

AND  
**EDUCATION  
WORKFORCE**

NAVAL STEM

2018



A GUIDE TO  
**EDUCATION &  
WORKFORCE**  
NAVAL STEM



# Table of Contents

## INTRODUCTION

Naval STEM Welcome	pg. 3
Naval STEM Overview	pg. 4
Naval STEM Stakeholder Organizations Map	pg. 6
Naval STEM Stakeholder Organizations Overview	pg. 8

## THE NAVAL STEM COMMUNITY

Navy Bureau of Medicine and Surgery [BUMED]	pg. 12
Commander, Navy Installations Command [CNIC]	pg. 14
Marine Corps Systems Command [MCSC]	pg. 18
Naval Air Systems Command [NAVAIR]	pg. 20
Naval Facilities Engineering Command [NAVFAC]	pg. 22
Naval Postgraduate School [NPS]	pg. 24
Naval Sea Systems Command [NAVSEA]	pg. 26
Naval Supply Systems Command [NAVSUP]	pg. 28
The Office of Naval Research [ONR]	pg. 30
The Space and Naval Warfare Systems Command [SPAWAR]	pg. 32
United States Naval Academy [USNA]	pg. 34
United States Naval Research Laboratory [NRL]	pg. 36

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# From the Director...

The Navy and Marine Corps have a mission: deter our adversaries from picking a fight. But as threat environments are ever-changing, there is no guarantee the U.S. will be able to discourage everyone from trying, so we must be ready to engage and win the fight.

Our warfighters need access to the latest scientific and technological innovations. And who better to develop those advances than the diverse, talented and dedicated workforce of scientists and engineers at our naval laboratories?

These Navy and Marine Corps personnel work to ensure a constant and reliable supply of advanced and innovative solutions that meets the national security challenges of today and tomorrow. However, to guarantee they are ready for these challenges, it is critical for the DoN to foster initiatives and collaborations that inspire, engage and constantly develop not only the current workforce, but the future workforce as well.

It is through deliberate and strategic investments in naval STEM education, outreach and workforce initiatives, that the U.S Navy and Marine Corps has the workforce to meet challenges, while advancing and maintaining our technological superiority.

This 2018 *Guide to Education and Workforce/Naval STEM* highlights some of those initiatives, and provides a synopsis of the naval STEM stakeholder commands and organizations involved with these enterprises. Stakeholders come together as a community to inspire, accelerate and continuously develop the current and future workforce—and they ensure their programs attract, employ, develop and retain scientists and engineers with superior knowledge and expertise.

While each command has specific workforce needs that influence the programs offered to the current and future workforce, each ensures it contributes to the overall development of needed naval capabilities.

Through student internships and scholarships, as well as employee education programs, these commands increase awareness of naval-relevant STEM opportunities and careers. These activities and programs inspire current workers by connecting them to potential members of the next workforce, and by building on the excitement of current knowledge and success. They create a research and development community that will be vibrant and productive for generations.

I welcome you to Education & Workforce/Naval STEM.

Sincerely,  
Michael M. Simpson, Ph.D.  
Director of Education and Workforce  
Office of Naval Research



# Naval STEM Overview

The Department of the Navy (DoN) is dedicated to maintaining the U.S. Navy and Marine Corps' technological maritime superiority through cultivation of a world-class science technology, engineering and math, or STEM, workforce. Our community of diverse and dedicated naval scientists and engineers is essential to meeting current and future warfighting challenges. Through a diverse portfolio of initiatives and investments, the Education & Workforce/Naval STEM Coordination Office supports strategic education and outreach opportunities that inspire, educate, employ, accelerate, retain and constantly develop the current and future workforce.

As gaps and inefficiencies in current capabilities are identified, the Naval STEM Coordination Office finds opportunities to connect education and outreach efforts to meet current and future DoN needs. A STEM-proficient workforce lives at the heart of this innovation process. Through a network of naval STEM scientists and engineers—and collaboration with other federal government agencies and the broad STEM community—the DoN provides support via funding resources and mentorship, to all education-workforce transitions and career stages.

## NAVAL STEM STAKEHOLDER ORGANIZATIONS

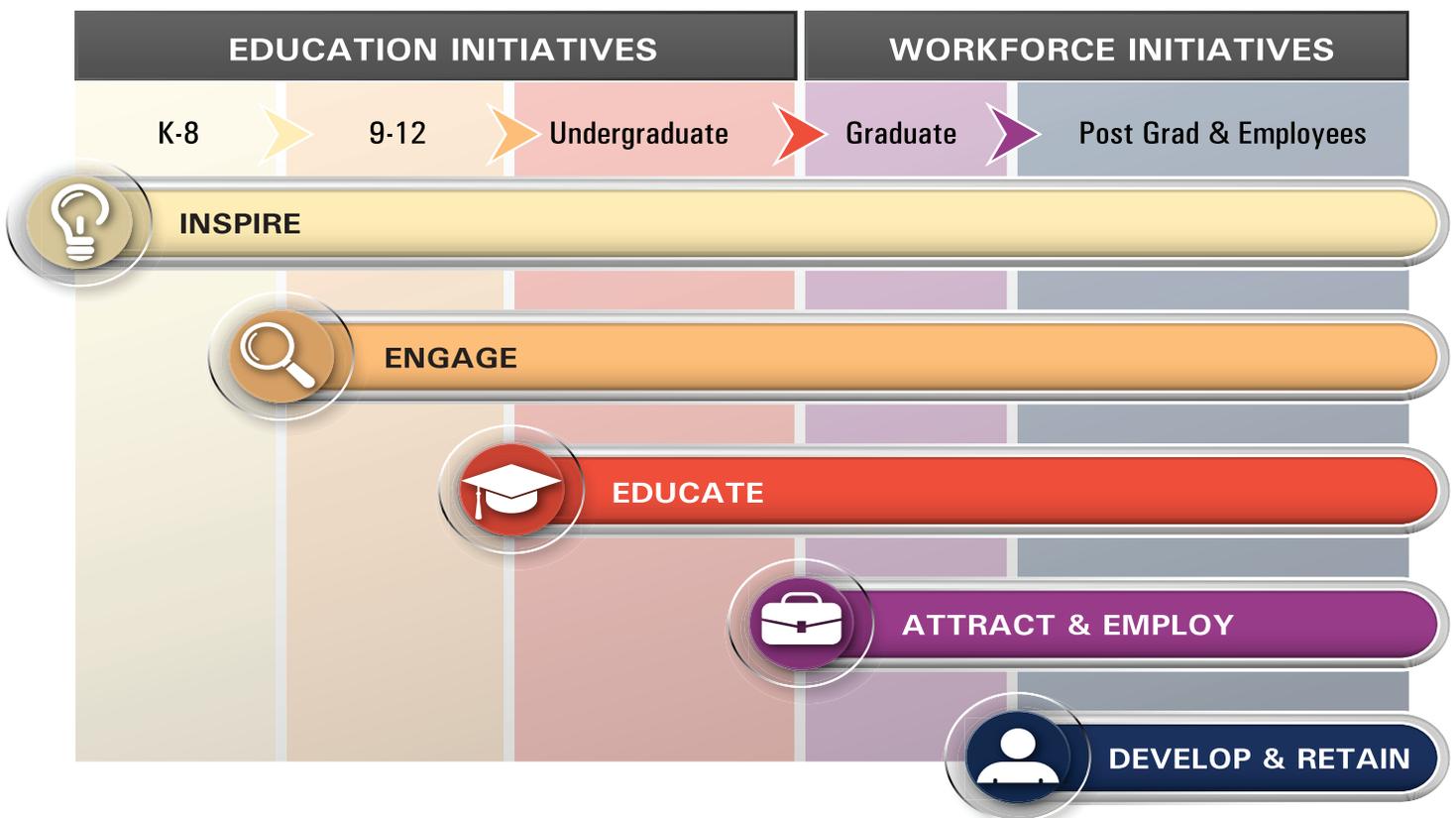
Local STEM efforts are managed and executed at the command or organization level. These organizations implement STEM education, outreach and workforce activities within their respective communities. This guide provides an overview of these stakeholder's STEM efforts and programs.

## EDUCATION INITIATIVES

The Navy and Marine Corps STEM programs are available nationwide. For K-12 audiences, hands-on learning experiences are emphasized to encourage students and teachers to “learn by doing.” This encouragement comes in a variety of forms, including participation in expos and festivals; sponsorship of summer camps and teacher trainings; and support of STEM competitions.

## WORKFORCE INITIATIVES

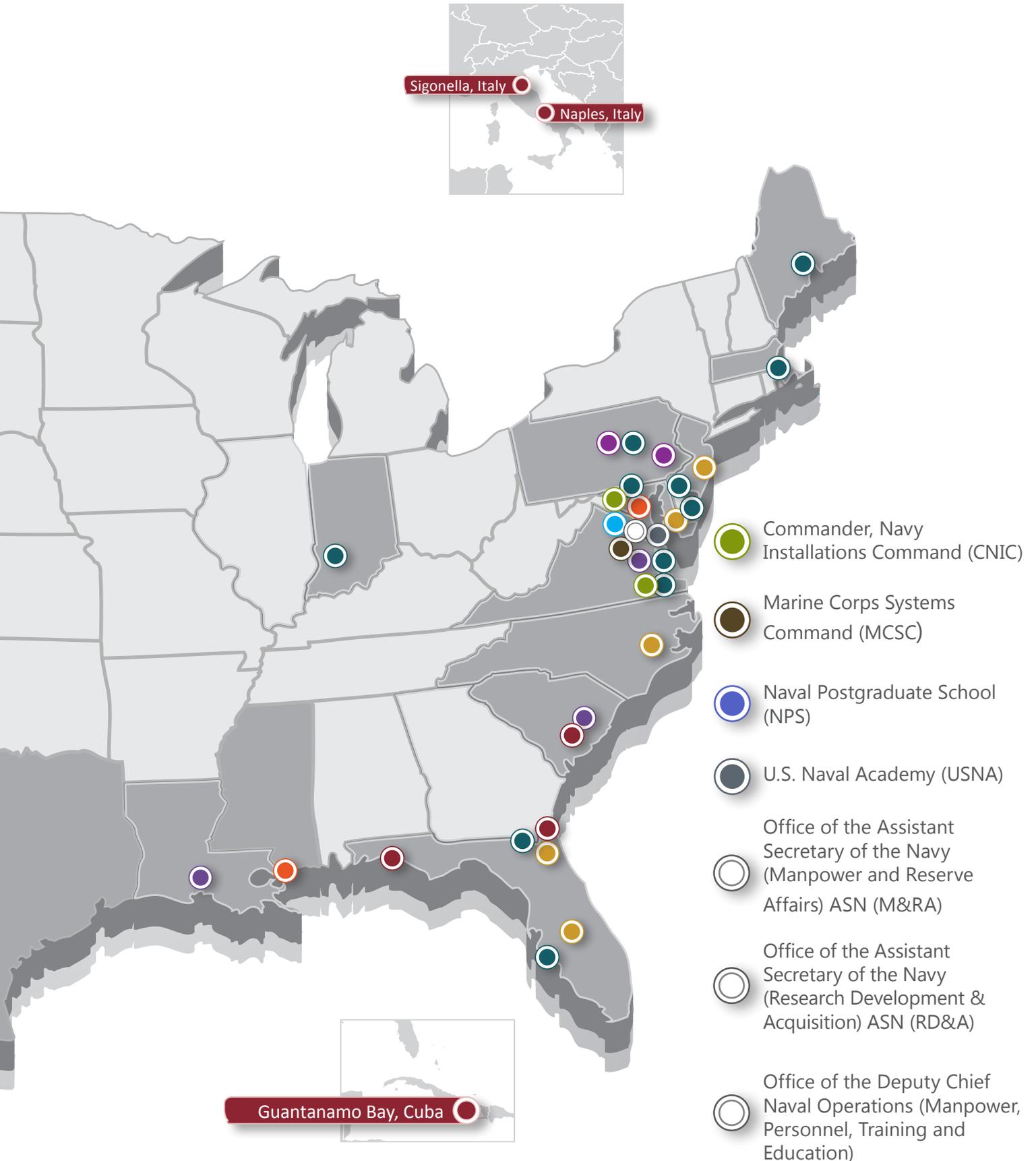
The development of the current and future naval STEM workforce is a primary concern for the naval STEM community. Numerous programs are available to students, academic faculty and naval scientists and engineers. These programs include internships and mentorships, as well as professional development opportunities.



