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RDP-21 NEWSLETTER

LEGISLATION UPDATE

CDCA

CALIFORNIA DEFENSE COMMUNITIES ALLIANCE

BY CRAIG HODSON

This legislative year California Defense Communities Alliance (CDCA) is supporting three major legislative proposals which could have a positive impact on military communities. This year is a difficult environment, so predictions have substantial risk. The easy path is to place legislation, especially legislation with a cost or tax revenue impact into the suspense file. Later in the year we will provide a summary of outcomes. Of the 23 bills we are tracking, these are three significant bills:

ASSEMBLY BILL NO. 46 Military Services Retirement and Surviving Spouse Benefit Payment Act

This bill, for taxable years beginning on or after January 1, 2024, and before January 1, 2034, would exclude from gross income retirement pay received by a taxpayer from the federal government for service performed in the uniformed services, as defined, during the taxable year. The bill, for taxable years beginning on or after January 1, 2024, and before January 1, 2034, would also exclude from gross income annuity payments received by a qualified taxpayer, as defined, pursuant to a United States Department of Defense Survivor Benefit Plan during the taxable year.

ASSEMBLY BILL NO. 444 California Defense Community Infrastructure Program

This bill would establish the California Defense Community Infrastructure Program, which would require the Office of Planning and Research to grant funds to local agencies to assist with matching fund requirements in applications for funds from the federal Defense Community Infrastructure Program. The bill would require the office, in consultation with the Governor's Military Council, to develop guidelines for the program that, where possible, align with the guidelines of the federal program.

This bill would require the office to use specified project criteria, define an eligible project, as specified; rank eligible projects, as specified; and award grants based on the available funds. The bill would require the office to give priority to projects located in, or that would provide services to people who live in, a disadvantaged community, as defined.

SENATE BILL NO. 811 Teacher Credentialing: Interstate Teacher Mobility Compact

This bill would ratify the Interstate Teacher Mobility Compact, the purpose of which is to facilitate the mobility of teachers across the member states, with the goal of supporting teachers through a new pathway to licensure. The compact would, among other things, require member states, in their sole discretion, to make certain determinations about teacher licensure for teachers from other member states, as provided, and create and establish a joint public agency known as the Interstate Teacher Mobility Compact Commission. This compact would only become effective if the compact statute is enacted into law in ten member states, as provided.

NAVAL BASE VENTURA COUNTY HOSTS COMMISSIONING OF USS SANTA BARBARA (LCS 32) IN PORT HUENEME, CALIFORNIA

PHOTO BY JHON PARSONS, NAVAL SURFACE WARFARE CENTER, PORT HUENEME DIVISION

Sailors aboard USS Santa Barbara (LCS 32) salute after manning the ship and bringing her to life during her commissioning ceremony on April 1 at Naval Base Ventura County in Port Hueneme, California. The newest of the Navy's Independence-variant littoral combat ships, USS Santa Barbara has a crew of 70 sailors. She will be homeported in San Diego. (U.S. Navy photo by Eric Parsons/Released)

REPAIR TECHNOLOGY EXERCISE (REPTX) DISTANCE SUPPORT

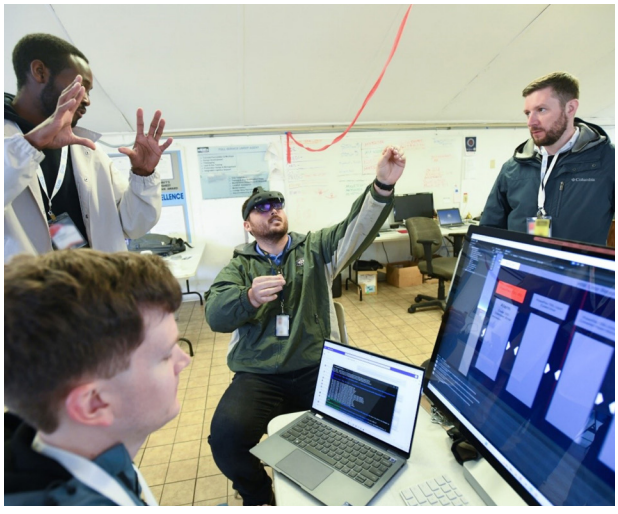

PHOTO BY DANA RENE WHITE/RELEASED

Clockwise from lower left: Kenneth Whitham, research engineer with Boston-based Northeastern University, Mark Robinson, research scientist with Northeastern, Taylor Bongiovanni, mechanical engineer with NSWC PHD's Underway Replenishment (UNREP) division (wearing augmented reality headset), and Filip Cuckov, director of the Expeditionary Cyber and Unmanned Aerial Systems Lab at Northeastern, at an UNREP building during Repair Technology Exercise Distance Support held at Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) on March 21.

CALIFORNIA DEFENSE COMMUNITITES ALLIANCE

THE POSITIVE ECONOMIC IMPACT OF MILITARY ON OUR COMMUNITIES

Communities with a strong military presence have the financial benefit of stable revenue while communities with a dependency on travel, tourism, conventions and related spending face unprecedented revenue challenges for local government and citizens. You can reinforce the financial contribution of military salaries, spending and investment in your communities. A state impact report is available. Member organizations continue to assess their own communities.

