Conference Center. Team Illusion is mentored by Dr. Vijay Kowtha from the Naval Research Laboratory. (U.S. Navy photo by John F. Williams)

Top right: Attendees at SSC Atlantic’s Girls Day Out event learn about robotics. (Photo courtesy SSC Atlantic)

Bottom: Students visit the anechoic chamber at SPAWAR Pacific. Anechoic chambers are echo-free rooms designed to absorb reflections from sound or electromagnetic waves, as well as be insulated from exterior noise sources.
The Department of the Navy always employs the latest scientific and technological advantages to maintain maritime superiority. But technological advancements alone will not maintain our edge. The Navy and Marine Corps also need a workforce of talented, diverse and dedicated naval scientists and engineers to stay ahead of shifting threat environments. The Education & Workforce/Naval STEM Coordination Office supports strategic educational and outreach opportunities that inspire, educate and develop the current and future workforce.

To learn more, please visit https://www.onr.navy.mil/en/Education/Outreach/Navy-STEM-Strategy or contact the Naval STEM Coordination Office at naval_STEM@navy.mil.