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# Naval STEM Stakeholder Organizations





# Naval STEM Stakeholder Organizations Overview



## Navy Bureau of Medicine and Surgery [BUMED]

BUMED is the headquarters for Navy medicine. BUMED develops the policies and direction for the naval medicine enterprise to ensure that its vision for patient-centered medical care is carried out throughout the world, including in naval hospitals, medical centers, dental battalions, preventive-medicine units and technical schools for medical department personnel. BUMED also oversees support commands and their subordinate commands that are not directly involved with patient care, but are important contributors to Navy and Marine Corps medical readiness.



## Commander, Navy Installations Command [CNIC]

CNIC is the Echelon II command under the chief of naval operations responsible for Navy-wide shore installation management. The standup of CNIC was an effort in the continuation of fleet and regional shore installation management organizational alignment, which began in 1997 with the reduction of installation management claimants from 18 to eight. The intent of CNIC is to establish a single shore installation-management organization that will focus on installation effectiveness and improve the shore installation-management community's ability to support the fleet.



## Marine Corps Systems Command [MCSC]

MCSC serves as the Department of the Navy's systems command for Marine Corps ground weapon and information technology system programs in order to equip and sustain Marine forces with full-spectrum, current and future expeditionary and crisis-response capabilities.



### Naval Air Systems Command [NAVAIR]

NAVAIR provides full life-cycle support of naval aviation aircraft, weapons and systems operated by Sailors and Marines. This support includes research, design, development and systems engineering; acquisition; test and evaluation; training facilities and equipment; repair and modification; and in-service engineering and logistics support. NAVAIR has more than 34,000 military, civilian and contractor personnel stationed at eight locations across the continental United States and one site overseas.



### Naval Facilities Engineering Command [NAVFAC]

NAVFAC is the systems command that builds and maintains sustainable facilities, delivers utilities and services, and provides Navy expeditionary combat force capabilities. NAVFAC delivers best-value facilities engineering and acquisition for the Navy and Marine Corps, unified commanders, and Department of Defense agencies through our six business lines: capital improvements, environmental, expeditionary, public works, asset management and contingency engineering. NAVFAC also provides program management for all aspects of the Naval Construction Force, the Seabees, and equipment/materiel management for the Naval Beach Group and other Naval Special Operating Units.



### Naval Postgraduate School [NPS]

NPS provides relevant and unique advanced educational and research programs to increase the combat effectiveness of commissioned officers of the naval service to enhance the security of the United States.

# Naval STEM Stakeholder Organizations Overview (cont...)



## Naval Sea Systems Command [NAVSEA]

NAVSEA, the largest of the Navy's systems commands, designs, builds and maintains ships, submarines and combat systems that meet the fleet's current and future operational requirements. NAVSEA has 33 sites in 16 states throughout the U.S. that strive to be an efficient provider of defense resources for the nation and play an important role in the Navy enterprise.



## Naval Supply Systems Command [NAVSUP]

NAVSUP is the Navy's trusted provider of sustained global logistics and quality-of-life support to the Navy and joint warfighter. It manages supply chains for Navy aircraft, surface ships, submarines and their associated weapons systems. NAVSUP also provides centralized inventory management for the Navy's non-nuclear ordnance stockpile; supports base and waterfront logistics and operations; coordinates material deliveries; contracts for supplies and services and offers material management and warehousing services. NAVSUP is responsible for many of the quality-of-life programs that touch the lives of Sailors and their families, including Navy Exchanges, Navy Lodges, the Navy Personal Property Program and the Navy Postal System. NAVSUP also administers the Navy Food Service Program, including the policies and procedures governing the daily operations of general messes afloat and ashore.



## Office of Naval Research [ONR]

ONR provides technical advice to the chief of naval operations and the secretary of the Navy. Led by the chief of naval research, who is also the naval STEM executive, its senior leadership oversees a portfolio of investments ranging from immediate, quick-turnaround technologies to long-term basic research. As an executive branch agency within the U.S. Department of Defense (DoD), ONR supports the president's budget while also developing the science and technology strategic plan that enables the future operational concepts of the U.S. Navy and Marine Corps.

# SPAWAR



## Space and Naval Warfare Systems Command [SPAWAR]

Over the last decade, information has emerged as a warfighting domain—joining land, sea and air as a critical contested battlespace. As the Navy’s information warfare systems command, SPAWAR is the Navy acquisition command that develops, delivers and sustains communications and information warfare capabilities for warfighters, keeping them connected anytime, anywhere. With a space support activity and two research and development system centers, and through partnerships with three program executive offices, SPAWAR provides the hardware and software needed to execute Navy missions. The team consists of more than 10,000 active-duty military and civil service professionals located around the world and close to the fleet to keep SPAWAR at the forefront of research, engineering and acquisition to provide and sustain information capabilities to the fleet.



## U.S. Naval Academy [USNA]

As the undergraduate college of the naval service, the United States Naval Academy prepares young men and women to become professional officers in the U.S. Navy and Marine Corps. After four years of undergraduate study and military training, midshipmen graduate with bachelor of science degrees and reserve commissions.



## U.S. Naval Research Laboratory [NRL]

NRL operates as the Navy and Marine Corps full-spectrum corporate laboratory. The lab conducts a broad range of scientific research and advanced technological development. These programs concentrate on innovative maritime materials, techniques, equipment and systems, as well as ocean, atmospheric and space science technologies. NRL provides the advanced scientific capabilities necessary to strengthen our country’s position of naval leader across the globe. NRL is home to our nation’s best scientists and engineers. They are inspired and encouraged to pursue their passion in an environment of proven excellence—each are focused on research that yields immediate and long-range applications in the defense of the United States.

# Navy Bureau of Medicine & Surgery (BUMED)

**STEM:** Navy Medicine is a successful enterprise spanning research and development, battlefield medicine, at sea medicine, wounded warrior care, humanitarian assistance/disaster relief and medical support to Navy and Marine Corps service members and their families. To sustain our legacy in biomedical research and development, we look to the future, and that means reaching out to our nation's young people and inspiring them to pursue a productive and creative career in medicine and research. BUMED's STEM programs offer education and workforce opportunities in medicine and research, offered at various BUMED sites, through partnerships with local schools and collaborative efforts with other naval organizations.

## Bureau of Medicine and Surgery Falls Church, Virginia

Capt. Patricia McDonald | [patricia.mcdonald3.mil@mail.mil](mailto:patricia.mcdonald3.mil@mail.mil)

## Naval Medical Research Center Silver Spring, Maryland

Capt. Patricia McDonald | [patricia.mcdonald3.mil@mail.mil](mailto:patricia.mcdonald3.mil@mail.mil)

## Navy Medicine Operational Training Command Pensacola, Florida

NC2 Timothy Puzan | [timothy.w.puzan.mil@mail.mil](mailto:timothy.w.puzan.mil@mail.mil)

## Navy Medicine Professional Development Center Bethesda, Maryland

Cmdr. Bradley Jones | [bradley.e.jones.mil@mail.mil](mailto:bradley.e.jones.mil@mail.mil)

## Navy Medicine Training Support San Antonio, Texas

Lt. Cmdr. Frank Jones | [frank.a.jones6.mil@mail.mil](mailto:frank.a.jones6.mil@mail.mil)

## Surface Warfare Medical Institute San Diego, California

HM1 David Leos | [david.leos2.mil@mail.mil](mailto:david.leos2.mil@mail.mil)

## U.S. Naval Hospital Annapolis Annapolis, Maryland

Lt. Reynaldo Reyes | [reynaldo.l.reyes4.mil@mail.mil](mailto:reynaldo.l.reyes4.mil@mail.mil)

## U.S. Naval Hospital Beaufort Beaufort, South Carolina

Lt. Nathan Moon | [nathan.r.moon.mil@mail.mil](mailto:nathan.r.moon.mil@mail.mil)

## U.S. Naval Hospital, Guam Agano Heights, Guam

HMC Laknesha P. Wimbush | [laknesha.p.wimbush.mil@mail.mil](mailto:laknesha.p.wimbush.mil@mail.mil)

## U.S. Naval Hospital, Guantanamo Bay Guantanamo Bay, Cuba

Lt. David Rothwell | [david.j.rothwell.mil@mail.mil](mailto:david.j.rothwell.mil@mail.mil)

## U.S. Naval Hospital Jacksonville Jacksonville, Florida

HMC Kristin Ferri | [kristin.m.ferri.mil@mail.mil](mailto:kristin.m.ferri.mil@mail.mil)

## U.S. Naval Hospital Lemoore Lemoore, California

Lt. Geoffrey Burgerhoff | [geoffrey.c.burgerhoff.mil@mail.mil](mailto:geoffrey.c.burgerhoff.mil@mail.mil)

## U.S. Naval Hospital Naples Naples, Italy

Lt. Nadine Barksdale | [nadine.s.barksdale.mil@mail.mil](mailto:nadine.s.barksdale.mil@mail.mil)

## U.S. Naval Hospital Oak Harbor Oak Harbor, Washington

Lt. Cmdr. Sara R. Edmondson | [sara.r.edmondson2.mil@mail.mil](mailto:sara.r.edmondson2.mil@mail.mil)