2022 NATIONAL SECURITY ECONOMIC IMPACT IN CALIFORNIA

The 2022 California Statewide & Regional National Security Economic Impacts report on federal national security spending was released by the State of California. The California Research Bureau of the California State Library prepared the report for the Governor's Office of Planning and Research and the Governor's Military Council. The report relies primarily on data from the Department of Defense, Homeland Security and Veteran's Affairs.

The national security activity (2021 data) results in $158.2 billion in economic impact and support more than 762,000 full time equivalent jobs in California. Economic activity occurs in every region of the state, from major coastal areas like San Diego and Los Angeles to small, inland communities, like Bridgeport, El Centro and Ridgecrest.

The report is available at: https://militarycouncil.ca.gov/wp-content/uploads/sites/81/2022/10/2022_California_Statewide_MEIS.pdf?emrc=59e8c8

NSWC PHD

PHOTO BY JHON PARSONS, NSWC PHD (RELEASED)

Ian Baumgartner, mechanical engineer with Puget Sound Naval Shipyard, uses an iPad with proprietary software from Virginia-based TurnAround Factor Inc. during an encoder recalibration test of the Ram tensioner at Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD)'s Underway Replenishment Test Site on March 22 during Repair Technology Exercise Distance Support.

Naval Sea Systems Command's Chief Technology Office (NAVSEA 05T) led the Repair Technology Exercise (REPTX) Distance Support, a three-day exercise focused on assessing technologies that can provide better distance support to forward operational units and involved collaboration during various scenarios between Department of Defense stakeholders and industry partners from March 21 to 23. NSWC PHD in Port Hueneme, California, hosted the event.

NAVAL SURFACE WARFARE CENTER PHD

USS PRINCETON (CG 59) CREATES A DRAMATIC BACKDROP APPROACHING NAVAL SURFACE WARFARE CENTER

U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED

USS Princeton (CG 59) makes her way past Silver Strand Beach toward Naval Surface Warfare Center, Port Hueneme Division for a Combat Systems Assessment Team event one winter morning. Clear weather and a nice swell attracted local surfers to the beach as CG 59 sailors lined the deck to take in the scenery.

REPTX DISTANCE SUPPORT: REMOTE SUPPORT CAPABILITY VALIDATED

U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED

Ian Gardner, mechanical engineer with Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD)'s Underway Replenishment (UNREP) Division, uses the U.S. Navy's Augmented Reality Maintenance System to perform simulated maintenance on the Navy Standard Transmission – Vickers during the Repair Technology Exercise Distance Support at the UNREP Test Site on March 22. The transmission is part of a ship's motion winch that UNREP uses for training.

Naval Sea Systems Command's Chief Technology Office (NAVSEA 05T) led the Repair Technology Exercise (REPTX) Distance Support, a three-day exercise focused on assessing technologies that can provide better distance support to forward operational units and involved collaboration during various scenarios between Department of Defense stakeholders and industry partners from March 21 to 23. NSWC PHD in Port Hueneme, California, hosted the event.

NAVFAC EXWC TEAMS WITH INDIAN ENERGY, LLC TO DEVELOP SCALABLE ENERGY STORAGE TECH

Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) announced its Cooperative Research and Development Agreement (CRADA) with Indian Energy — a 100% Native American Indian-owned limited liability company headquartered in Anaheim, California, specializing in microgrid development.

U.S. NAVY PHOTO BY SARAH MACMILLAN/RELEASED

The purpose of the CRADA was to develop and demonstrate a combination U.S. Navy photo by Sarah MacMillan of energy storage technologies that are reliable, affordable and safe for a diverse set of energy storage technologies for the modern age. In the future, these efforts could become scalable microgrids that could collectively behave as a generator, or storage system capable of providing grid reliability services, in addition to their core function of generating and storing electricity.

Systems like these are currently being tested and adopted for operational use by Marines at Marine Corps Air Station Miramar. There, Indian Energy systems will be integrated into Miramar's multiple award winning microgrid for testing and evaluation by NAVFAC EXWC, the Navy, the Department of Energy and more.

Large-scale energy storage is a critical player in widespread decarbonization of the United States' electric power generation and delivery capabilities. To date, single-technology solutions do not offer the required capacity or longevity to support large-scale energy storage. Much of the current technology is also costly, and can be harmful to the environment once decommissioning occurs.

"This CRADA is a critical opportunity for NAVFAC EXWC to work with a local, leading energy security company to rapidly integrate and commercialize technologies that will become breakthrough advancements for innovative energy storage," said Robert Nordahl, NAVFAC EXWC Microgrid team lead. "The capability to coordinate and optimize a diverse portfolio of energy storage solutions is essential to the dexterity of the Navy."

"SYSTEMS LIKE THESE ARE CURRENTLY BEING TESTED AND ADOPTED FOR OPERATIONAL..."