## U.S. Naval Hospital Okinawa Okinawa, Japan

Lt. Eric S. Banker | [eric.s.banker.mil@mail.mil](mailto:eric.s.banker.mil@mail.mil)

## U.S. Naval Hospital Patuxent River Patuxent River, Maryland

Lt. Wisdom K. Henyo | [wisdom.k.henyο.mil@mail.mil](mailto:wisdom.k.henyο.mil@mail.mil)

## U.S. Naval Hospital Quantico Quantico, Virginia

Lt. Kenneth Argoncillo | [kenneth.b.argoncillo.mil@mail.mil](mailto:kenneth.b.argoncillo.mil@mail.mil)

## U.S. Naval Hospital San Diego San Diego, California

HM1 Danilo Morada | [danilo.o.morada.mil@mail.mil](mailto:danilo.o.morada.mil@mail.mil)

## U.S. Naval Hospital Sigonella Sigonella, Italy

Lt. Cmdr. Christopher Linger | [christopher.a.linger.mil@mail.mil](mailto:christopher.a.linger.mil@mail.mil)

## U.S. Naval Hospital Twentynine Palms Twentynine Palms, California

Derrick LeBeau | [derrick.j.lebeau.mil@mail.mil](mailto:derrick.j.lebeau.mil@mail.mil)

## Uniform Services University of the Health Sciences Bethesda, Maryland

Dr. Jeffrey Hutchinson | [jeffrey.hutchinson@usuhs.edu](mailto:jeffrey.hutchinson@usuhs.edu)



# Commander, Navy Installations Command (CNIC) - U.S. S

**STEM:** A guiding principle of Vice Adm. Mary Jackson, commander, Navy Installation Command is that “CNIC represents Navy to the surrounding communities; installations are the face of the Navy; it's about relationships” and providing “service through action: customer-focused, efficient, effective and responsive.” One way regional and installation commanders build these relationships is through the Partnerships-In-Education (PIE) initiatives to provide numerous STEM activities at all Navy installations:

- CNIC’s daily interaction with our partnered communities will reflect the commitment to these guiding principles.
- Values: citizenship, respect for diversity, teamwork, honesty and caring.

**Educational Programs:** PIE installations use Sailors and civilian employees to serve as volunteers, mentors, tutors and role models. The following are a few suggestions for school academic support: Provide career awareness involvement with career-focused activities on campus; assist in the delivery of drug abuse resistance education instruction; participate in or chaperone field trips to installation facilities for special occasions and tours; serve as judges for science fairs and other academic competitions; serve as celebrity readers and guest lecturers; support academic improvement workshops; support safety and fitness education programs; and coordinated STEM events during air shows and base open house events.

**Workforce Programs:** CNIC uses postsecondary preparation in military associated communities. In addition to high school course work, extracurricular activities, sports and leadership roles, family attitudes and practices regarding careers help shape a student’s postsecondary option. Role modeling by parents and parent expectations and support can contribute significantly to helping a teen make decisions which will create a positive postsecondary experience.

## Region 1: Headquarters

Chuck Clymer | [chuck.clymer@navy.mil](mailto:chuck.clymer@navy.mil)

- CNIC, Washington, D.C.

## Region 2: Naval District Washington

Horace Franklin | [horace.franklin@navy.mil](mailto:horace.franklin@navy.mil)

- Joint Base Anacostia-Bolling, D.C.
- NSA Washington, D.C.
- NAS Patuxent River, MD
  - NRC Solomons, MD\*
- NSA Annapolis, MD
- NSA Bethesda, MD
- NSF Thurmont, MD
- NSA South Potomac, VA
  - NSF Dahlgren, VA\*
  - NSF Indian Head, MD\*

## Region 3: Navy Region Southeast

Sandy Powers | [sandy.powers@navy.mil](mailto:sandy.powers@navy.mil)

- NAS Key West, FL
- NAS Jacksonville, FL
- NAS Orlando, FL
- NAS Pensacola, FL
- NAS Whiting Field Milton, FL
- NAVSTA Mayport, FL
- NSA Panama City, FL
- SUBASE Kings Bay, GA
  - NSA Charleston, SC\*
- NAS JRB New Orleans, LA
- NAS Meridian, MS
- CBC Gulfport, MS
- NSF Beaufort, SC
- NSA Mid South, Millington, TN
- NAS Corpus Christi, TX
- NAS JRB Fort Worth, TX
- NAS Kingsville, TX
- NAVSTA Guantanamo Bay, Cuba

## Region 4: Navy Region Mid-Atlantic

Debbie Patch | [deborah.patch@navy.mil](mailto:deborah.patch@navy.mil)

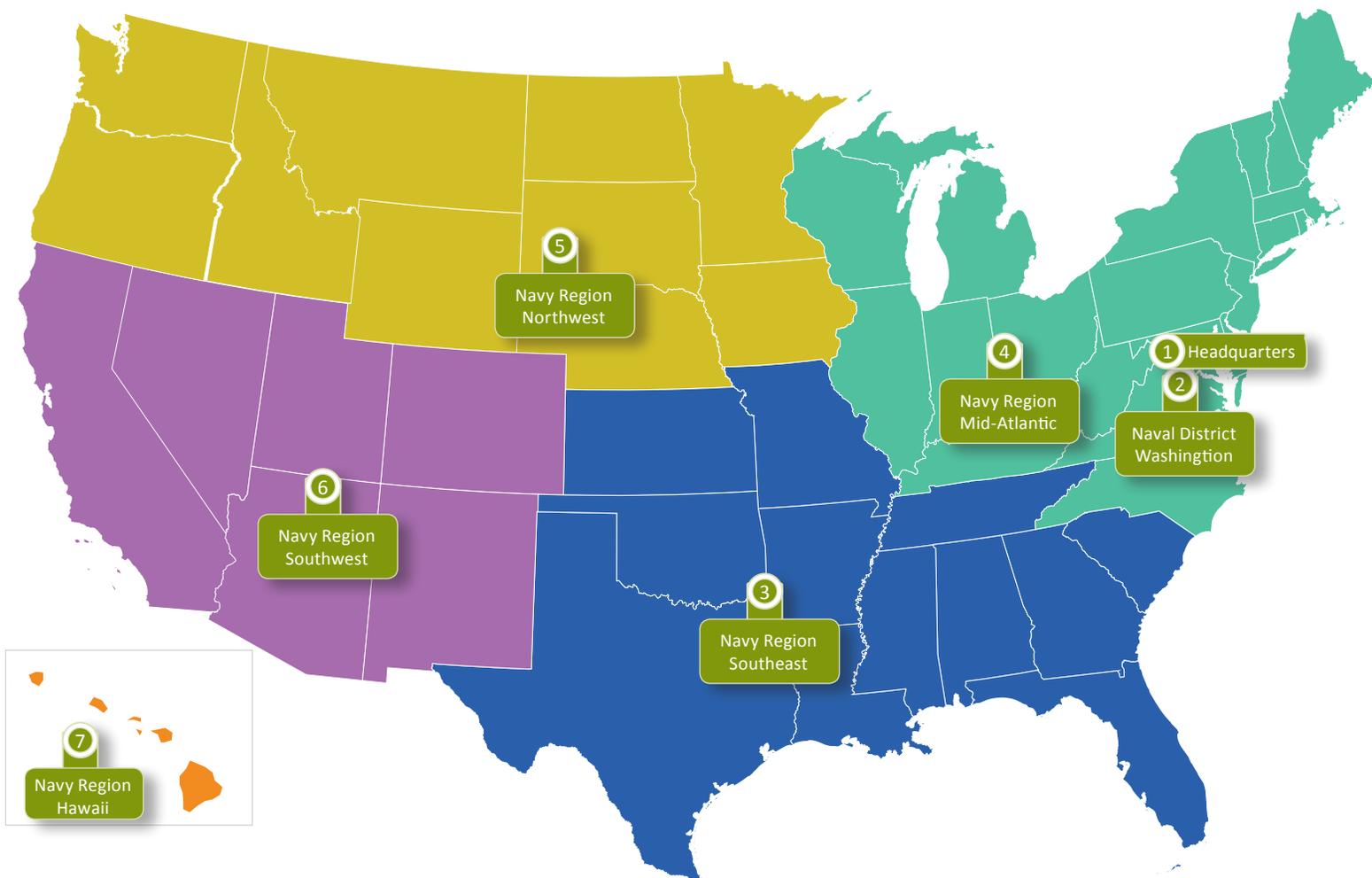
- SUBASE New London, CT
- NAVSTA Great Lakes, IL
- NSA Crane, IN
- NSY BOS Portsmouth, NH
- WPNSTA Earle/Colts Neck, NJ
  - NSA Lakehurst, NJ\*
- NSA Saratoga Springs, NY
- NSA Mechanicsburg, PA
  - NSA Philadelphia, PA\*
- NAVSTA Newport, RI
- JEB Little Creek-Fort Story, VA
  - SCSC Wallops Island, VA\*
- NAS Oceana, VA
  - Dam Neck Annex, VA\*
- NAVSTA Norfolk, VA
- NSA Hampton Roads, VA
  - NSA Northwest Annex, VA\*
- NSS Norfolk Naval Shipyard, VA
- WPNSTA Yorktown, VA
  - Cheatham Annex, VA\*

## Region 5: Navy Region Northwest

Kelly Scheese | [kelly.scheese@navy.mil](mailto:kelly.scheese@navy.mil)

- NAS Whidbey Island, WA
- NAVBASE Kitsap Bremerton, WA
- NAVMAG Indian Island, WA
- NAVSTA Everett, WA

\* Non-base CNIC supported location



**Region 6: Navy Region Southwest**

Kelly Frisch | [kelly.frisch@navy.mil](mailto:kelly.frisch@navy.mil)

- NAF El Centro, CA
- NAS Fallon, NV
- NAS Lemoore, CA
- NAVBASE Coronado San Diego, CA
- NAVBASE Point Loma, CA
- NAVBASE San Diego, CA
- NAVBASE Ventura County/Pt Mugu, CA
- NAWS China Lake, CA
- NSA Monterey, CA
- WPNSTA Seal Beach, CA

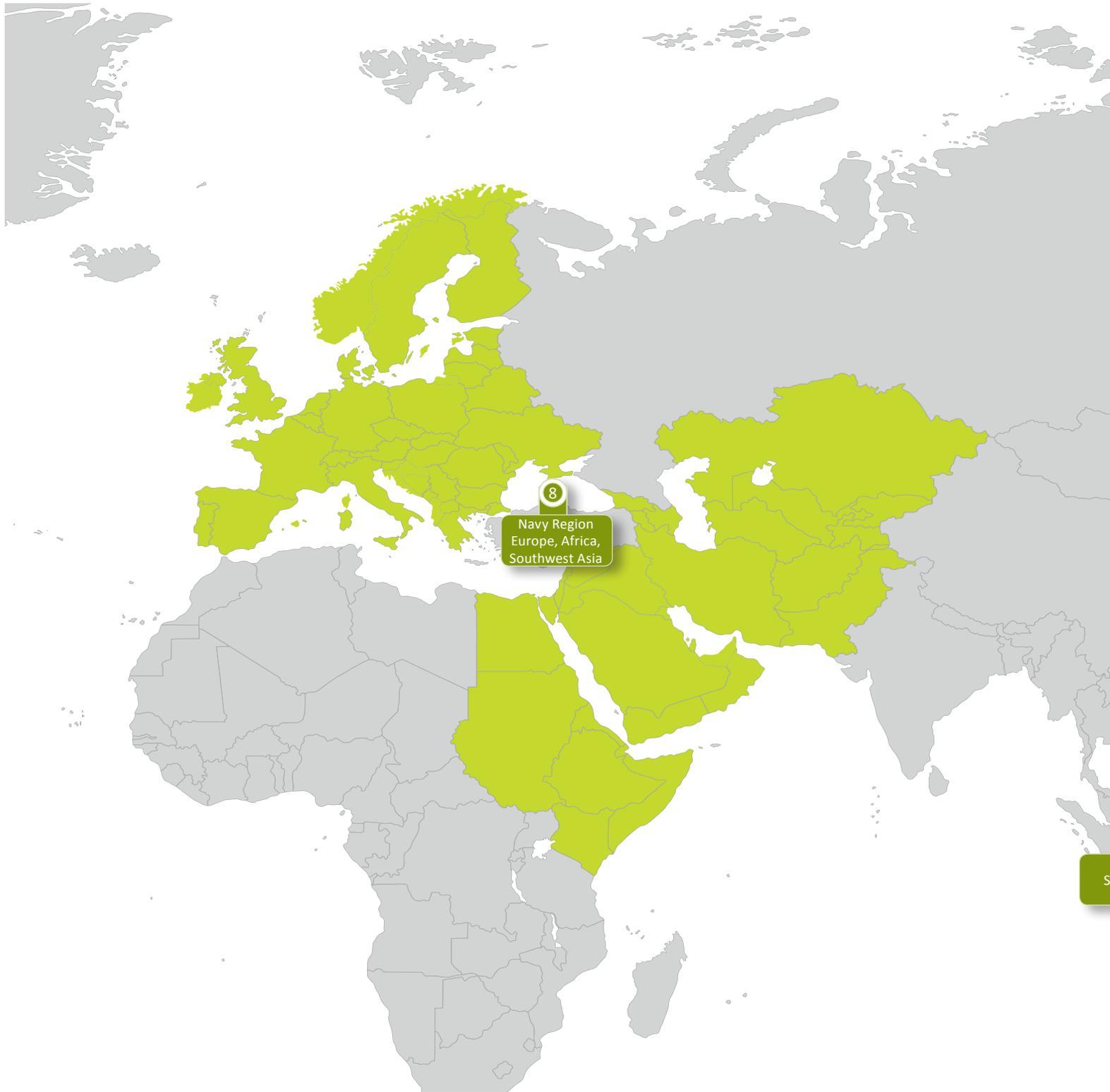
**Region 7: Navy Region Hawaii**

Kim Munoz | [kim.munoz@navy.mil](mailto:kim.munoz@navy.mil)

- Joint Base Pearl Harbor-Hickam, HI
- PMRF Barking Sands, HI

See page 16 - 17 for CNIC international locations

# CNIC - International Sites



## Region 8: Navy Region Europe, Africa, Southwest Asia

Paula Cabrera  
[paula.cabrera@eu.navy.mil](mailto:paula.cabrera@eu.navy.mil)

- Camp Lemonnier Djibouti, Africa
- NAS Sigonella, Italy
- NAVSTA Rota, Spain
- NSA Naples, Italy
- NSA Bahrain
- NSA Souda Bay, Greece
- NSF Deveselu, Romania
- NSF Redzikowo, Poland

## Region 9: Navy Region Korea

Christine Monroe  
[christine.monroe@fe.navy.mil](mailto:christine.monroe@fe.navy.mil)

- CFA Chinhae

## Region 10: Navy Region Japan

Kathryn Hardebeck  
[kathryn.hardebeck@fe.navy.mil](mailto:kathryn.hardebeck@fe.navy.mil)

- CFA Okinawa
- CFA Sasebo
- CFA Yokosuka
- NAF Atsugi
- NSF Diego Garcia
- NAF Misawa

## Region 11: Joint Region Marianas

Lydia Broussard  
[lydia.broussard@fe.navy.mil](mailto:lydia.broussard@fe.navy.mil)

- Anderson Air Force Base/NSA Andersen
- NAVBASE Guam

## Region 12: Singapore

Terra Hendrickson  
[terra.hendrickson@fe.navy.mil](mailto:terra.hendrickson@fe.navy.mil)

- Singapore



Find us online:

 @NavyInstallations  
 @cnichq

# Marine Corps Systems Command (MCSC)

**STEM:** MCSC has more than 500 engineers, scientists and IT professionals who support the design, development, testing and fielding of Marine Corps systems supporting more than 180,000 Marines. MCSC is dedicated to promoting the development of its future workforce through hands-on engagement with students in competitions, camps and festivals.

**Educational Programs:** MCSC participates in various activities to enhance the education and awareness of students in STEM disciplines and careers. These include participation in various festivals, such as the U.S. Science and Engineering Festival held biannually at the Washington Convention Center; a yearly one-week STEM Robotics Camp at the Quantico Middle/High School composed of challenges, displays, demonstrations, design activities and career briefings; participation in specialized school days set aside for STEAM activities (STEM with arts included). Furthermore MCSC is involved in STEM outreach to local schools and sponsors STEM activities at other Marine Corps facilities, such as Science Week at the Marine Corps Tactical System Support Activity at Camp Pendleton in California.

**Workforce Programs:** All of MCSC education programs require close collaboration with other STEM and teaching professionals and engineering/scientist mentors. We host days-long training events for robotics camp teams in conjunction with The College of William and Mary. MCSC engineers/scientists train on Marine Corps equipment used for displays and hands-on demonstrations at festivals, camps and in classrooms. We participate in refresher training provided by the Naval Academy (best practices for STEM outreach) and do STEM outreach through a group started by our women engineers, scientists and IT professionals at MCSC, called "Marine Corps Females in Technology."

Marine Corps Systems Command  
Quantico, Virginia

Karrin Mayfield | [karrin.mayfield@usmc.mil](mailto:karrin.mayfield@usmc.mil)

Marine Corps Tactical System Support Activity  
Camp Pendleton, California

Dave Yergensen | [david.yergensen@usmc.mil](mailto:david.yergensen@usmc.mil)





Find us online:

-  @marinecorpssystemcommand
-  @MarineCorpsSysCom

# Naval Air Systems Command (NAVAIR)

**STEM:** Approximately one half of NAVAIR's 23,000-person civilian workforce has either an engineering or a science degree. Our ability to support the development of systems for use by operational Sailors and Marines depends on our ability to cultivate a highly educated, technical workforce. Connecting with today's science and engineering students is vital.

**Educational Programs:** NAVAIR's STEM outreach programs include several education components. NAVAIR scientists and engineers reach out to local teachers to help them prepare to teach S&E disciplines. This includes assistance with curriculum development as necessary. We also help them in the classroom by addressing students' challenging science and engineering questions. And we bring students to our facilities to perform hands-on activities in our laboratories and to show them how we apply science and engineering concepts to real life.

**Workforce Programs:** NAVAIR engages with the community in many STEM workforce programs. These include:

- Mentoring local high school students who participate in high school engineering classes and robotics/engineering clubs.
- Providing apprenticeship, internship and research opportunities for high school and undergraduate students.
- Providing opportunities for several hundred summer hires who assist in a wide variety of science and engineering activities.
- Participating in the Office of the Secretary of Defense Science Math and Research for Transformation scholars program.
- Supporting large national diversity organizations by sponsoring their recruiting events.
- Supporting current workforce development by sponsoring research projects proposed and conducted by the workforce, and by supporting our employees pursuing advanced degrees.

**Fleet Readiness Center East**  
Cherry Point, North Carolina

Bettina Jahr | [bettina.jahr@navy.mil](mailto:bettina.jahr@navy.mil)

**Fleet Readiness Center Southeast**  
Jacksonville, Florida

Rob Lynn | [robert.lynn@navy.mil](mailto:robert.lynn@navy.mil)

**Fleet Readiness Center Southwest, North Island**  
San Diego, California

Claudia Garcia | [claudia.a.garcia@navy.mil](mailto:claudia.a.garcia@navy.mil)

**Naval Air Warfare Center, Aircraft Division**  
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**Naval Air Warfare Center, Aircraft Division**  
Patuxent River, Maryland

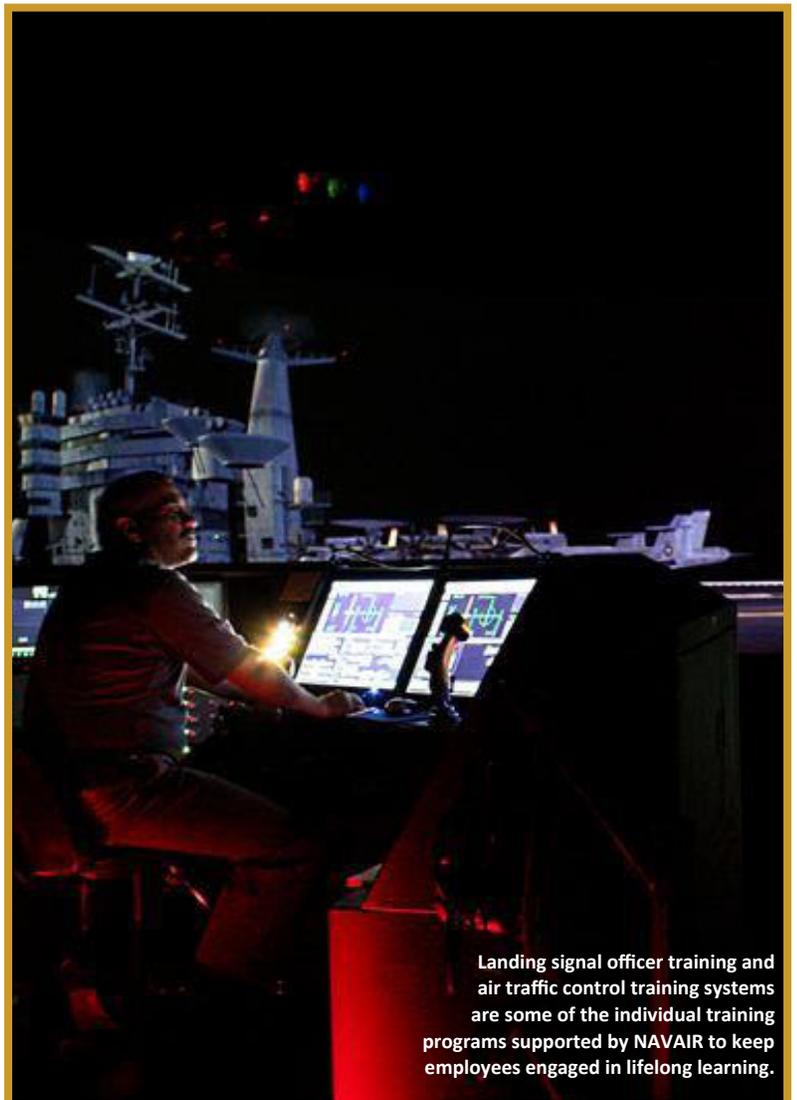
Ellen Servetnick | [ellen.servetnick@navy.mil](mailto:ellen.servetnick@navy.mil)

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Landing signal officer training and air traffic control training systems are some of the individual training programs supported by NAVAIR to keep employees engaged in lifelong learning.