"This effort is another recent example of a growing history of successful partnerships between the Navy and Native American-owned businesses. In addition, this brings together the long-standing relationship between NAVFAC and the California Energy Commission and provides a clear path toward the success of all parties on their climate and resiliency goals." said Allen G. Cadreau, Indian Energy chief executive officer.

Original Article: https://www.dvidshub.net/news/414568/navfac-exwc-awards-indian-energy-llc-with-cooperative-research-and-development-agreement

NSWC PCD, HII PUSH BOUNDARIES IN AUTONOMOUS THREAT DETECTION

For the first time ever, Naval Surface Warfare Center Panama City Division (NSWC PCD) and Huntington Ingalls Industries (HII) have entered into a Cooperative Research and Development Agreement (CRADA) entitled Unmanned Surface Vehicle (USV)-Based Threat Detection and Intervention System.

"Allowing private industry to license federal technologies is good stewardship of taxpayer money and increases development of com-mercial technologies, which supports the national defense and economy," said NSWC PCD Technology Transfer Manager Paige George.

"The benefit to the partner is access to federal resources, which could lead to future partnerships/projects/ first-come-first-serve access to the technology portfolio, relationships, etc. The benefit to the government is agility because the time and cost it takes for the government to take a program from start to finish in most cases is much more expensive and time consuming than having a company come in and license a technology and manufacture on a large scale."

PHOTO COURTESY OF JEREMY ROMAN/HUNTINGTON INGALLS INDUSTRIES

The U.S. Navy technology involved in this partnership is called "Threat Tracker," an autonomous threat detection system developed by a small team of engineers and scientists within NSWC PCD's Coastal and Maritime Security branch. Threat Tracker is an autonomous, multi-platform threat-detection system that uses radar and sensor technologies, coupled with video analytics and machine-learning algorithms, to detect, track and classify potential threats. This system will be integrated with HII's advanced unmanned surface vehicle to provide a fully autonomous USV escort capable of detecting and stopping a wide variety of threats.

"At NSWC PCD we are committed to ensuring every effort here results in warfighting dominance in the littoral battlespace, as well as to responsibly stewarding every resource we have been trusted with," said Daniel Kucik, NSWC PCD Littoral and Mine Warfare Unmanned Systems director. "Maximizing the partnerships and collaborating together in these types of agreements allow us to achieve both of these goals."

The Threat Tracker system has been assigned a U.S. Navy case number meaning it is on the road to earning a patent, but no patent license agreement has been developed yet.

"One of the goals for a CRADA is to license a federal technology to the non-federal partner, but that doesn't happen in all cases. Sometimes we just share equipment, personnel or other resources with a partner," said George. "Ensuring every T2 agreement is within lawful bounds while maximizing efforts, these partnerships are an excellent way to collaborate with the private sector, as well as provide opportunities to license Navy technology."

Original article: https://.dvidshub.net/nes/416752/nsc-pcd-hii-reach-rd-agreement-through-unmanned-threat-detection-and-intervention-system

FATHOMWERX NAMED CALIFORNIA "IHUB2," PROMOTING INCLUSIVE INNOVATION

U.S. NAVY PHOTO BY DANA RENE WHITE

Fathomwerx Lab, a collaborative, innovative partnership between Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD) in California and local private and public organizations that research emerging technologies to potentially transition to the Navy fleet, has been designated an Inclusive Innovative Hub, or iHub2, from California's Office of the Small Business Advocate (CalOSBA), a department within The Governor's Office of Business and Economic Development.

The state designation gives Fathomwerx Lab the ability to pursue venture capital funding from outside investors for individual projects that promote inclusivity and a diverse network of innova-tors. The designation also supports the partnership's work on potential new technologies with the hiring of a full-time program manager for the lab, and lines up possible future government funding sources that could help attract more local commercial businesses to the lab and its capabilities.

"The recently announced iHub2 resources will expand Fathomwerx's access to a diverse and under-represented network of innovators, and that could realistically lead to fresh and potential solutions to national security initiatives," said Jeff Koe, technical director of NSWC PHD.

The iHub2 designation comes with a $250,000 grant — the size of which could become a down payment for future grants — from the Office of the Small Business Advocate's Inclusive Innovation Hub program, according to Tara Lynn Gray, CalOSBA director.

"We want to elevate the voice of small business across California," said Gray. "The original iHub program has been around for a decade, but this is the first time that

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DEPARTMENT OF THE NAVY TECHNOLOGY TRANSFER

money has come with the designation to collaborative partnerships."

The iHub2 grant supports an inclusive ecosystem for entrepreneurs and small companies over the next three years by providing them with high-technology services, workshops and mentoring and networking events. Fathomwerx is the only iHub out of the nine other regional private-public partnership grants of $250,000 to similar efforts underway in California to involve the Navy or any military branch.

Gray said California Gov. Gavin Newsom is seeking $20 million in additional funding for iHubs — including the designation of three additional iHubs throughout the state. That budget proposal has not yet been approved by the state legislature.