Find us online:

-  @NAVAIR
-  @navairnews
-  @NAVAIRSYSCOM

# Naval Facilities Engineering Command (NAVFAC)

**STEM:** NAVFAC supports STEM outreach efforts through its Echelon IV Facilities Engineering Commands (FEC), which provide products and services throughout the world—with more than 99 service points; its Civil Engineer Corps (CEC) accessions officers; and its CEC officers attending graduate school at civilian institutions. STEM outreach is a priority for building future leaders and recruiting the best and brightest to work at NAVFAC.

**Educational Programs:** NAVFAC supports educational programs at the local FEC level at multiple schools and organizations, by involving both our military and civilian workforces. Programs include partnerships with local schools, participation in local science and math competitions and involvement in speaking engagements.

**Workforce Programs:** NAVFAC participates in partnerships with local universities and colleges through its Naval Expeditionary Warfare Center. Their research and development programs provide opportunities for mutual partnerships. NAVFAC also utilizes the PATHWAYS intern program to develop promising young engineers for future full-time employment with NAVFAC.

## NAVFAC Washington, D.C.

Lt. Cmdr. Cortney Stringham | [cortney.stringham@navy.mil](mailto:cortney.stringham@navy.mil)

## Naval Facilities Engineering and Expeditionary Warfare Center Port Hueneme, California

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## Naval Facilities Engineering Command Southeast Jacksonville, Florida

Capt. Drew Hascall | [andrew.hascall@navy.mil](mailto:andrew.hascall@navy.mil)

## Naval Facilities Engineering Command Southwest San Diego, California

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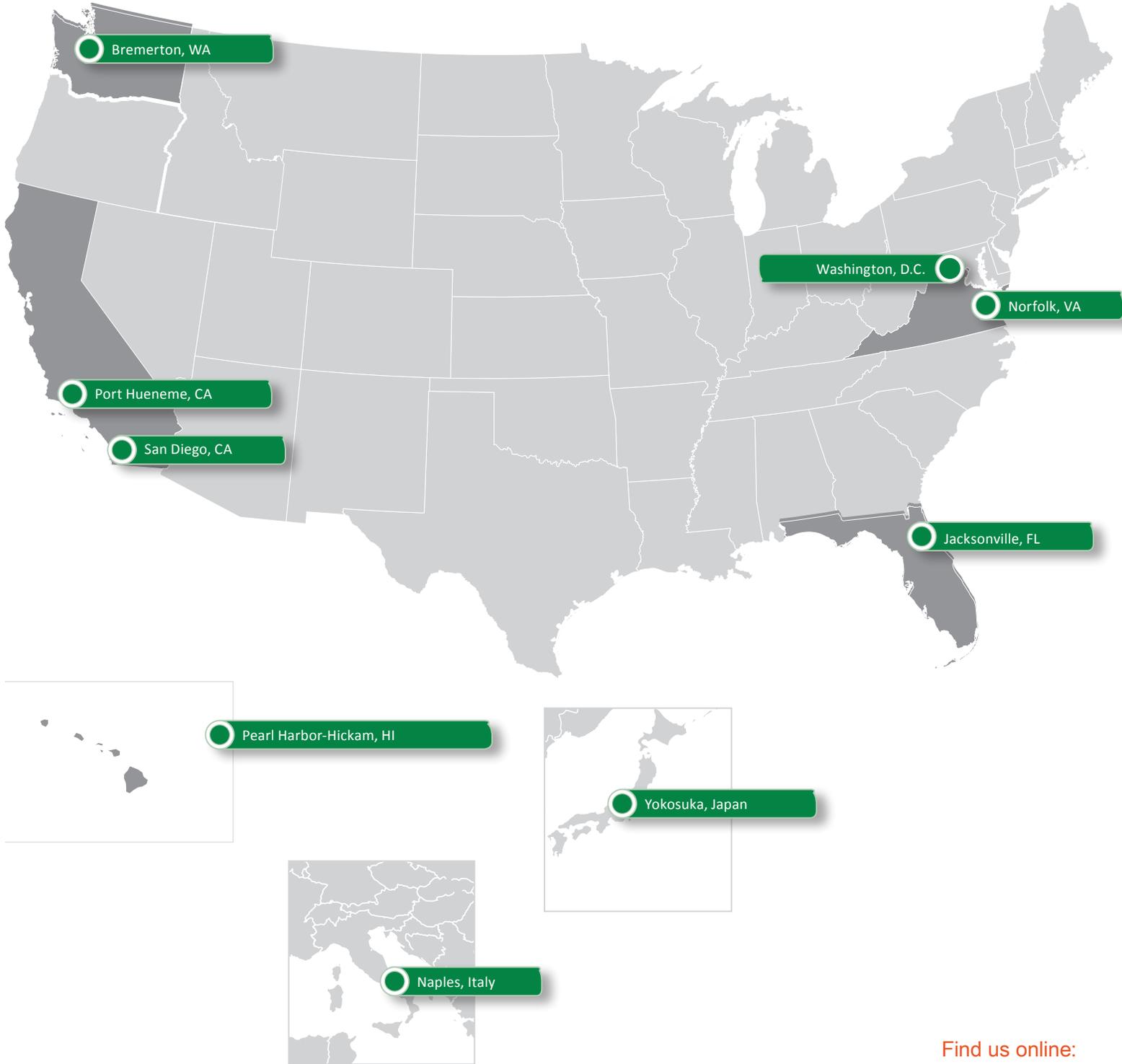
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Girl scouts  
tour the  
Navy's  
Wastewater  
Treatment  
Plant at  
Joint Base  
Pearl  
Harbor  
Hickam.



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# Naval Postgraduate School (NPS)

**STEM:** The Naval Postgraduate School's interdisciplinary faculty and student expertise are harnessed to engage and inspire youth to explore STEM fields through a number of special programs. NPS faculty and students are vital and sought-after members of local and national STEM efforts. The collective program supports academic and research projects of excellence, as well as NPS student thesis work.

**Educational Programs:** NPS educational activities include resident astronauts and faculty visiting K-12 classes, inspiring students to consider a STEM career. During 2017, NPS hosted more than 1,500 K-12 students at "Discover NPS Day," where everyone had the opportunity to explore naval research being done in our community. Additionally, NPS faculty and students engage in local STEM efforts, including FIRST Robotics Competitions, Monterey County Science and Engineering Fair and Monterey Peninsula College Marine Advanced Technology Education.

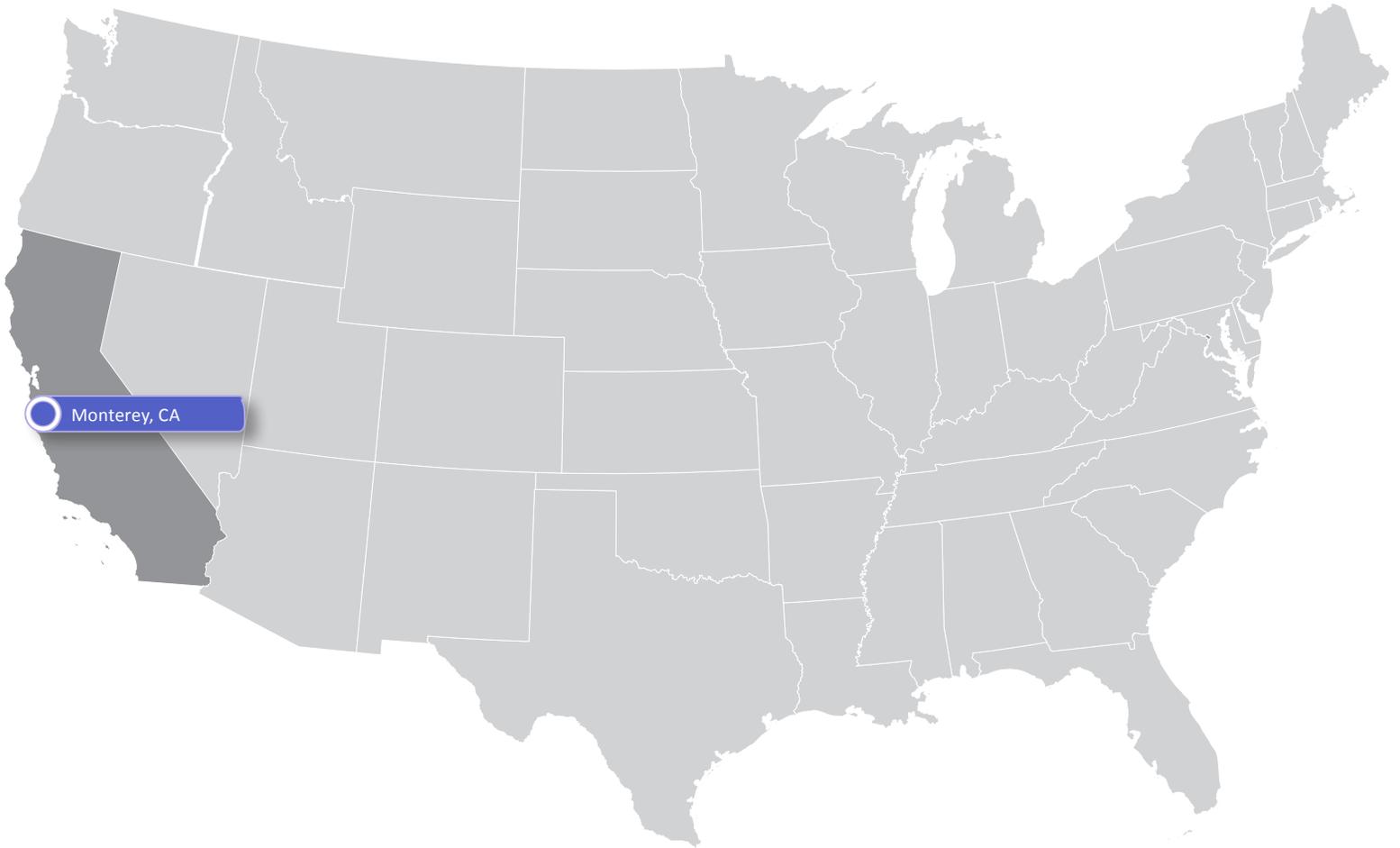
**Workforce Programs:** NPS works closely with community scientists, educators and professionals to expand our STEM reach. We host robust STEM internship programs, including partnerships with several Hispanic Serving Institutions accessing our local underrepresented population. NPS interns are introduced to female scientists and military officers during "PhDs + Polka Dots." The National Naval Officers Association, a student-run program, works with local middle and high schools to offer free, one-on-one tutoring and mentoring, student scholarships and other STEM outreach activities.

Naval Postgraduate School  
Monterey, California

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Student interns pose for photo.



Find us online:

 @NPSSTEMInterns

 @NPS\_monterey

 @Naval Postgraduate School

# Naval Sea Systems Command (NAVSEA)

**STEM:** NAVSEA works to expose students to STEM activities and its vast talent pool of STEM professionals. Students who participate in these programs interact with scientists, engineers and technicians to acquire valuable skills that can be applied to their future academic and vocational endeavors.

**Educational Programs:** NAVSEA education program activities span the educational spectrum, from early elementary school science labs through university graduate-level-directed research, providing students a continuous thread of STEM experiences. Students work side by side with engineers, scientists and technicians on a variety of challenging, hands-on activities—which not only reinforce the basics tenets of engineering and physics, but also show students the importance of these principles in the work the Navy does every day. In sum, educational outreach provides NAVSEA’s 21st-century future workforce with a progressive, integrated path aimed at building a rewarding professional career and a lifetime of service to our nation.

**Workforce Programs:** NAVSEA offers a variety of student employment opportunities at various sites. Students team with engineers, scientists and technicians to work on real-world problems and projects. NAVSEA offers STEM scholarships, internship positions and co-op positions.

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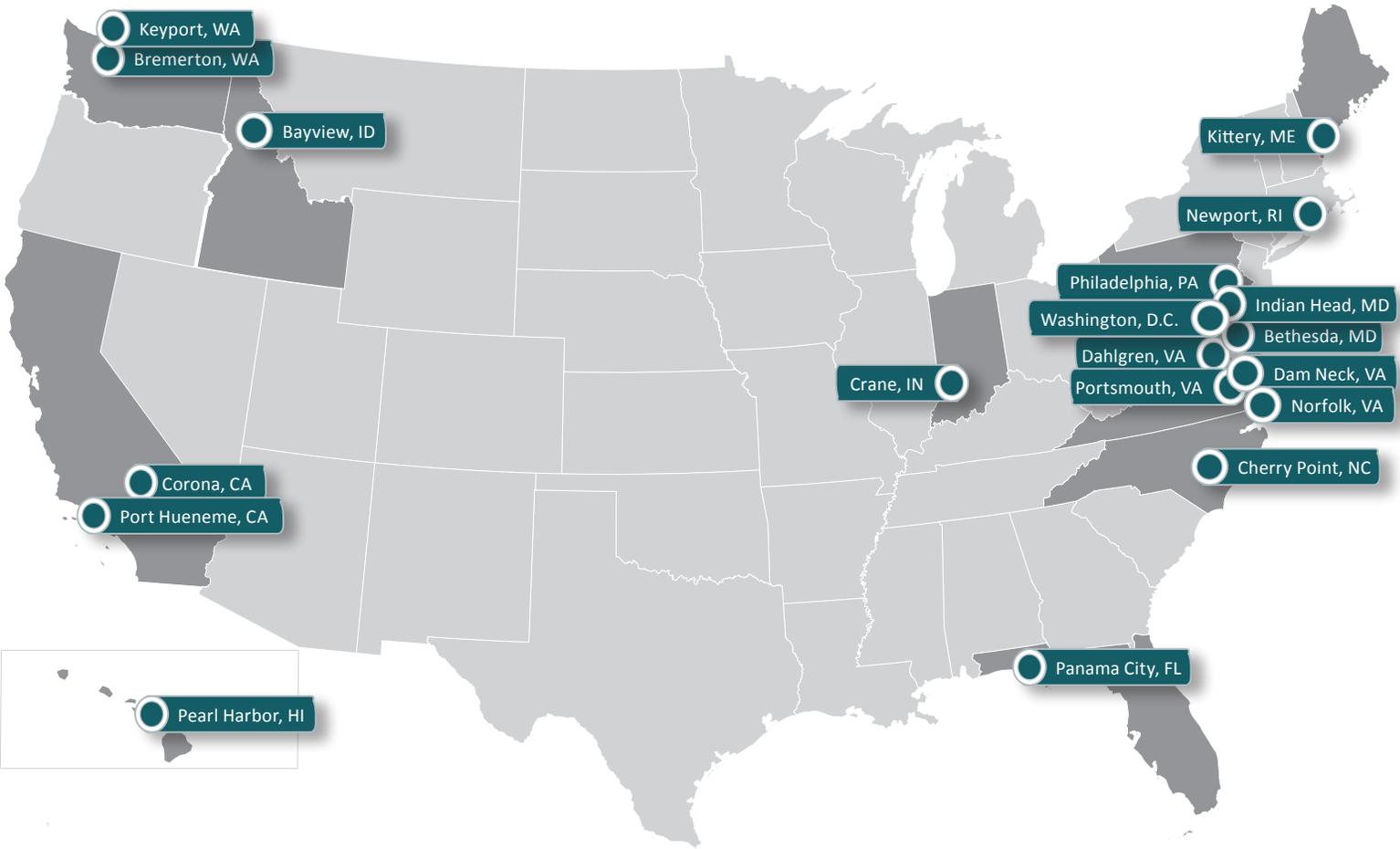
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# Naval Supply Systems Command (NAVSUP)

**Educational Programs:** NAVSUP Weapons Systems Support (WSS) and Independence Seaport Museum have aligned to guide high school students toward STEM-related occupations through the Educating Acquisition, Global Logistics and Engineering (EAGLE) Program. EAGLE is a four-year, government-sponsored program for Philadelphia high school students, designed to spark passion for STEM education, college majors and career fields. With the guidance of NAVSUP WSS and Independence Seaport Museum mentors, students complete three hands-on projects through the application of an intensive mathematics- and logistics-based curriculum: a remotely operated submersible, a wooden rowboat and a robot. With their finished projects, students participate in the Office of Naval Research's (ONR) SeaPerch competition, compete against each other in sailboat competitions and enter their robots in the FIRST Tech Challenge, which is partially sponsored by ONR. At the completion of the program, students have access to a variety of scholarship opportunities through FIRST, as well as through local colleges and universities. Additionally, EAGLE participants are eligible to apply for co-ops within NAVSUP WSS and the Navy.

NAVSUP WSS STEM volunteers also participate in Junior Achievement of South Central Pennsylvania events at local high schools to promote STEM education and personal financial literacy. Volunteer events coordinated through the NAVSUP WSS STEM program during 2017 included participation in Junior Achievement STEM summits at four local high schools.

**Workforce Programs:** NAVSUP WSS coordinates and participates in various outreach events to attract, employ, develop and retain the current and future naval STEM workforce. The annual "Navy Pi" day event in Philadelphia inspires hundreds of educationally underserved students from Title 1 high schools to pursue and achieve their career goals in STEM. The event features interactive booths and displays from local colleges, universities and naval agencies; hands-on engineering challenges; and an underwater remotely-operated vehicle competition highlighting the numerous Navy career opportunities available to those pursuing STEM education.

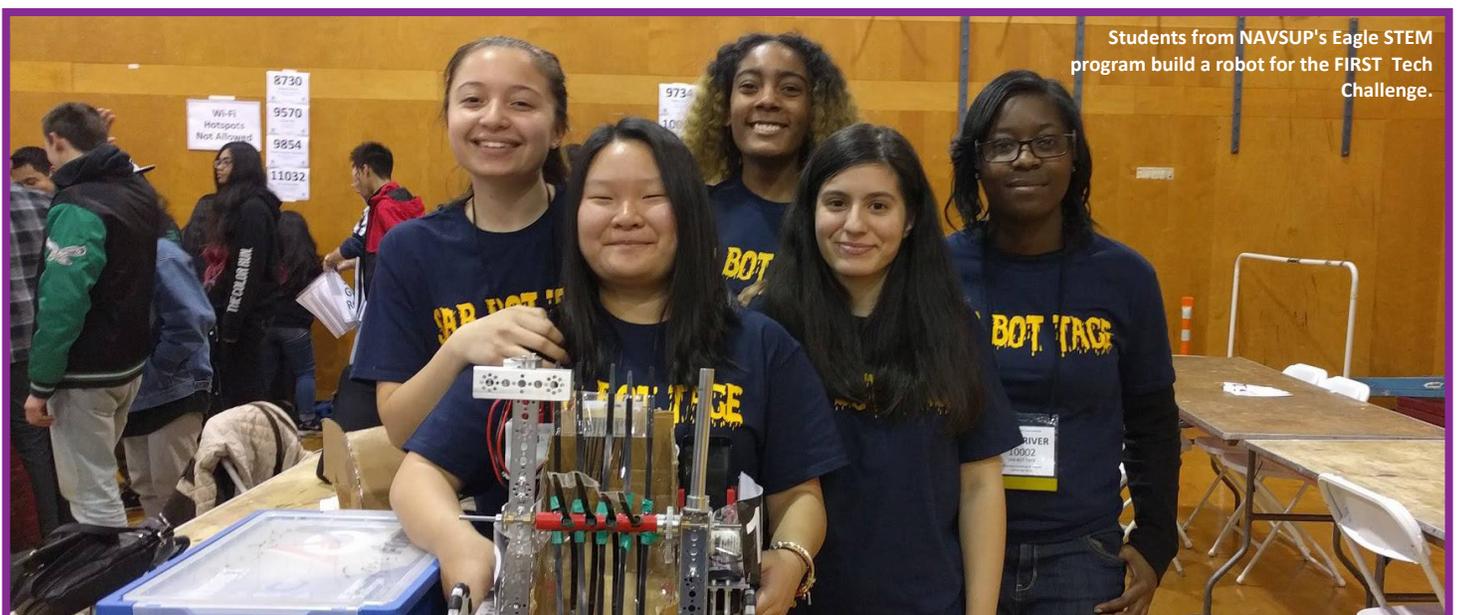
The EAGLE program currently engages 22 NAVSUP WSS civilian and military mentors, spanning various directorates, including engineering, operations research, logistics and information technology. The curriculum creates synergies of learning while maintaining and stimulating current employee STEM proficiencies. NAVSUP WSS EAGLE mentors and students further participate in annual naval STEM expos and the Junior Science & Humanities Symposium, as they continue to gain awareness of STEM's integral role in the Navy, now and in the future.