Fathomwerx Lab's origin began in 2019, when NSWC PHD signed a Partnership Intermediary Agreement (PIA) with the Economic Development Collaborative, a Ventura County business advocacy group; the Port of Hueneme and Camarillo; and California-based startup studio Matter Labs to create an incubator that collaborates with high-technology startups to transition applicable technology to the Navy's warfighters and fleet.

The NavalX Ventura Tech Bridge operates out of NSWC PHD's Fathomwerx Lab, and last year welcomed the Naval Facilities Engineering and Expeditionary Warfare Center, which is located at Naval Base Ventura County, into the Tech Bridge. In addition, NSWC PHD and Naval Air Warfare Center Weapons Division signed a Memorandum of Understanding to share resources, lab space, research and problem-solving, while also creating a pipeline of communication and innovation.

NSWC PHD and its partners offer the 60,000 square-foot Fathomwerx facility to NSWC PHD employees, as well as private industry and academic stakeholders. Researchers experiment, manufacture, 3D-print and perform materials testing in the maker space portion of the lab, while other visiting organizations and companies test and practice underwater submersibles in a 75,000-gallon water tank. Others use the lab's drone cage to test unmanned vehicles. "We're really excited where we are going now," said Alan Jaeger, the command's Office of Research and Technology Applications representative and director of the Ventura Tech Bridge.

Original article: https://www.dvidshub.net/news/419075/fathomwerx-lab-named-california-ihub2-lead-more-innovation

DEPARTMENT OF DEFENSE

DOD, DEPARTMENT OF INTERIOR TEAM UP TO PROTECT LAND NEAR INSTALLATIONS

The departments of Defense and the Interior announced a new partnership last week that will create the Readiness and Recreation Initiative to preserve land around military installations and improve access to outdoor recreation, according to a press release.

The National Park Service's Land and Water Conservation Fund and DOD's Readiness and Environmental Protection Integration Program will each contribute $40 million to the new initiative.

"This unique partnership serves as a valuable opportunity for DOI and DOD to collaboratively support projects that create and protect recreation opportunities, safeguard natural areas, and sustain critical military mission capabilities," said Brendan Owens, assistant secretary of Defense for energy, installations and environment. "These grants will allow DOD's REPI program to support on-the-ground partners to fund projects that enhance access to conserved land for local communities and military families, while ensuring the resilience of our military installations and ranges across the country."

NAVAL BASE VENTURA COUNTY

USS SANTA BARBARA (LCS 32) COMMISSIONS IN NAMESAKE STATE

PHOTOS BY PETTY OFFICER 1ST CLASS DOUGLAS PARKER

BY JULIE ANN RIPLEY, PUBLIC AFFAIRS
COMMANDER, NAVAL SURFACE FORCE, U.S. PACIFIC FLEET

NAVAL BASE VENTURA COUNTY (Apr. 1, 2023) – Independence-variant littoral combat ship USS Santa Barbara (LCS 32) was commissioned at Port Hueneme aboard Naval Base Ventura County, April 1.

"Littoral Combat Ships are versatile platforms. A successor in heritage to the escort fleets of the Second World War. They are fast, agile, and mission-tailored to operate in near-shore and open-ocean environments," said principal speaker Adm. Samuel Paparo, commander, U.S. Pacific Fleet. "They are ideal for integrating into joint, combined, manned and unmanned teams to support maritime security operations and humanitarian missions around the globe. Our nation needs this great ship—and most of all, the Sailors and Marines who serve on board."

Christened on Oct. 16, 2021, USS Santa Barbara departed Austal USA's Mobile, Al., shipyard in late 2022. After operating up and down the east coast, the ship crossed the Panama Canal before arriving at its homeport Jan. 18.

"The Sailors running aboard and bringing USS Santa Barbara to life during this commissioning ceremony highlights the most important part of a ship – her crew," said Cmdr. Brian Sparks, Commanding Officer of Santa Barbara. "Our Santa Barbara Sailors are resilient and determined, ready to go over-the-horizon and execute operational tasking. This ceremony is the culmination of all of the hard work completed by our Sailors have done to turn this Pre-Commissioning Unit into a United States Ship."

"USS Santa Barbara, welcome to the Pacific – the locus of America's future and well-being," said Paparo.

In the week leading up to the commissioning ceremony, the Santa Barbara's crew spent time with their ship's sponsor, Santa

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Barbara-native Lolita Zinke, and participated in community relations events in their namesake city to build a strong connection with their namesake community.

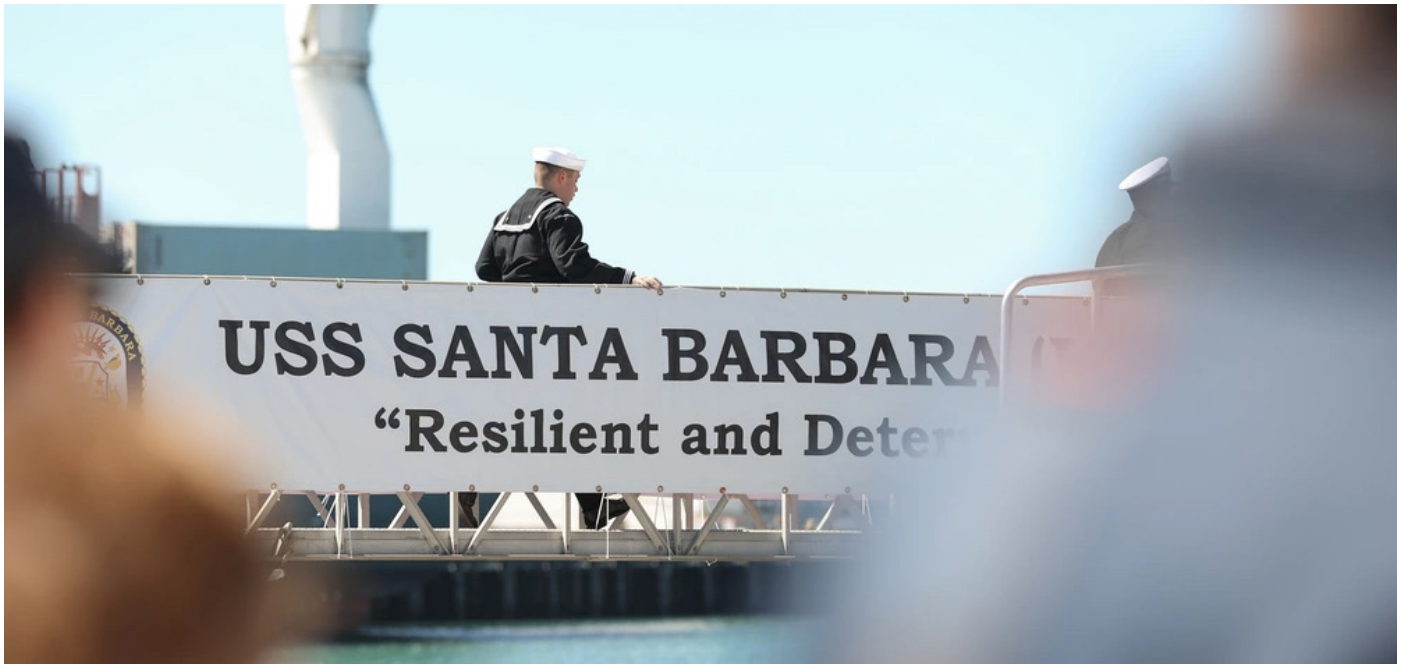
During the ceremony, Mayor Randy Rowse, City of Santa Barbara, presented the ships commanding officer with the proclamation naming April 1, 2023 as USS Santa Barbara Day. "May this proclamation serve as a reminder to you and the ship's company that, from this day forward, every crew member of the USS SANTA BARBARA will be recognized and welcomed as honorary members of the Santa Barbara community."

Other ships in the Independence-variant, USS Charleston (LCS 18), USS Oakland (LCS 24), and USS Mobile (LCS 26) are currently conducting forward presence missions in the Indo-Pacific.

Independence-variant Littoral Combat Ships are fast, optimally manned, mission-tailored surface combatants that operate in near-shore and open-ocean environments, winning against 21st-century coastal threats. LCS integrate with joint, combined, manned and unmanned teams to support forward presence, maritime security, sea control, and deterrence missions around the globe.

USS SANTA BARBARA (LCS32) COMMISSIONED ONBOARD PORT HUENEME

230401-N-RU672-0110 PORT HUENEME, Calif. (Apr 1, 2023) Sailors assigned to the Independence-class variant littoral combat ship USS Santa Barbara (LCS32), "Man the Ship" during her Commissioning Ceremony onboard Naval Base Ventura County (NBVC), Port Hueneme, Apr. 1, 2023. Littoral Combat Ships are fast, optimally-manned, mission-tailored surface combatants that operate in near-shore and open-ocean environments, winning against 21st-century coastal threats. LCS integrate with joint, combined, manned and unmanned teams to support forward presence, maritime security, sea control, and deterrence missions around the globe. NBVC is a strategically located Naval installation composed of three operating facilities: Point Mugu, Port Hueneme and San Nicolas Island. NBVC is the home of the Pacific Seabees, West Coast E-2D Hawkeyes, 3 warfare centers and 80 tenants.



U.S. NAVY PHOTO BY MASS COMMUICATION 1ST CLASS DOUGLAS "EVAN" PARKER/RELEASED

POINT MUGU AIR SHOW SOARS BACK TO VENTURA COUNTY

PHOTO BY PETTY OFFICER 1ST CLASS DOUGLAS PARKER, POINT MUGU, CA.

POINT MUGU – Naval Base Ventura County (NBVC) Point Mugu opened its gates to host the installation's first Air Show in eight years, exciting crowds with the rare opportunity to witness the top two demonstration teams in the world at the same venue, the U.S. Navy Flight Demonstration Squadron, the Blue Angels and the U.S. Air Force Demonstration Squadron, the Thunderbirds, Mar. 17-19.