## Naval Supply Systems Command Weapon Systems Support Philadelphia, Pennsylvania

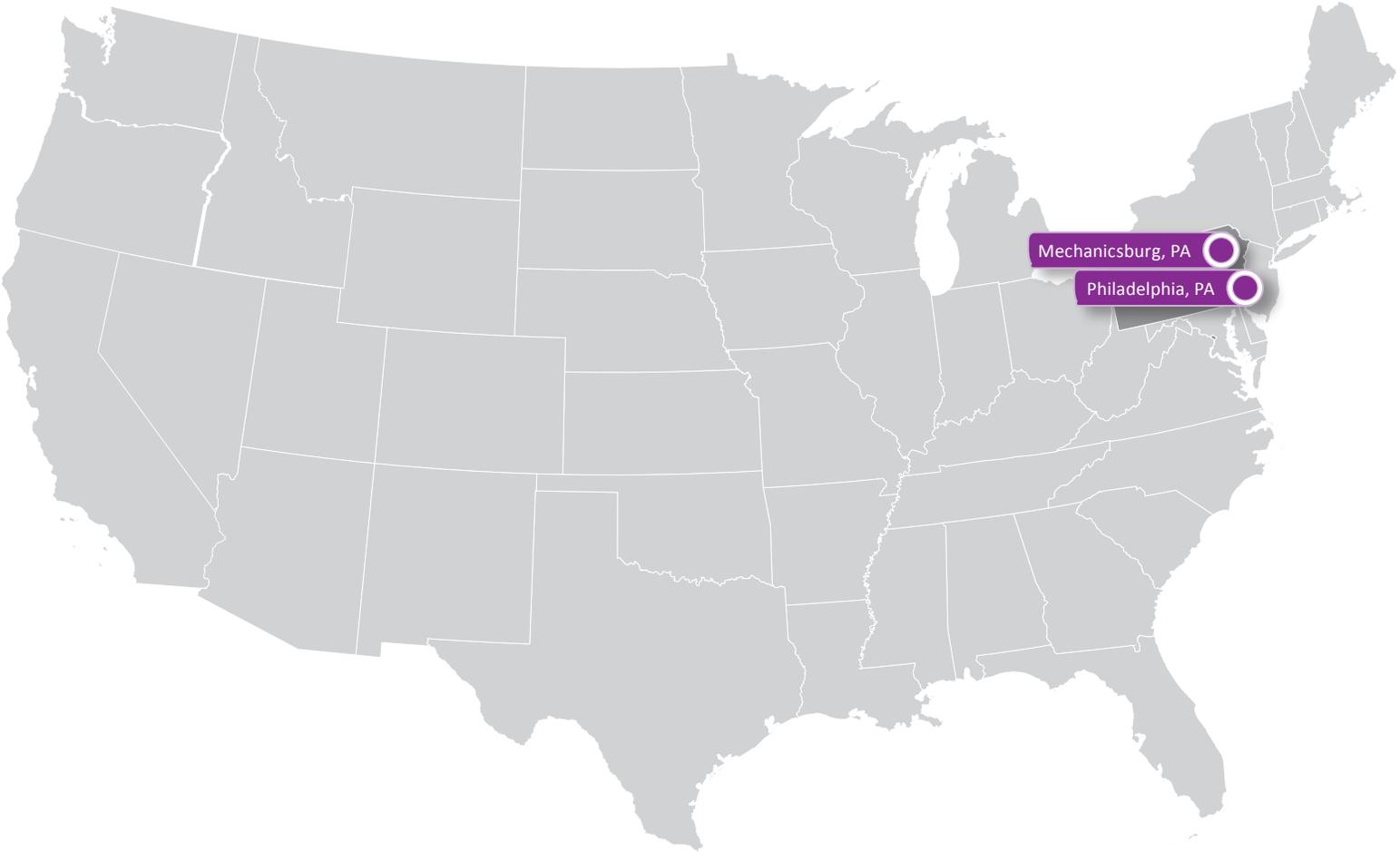
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## Mechanicsburg, Pennsylvania

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Students from NAVSUP's Eagle STEM program build a robot for the FIRST Tech Challenge.



Find us online:

 @eaglestem

 @NAVSUPSYSCOM

 @NAVSUPHEADQUARTERS

# Office of Naval Research (ONR)

**STEM:** Ensuring access to skilled scientists and engineers, ONR’s STEM Education and Workforce Grants Program sponsors projects that provide “game-changing” and innovative solutions, while establishing a diverse pipeline of U.S. citizens interested in uniformed or civilian Navy and Marine Corps careers. The STEM Education and Workforce Grants Program focuses on students at the secondary and post-secondary levels, as well as the current naval science and technology professional workforce.

Characteristics of the grant program include:

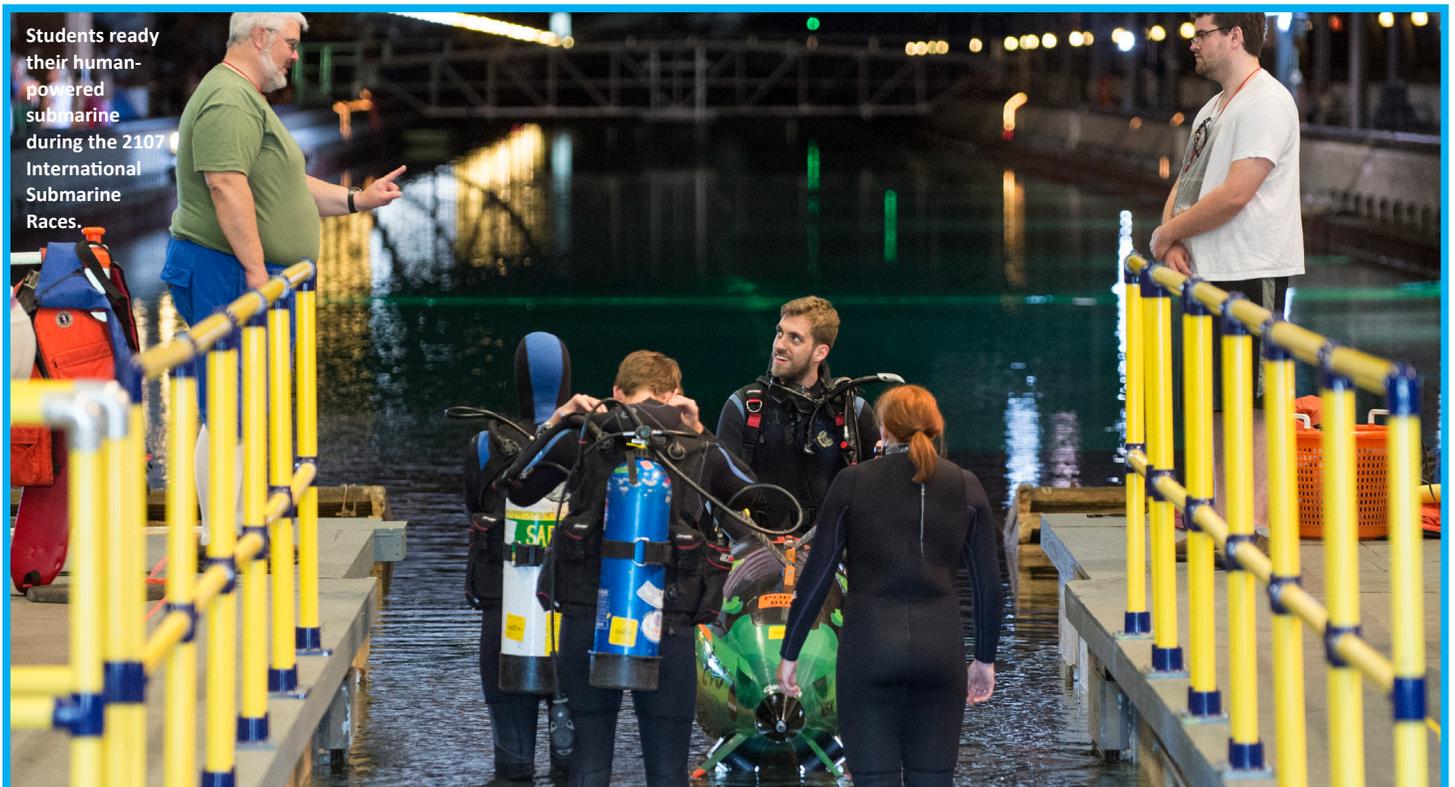
- Helping to create innovative educational programs targeting naval science and engineering workforce needs.
- Providing grants up to \$750,000 over three years to academic, educational and non-profit organizations.
- Cultivating and strengthening the STEM disciplines across all naval activities, and improving the naval technician talent pipeline.
- Supporting efforts that may involve military dependents, veteran initiatives and education systems integral to naval science and technology.

**Educational Programs:** ONR STEM initiatives encourage, promote and coordinate naval S&T efforts. Through participation in expos and other outreach events, ONR highlights naval-relevant STEM content, skills and career paths to K-12 and older students. ONR also supports students at STEM fairs and competitions, providing hands-on activities and an introduction to naval applications related to subject matter and skills taught in school. Specifically, ONR supports many DoD STEM events, such as the USA Science and Engineering Festival, the Junior Science and Humanities Symposia, the Naval Science Awards program and the Intel International Science and Engineering Fair.

**Workforce Programs:** ONR’s workforce programs raise awareness of naval career opportunities, attract and nurture the future talent pool, and foster the continued development of the current naval STEM workforce. Laboratory workforce initiatives provide students and faculty with opportunities to participate in research programs at Department of Navy labs through internships, fellowships and sabbatical leave programs. Some of these programs include the Science and Engineering Apprenticeship Program and the Naval Research Enterprise Internship Program.

Office of Naval Research  
Arlington, Virginia

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# Space and Naval Warfare Systems Command (SPAWAR)

**STEM:** The goal of SPAWAR outreach is to foster a culture that celebrates STEM education by empowering our professionals to add richness to their communities.

**Educational Programs:** SPAWAR is dedicated to cultivating a zest for STEM among today's youth, with the intent of developing future STEM professionals and a more informed and interested citizenry. SPAWAR is building a robust K-12 and post-secondary pathway that reflects the demographics of each community, leading to future STEM employment, preferably at our command.

**Workforce Programs:** SPAWAR delivers comprehensive human resource services in support of a mission-ready workforce. This includes numerous programs that develop future STEM professionals via career fairs, internships, faculty research programs, work co-ops and Science, Mathematics and Research for Transformation (SMART) scholarships. It continues through to employment via the New Professionals program and engages our current scientists and engineers through various retention programs.