"This was a unique Air Show," said Maj. Josh Soltan, U.S. Marine Corps, "Fat Albert" C-130 pilot, The U.S. Navy Flight Demonstration Squadron, the Blue Angels. "This was a the only joint operation show of the season that includes the U.S. Air Force working with the U.S. Navy and U.S. Marine Corps to bring the services together and represent our mission to the local community. It was an honor to perform for the people of Ventura and hopefully we've inspired the next generation of pilots who will replace us."

Capt. Robert "Barr" Kimnach III, commanding officer, NBVC stated this was a total "mission success."

"It was an honor to host the Navy Blue Angels and Air Force Thunderbirds demonstration teams and we are thankful for them and all the performers who gave our great community the 'Super Bowl of Air Shows'," said Kimnach. "Enjoying both teams, celebrating 50-years of women excelling in Naval Aviation and 2-days of sunshine between atmospheric rivers was a true gift for the Ventura, Santa Barbara and Los Angeles communities."

The opening ceremony included the flight of the first all-women MH- 60S Sea Hawk pilots with the lead, Lt. Zoe McFarlane assigned to the "Merlins" of Helicopter Sea Combat Squadron Three, flying the National Ensign, followed by the "Seahawks" of Helicopter Maritime Strike Squadron 41. The National Anthem was performed by Musician 3rd Class Taylor Johns, assigned to Navy Band Southwest and followed with the Blue Angels "Fat Albert" C-130J dropping the U.S. Navy Parachute Demonstration

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Team "The Leap Frogs" over an excited crowd.

"Marking the 50th anniversary of women in Navy flight is a great milestone," said McFarlane. "It was so special to fly for the Ventura community and I hope that our crew has inspired young girls to take interest in the tremendous opportunities the Navy has to offer."

"We want to thank the Ventura community for all the tremendous support," said Aircrew Survival Equipmentman 1st Class Walter Moskal, member, the Leap Frogs. "Performing with both the Blues and Thunderbirds is such an honor and our team was humbled to be a part of this event that will hopefully inspire future service members."

The Air Show was open to the public and attended by 205,000 civilians, volunteers and military personnel during the three-day event that featured aerial flight demonstrations, the Navy Parachute Demonstration Team "The Leap Frogs," the "Destroyers" of Navy Band Southwest, over 30-static displays, interactive exhibits, a U.S. Navy Seabee showcase, and a Lt. Dan Band concert with Hollywood actor Gary Sinise.

"It's an honor to be back at Point Mugu, performing for our military community, family, and friends with my Lt. Dan Band," said Sinise. "It was a thrill to bring a little "rock n' roll" following the great lineup of our military's Top Guns, the Navy Blue Angels, and the Air Force Thunderbirds."

THE U.S. AIR FORCE FLIGHT DEMONSTRATION SQUADRON, THE THUNDERBIRDS PERFORM AT THE POINT MUGU AIR SHOW ONBOARD NAVAL BASE VENTURA COUNTY (NBVC) MAR. 18-19, 2023. PHOTO BY PETTY OFFICER 1ST CLASS DOUGLAS PARKER.

Point Mugu has a long history of hosting Air Shows, with the first one in 1960, called the Space Fair, as the space race was getting underway. It was an opportunity to show the community what Point Mugu does while introducing them to the continuing innovations in aviation. 2023 marked the 75th anniversary of the Navy at Point Mugu, 50 years of women in Naval Flight, and the first show to feature dual-premiere demonstration teams, the Blue Angels, and the Thunderbirds.

Kimnach said the goal of the Air Show is to bring the community and military members together, while creating an amazing show, but added the event would not be possible without community support.

"I want to specifically thank our partners in the County, police, fire, emergency management, first responders, and city officials," said Kimnach. "Without their support, this event could not have safely run. This includes the volunteers who provided critical boots-on-the-ground support, Sailor-power from Airborne Command & Control and Logistics Wing, Naval Construction Regiment One, Naval Air Warfare Center, Naval Test Wing Pacific, Navy Reserve and more. Together, this team accomplished something that will be remembered for years to come."

Lt. Cmdr. Thomas Zimmerman, narrator, #7 pilot, the Blue Angels, said the success of the weekend could not have happened without the Air Show volunteers and the local area's support.

"We are very grateful for their help throughout the weekend," said Zimmerman. "The Point Mugu Air Show was a huge success; we saw tons of smiling faces in the crowd each day which is a tribute to all the hard work everyone put into this event. It was great to be able to work with the Thunderbirds, this was a fantastic way to continue the start of our 2023 season."

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Zimmerman's sentiments were echoed by thousands of overjoyed fans.

"We've been waiting years for this," said Luis Gonzalez of Oxnard. "Our community loves the military, and I grew up watching these shows, but it is the first time I could take my kids to see this. Man, to have the Blues and Thunderbirds on the same ticket was something they will never forget!"

"Amazing! I still can't believe I got to see the Blues and Thunderbirds at the same air show," said Erica Pierce of Los Angeles. "I love visiting this area and I hope that the Navy gives the community an annual Air Show."

"That was the 'Sound of Freedom' period," said Christian Suárez of Oxnard.

Many officials took to social media to express their love of the Air Show.

"Thank you, Naval Base Ventura County, for this amazing opportunity to witness both the Air Force Thunderbirds & the U.S. Navy Blue Angels at the NAS Point Mugu Airshow this weekend," said Jacqui Irwin, Assemblymember California's 42nd District.

"I had a fabulous time at The Point Mugu Air Show this past weekend," said Kelly Long, Ventura County District 3 Supervisor. "Thank you to the Naval Base Ventura County for putting on an amazing show and to the collaboration that took place by Visit Camarillo and Ventura County Lodging Association."

"Grateful to Capt. Kimnach, for his invitation to watch the U.S. Navy Blue Angels at the Point Mugu Airshow!" said Susan Santangelo, Mayor, City of Camarillo. "What a special opportunity to see the Air Force Thunderbirds fly at the same show!"

The show had more to offer than airplanes. Inside the base's operations hangar, Naval Surface Warfare Center Port Hueneme Division (NSWC PHD), Fathomwerx and several community groups displayed interactive STEM exhibits, allowing children and adults the opportunity to explore science and technology careers available in the military and Ventura County.

"When you can introduce the interests that spark that excitement in young people, and tie it in to the base, it's a win-win," said Monica James, community relations liaison, NSWC PHD. "STEM is more than entertaining young attendees; it's introducing them to the future and hearing the hopes and dreams they have is inspiring for us all."

The Point Mugu Air Show, Ventura County's largest public event, was open to the public, and attended by 205,000 civilians, volunteers, and military personnel.

"It is extremely rare to see these two teams (U.S. Navy Blue Angels and U.S. Air Force Thunderbirds) together in one place. In fact, this was the only co-headline show scheduled this year," said Lt. Col. Justin "Astro" Elliot, commander, U.S. Air Force Thunderbirds. "We want to thank the Ventura community for hosting our first show of the season. We hope that we provided a positive emotional experience and made everyone proud to be an American."

" MANY OFFICIALS TOOK TO SOCIAL MEDIA TO EXPRESS THEIR LOVE OF THE AIR SHOW. "

Naval Base Ventura County (NBVC) is a strategically located Navy installation composed of three operating facilities: Point Mugu, Port Hueneme and San Nicolas Island. NBVC is the home of the Pacific Seabees, West Coast E-2D Hawkeyes, 3 warfare centers and 80 tenants.

NAVAL BASE VENTURA COUNTY

NAVY COMMISSIONS MUSTANG, CHIEF WARRANT OFFICER WILLIAMS

PHOTO BY PETTY OFFICER 2ND CLASS JUSTIN RAYBURN, PORT HUENEME, CA 31 MARCH 2023

PORT HUENEME, Calif. (NNS) – Chief Culinary Specialist Damali Williams, assigned to Naval Base Ventura County (NBVC), commissioned to Chief Warrant Officer 2 (CWO2) during a ceremony held onboard Port Hueneme, Mar. 31, 2023.

"Williams has a coin that says, 'Mustangs never break their stride,'" said Capt. Robert "Barr" Kimnach III, commanding officer, Naval Base Ventura County (NBVC). "That message says a lot about the hard work and dedication that has gotten her to this point."

Williams, a native of Waynesboro, MS, enlisted in the Navy in Sept. 2006. Her first duty assignment was aboard the Arleigh Burke-class guided-missile destroyer USS Preble (DDG 88) where she distinguished herself as the Wardroom Supervisor.

"Wardroom Supervisor was a first or second-class job," said Capt. Melissa Williams, department head, Chief of Naval Operations. "She has been practicing for an increased leadership role even as an E-3."

CWO2 was commissioned during Women's History Month.

"As a woman, she's making history today, and Sailors need to take note of the accomplishments of this remarkable woman," said Williams.

Chief Warrant Officers are technical managers who fill leadership and management positions that require technical background and skills not attainable through normal development within other officer designators. The term "Mustang" is used in the complimentary sense as slang for an officer who was a prior enlisted Sailor.

"CWO2 was applying for officer programs 16-years ago," said Williams. "She has kept her head high to accomplish long-term goals, even through rejection, discouragement, and opposition."

The ceremony followed time-honored Navy traditions with the retiring of the Chief Petty Officer cover, pinning of officer rank and the reading of the Silver Dollar Salute by Culinary Specialist 1st Class Ruth Gaillou.

Kimnach said Williams is going to bring methods and discipline to the Wardroom.

"Now it is time for other Sailors to step-up and be the next Chief of the Mess, following in her lead, on the path that she has set," said Kimnach.

CWO2 addressed the audience while thanking the participants and her mentors.