## SPAWAR Atlantic

Charleston, South Carolina; Hampton Roads, Virginia; and New Orleans, Louisiana

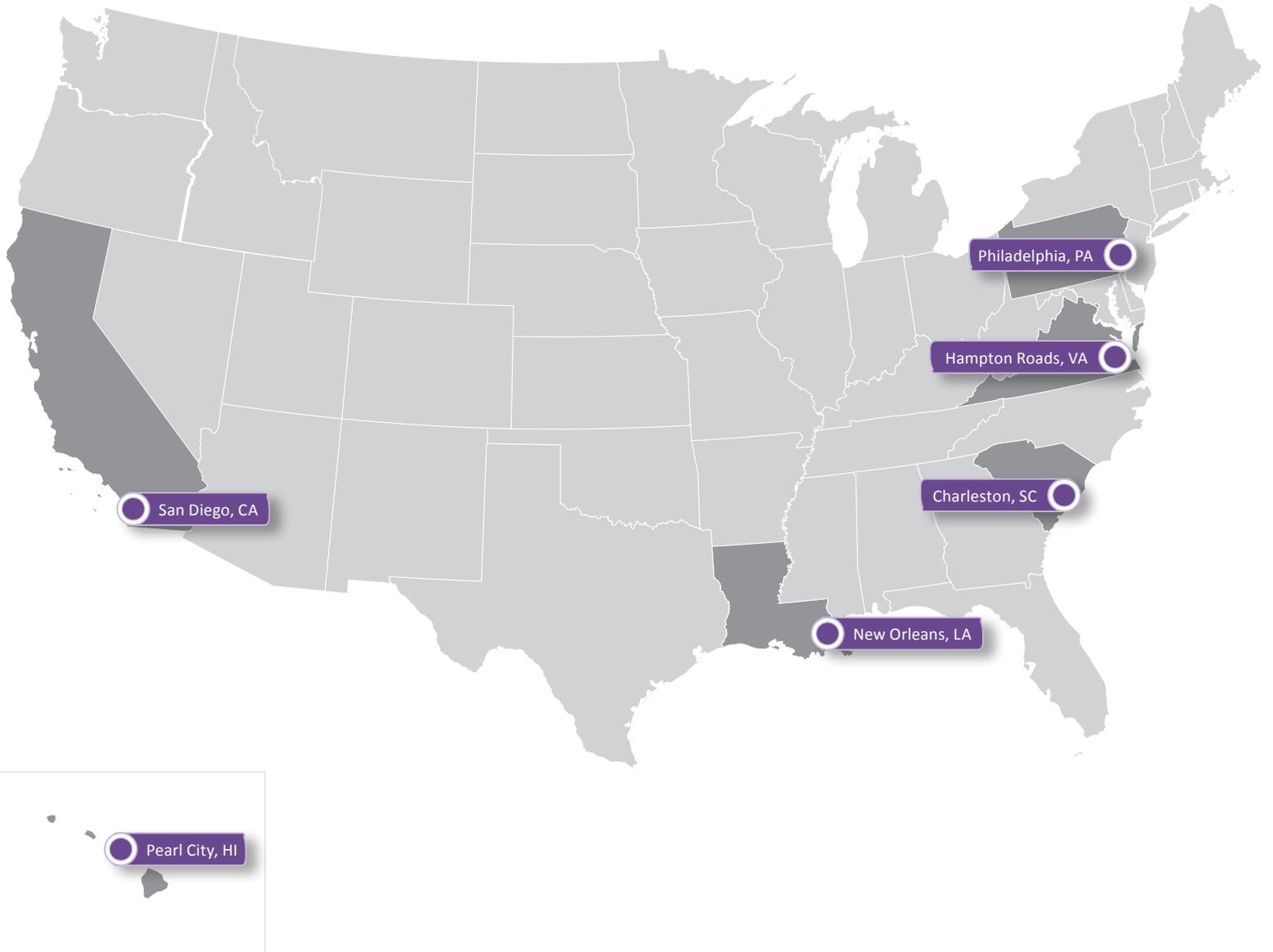
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## SPAWAR Pacific

San Diego, California; Pearl City, Hawaii; and Philadelphia, Pennsylvania

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# United States Naval Academy (USNA)

**STEM:** The USNA STEM program provides opportunities to underrepresented populations and engages K-16 students and educators across the country and abroad. Emphasis is placed on sustainability of programs at a local level, empowering educators through teacher training, leveraging resources and building community networks. Hundreds of USNA midshipmen participate each year in outreach activities that help prepare them for intellectual challenges, by creating opportunities to lead in the classroom, strengthening creative problem-solving skills, enhancing innovative thinking and honing the ability to respond to spontaneous situations.

**Educational Programs:** USNA STEM activities focus on Navy-relevant curriculum and teacher development. Formal and informal educators from local, national and international communities attend one-day, two-day and week-long workshops highlighting the use of project-based learning in engineering design, chemistry, physics, math, cyber and programming, biology, environmental science and many engineering disciplines. Additionally, thousands of students are reached directly each year via camps, mini-camps, engineering days, competitions, festivals and fairs supported by faculty and midshipmen, utilizing Navy-oriented activities based on real-world applications.

**Workforce Programs:** High school and college students participate in various paid and unpaid internships, including the Office of Naval Research Science and Engineering Apprenticeship Program and the USNA/Pathways internships. Students are mentored by a faculty member in a science or engineering research and development area. Additionally, the USNA STEM Center acts as a resource available within USNA to help introduce midshipmen to the rewarding aspects of STEM, and to encourage retention of STEM majors at USNA by engaging them in their own studies, often through project-based learning and educational outreach to others. Teacher training workshops focus on workforce preparation of students in critical subject areas.

United States Naval Academy  
Annapolis, Maryland

Angela Moran, Ph.D. | [amoran@usna.edu](mailto:amoran@usna.edu)



Participants build SeaPerch, a remotely operated vehicle, during a USNA STEM educator training workshop.



Annapolis, MD

Find us online:

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# U.S. Naval Research Laboratory (NRL)

**STEM:** The goals of the NRL'S STEM outreach is to encourage students to pursue STEM academics and careers, share the Navy's mission with various communities and inspire the nation's best and brightest talent to become part of our nation's naval STEM workforce.

**Educational Programs:** NRL's community outreach program was established in 1985 by a presidential directive tasking government organizations to support local schools. Since then, NRL scientists and engineers have engaged the K-12 community through a set of core STEM programs, including SeaPerch, FIRST Robotics and CanSat. NRL also provides professional development to STEM educators in local school districts and systems close to our laboratories and field sites. Across the U.S., NRL's volunteer force support other activities like STEM fairs, lectures and tutoring.

**Workforce Programs:** In addition to the federal Pathways Internships Program, NRL also participates in the Science and Engineering Apprenticeship Program, aimed toward secondary students interested in STEM. NRL also nurtures undergraduate to post-doctoral students, via the Naval Research Enterprise Internship Program and the American Society for Engineering Education and National Research Council. Full-time personnel are encouraged to participate in NRL's long-term training programs to advance subject matter expertise by pursuing advanced degrees and further certifications.

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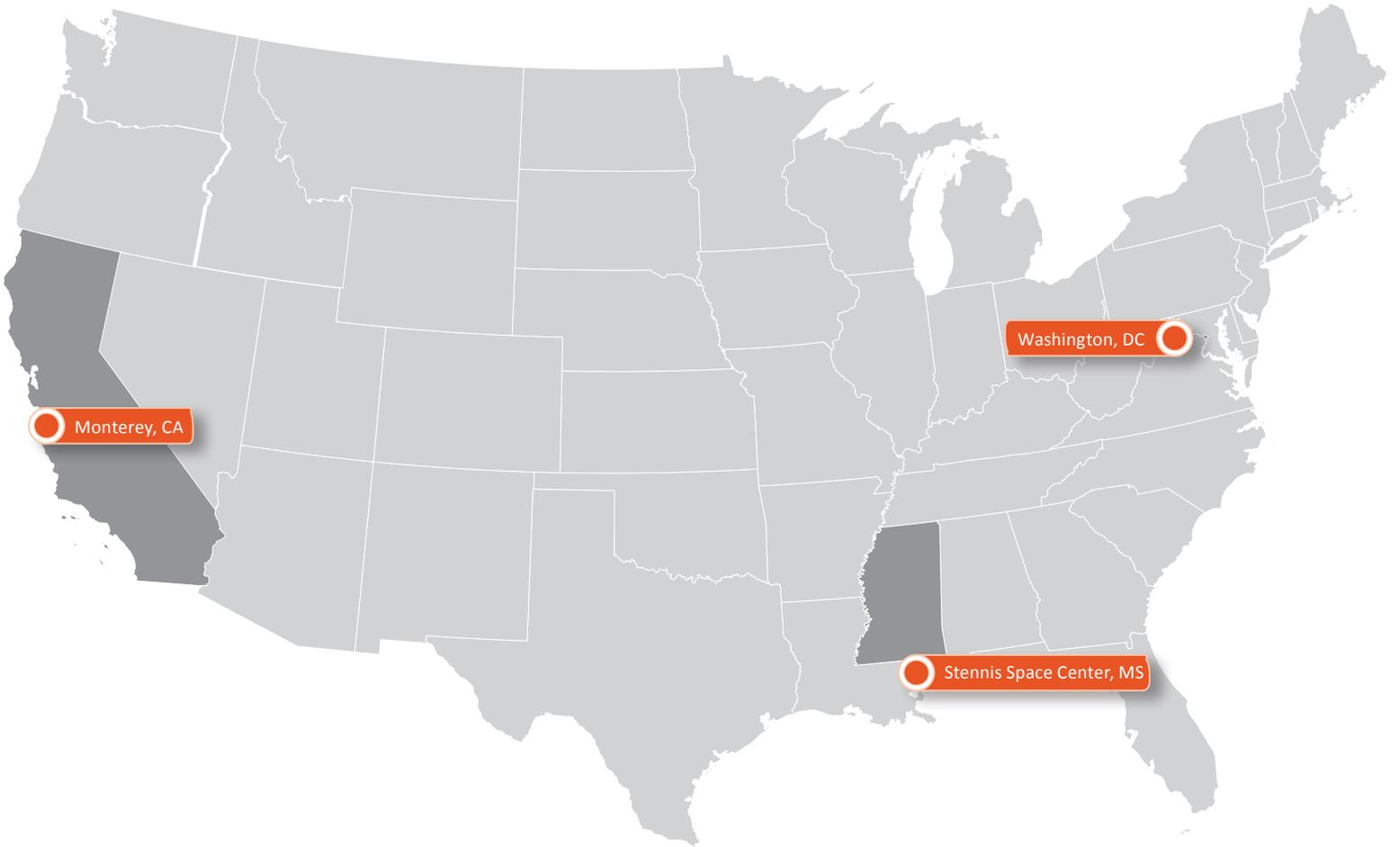
## U.S. Naval Research Laboratory Monterey, California

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The NRL booth at the 2017 Naval Air Station Oceana STEM event allows visitors to engage with hands-on science demos.





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To Learn more about Naval STEM visit:  
<http://navalstem.navylive.dodlive.mil>