"Commissioning during Women's History Month surrounded by these powerful Navy Female Leaders is such an amazing moment," said CWO2. "I wouldn't be here today if not for them. They are the ones who encouraged me to never give up."

William's husband, Boatswain Mate 1st Class Cleston Williams, said this moment means everything to their family.

"We struggled to reach this point for so many years," said BM1. "Through disappointed phone calls and sleepless nights, my wife persevered; and to see her accepting this great accomplishment surrounded by those who love her most is a powerful moment."

SUPPORTING MILITARY MISSION RESILIENCE WITH NATURE-BASED SOLUTIONS

PHOTO BY ENSIGN DREW VERBIS

BY THE NATURE CONSERVANCY AND NAVAL BASE VENTURA COUNTY PUBLIC AFFAIRS

POINT MUGU - A recent study, co-authored by NBVC and The Nature Conservancy (TNC), concludes resilience could be significantly increased at the coastal base by consolidating vulnerable infrastructure on higher ground and restoring wetlands, dunes, and beaches, which buffer the base from storms and absorb floodwaters.

Military installations and operations are now persistently disrupted by recurrent drought, heat waves, catastrophic wildfires, and flooding. Coastal installations also face rising seas, erosion, and increasingly powerful storms. These challenges require durable and long-term solutions to ensure the resilience of the military mission, including an important role that natural and nature-based features (NNBF) (or natural infrastructure) can play for military installation resilience (MIR) and mission assurance.

Naval Base Ventura County (NBVC), located 55 miles northwest of Los Angeles along the Ventura coastline, is a critical Navy asset that allows direct access to restricted air and sea space in the 36,000 square miles of the Point Mugu Sea Range. Because of its coastal location, NBVC faces impacts from coastal erosion and wave run-up, inundation from high tides, and flooding from storm surges from the sea and from the adjacent Calleguas Creek.

These hazards are increasing in intensity, frequency, and duration and will increase further as sea levels rise, damaging the built infrastructure and natural habitats of the base. Today, the Mugu Lagoon, one the largest and most intact coastal marshes in southern California, is located largely within the fence line of NBVC. It provides significant protection against these impacts, but it too – and the level of protection it now provides - is subject to the adverse impacts of climate change.

To develop a long-term plan for resilience, the Commander of Navy Region Southwest established a first-of-its-kind partnership with TNC to assess vulnerabilities and co-develop specific recommended actions to improve base resilience and enhance natural resources and the multiple benefits they provide. Under this partnership, the team developed a body of rigorous and foundational science, amassing the best available data, adjusting the models to account for local conditions, including topography, oceanography, and river dynamics, to support the evaluation of vulnerabilities and develop a vision for long-term resilience.

The team mapped tidal inundation, storm flooding, wave run-up, erosion, and fluvial flooding for the entire base for the years 2010, 2030, 2060 and 2100, down-scaled and fine-tuned to local conditions. The team measured how hazard exposure will likely impact both built assets and natural habitats over time and developed risk scores for each individual component of the built environment including buildings, roads, utilities, and other assets.

The analysis shows that if the base stays in its current configuration—with roads, buildings and other infrastructure crisscrossing through low-lying wetlands—the installation's frontline of beaches, dunes, marsh and mudflats would continue to erode or disappear. With projected sea level rise, many built assets will be submerged by open water. In addition, the vast majority of the natural

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features – and their protective functions - will also be lost. The vision recommends a suite of adaptation actions and pathways to improve the resilience of built assets, restore natural habitats, preserve base functionality, and support the military mission, including moving hard infrastructure out of hazard zones into safer grounds where possible, and restoring natural habitats and ecological processes in their place.

There is growing awareness across the Department of Defense that natural processes contribute to resilient ecosystems that, in turn, can offer long-term protection to built assets.

"Naval Base Ventura County's work developing nature-based solutions at scale to build resilience, partnering with external stakeholders, is an excellent model of what's possible for the Department," said Deborah Loomis, Senior Advisor for Climate Change to the Secretary of the Navy."

With the threat of climate change to national security, the military services must now incorporate climate considerations into infrastructure and operations planning, and comprehensively assess and manage risks associated with the impacts of a changing climate. NNBF are valuable tools in the toolbox as the military identifies long-term and durable resilience solutions.

Just as we invest in the resilience of roads, bridges, and other infrastructure, investment in natural infrastructure – both on and outside of military installations - can also provide protection to military assets, surrounding communities, and provide other benefits to local economies, human well-being, and wildlife.

NBVC is home to Point Mugu, Port Hueneme, San Nicolas Island, Laguna Peak, the Pacific Coast Seabees, the West coast Hawkeyes, 3 warfare centers, and 80 tenants. It is the largest employer in Ventura County and actively protects California's largest coastal wetlands through its award-winning environmental programs.

For more information on this topic follow the story map:

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EXWC EMPLOYEE NAMED NAVFAC SHORE SAILOR OF THE YEAR

PORT HUENEME, Calif. (03 May 2023) — Steelworker First Class (SW1) Tyler D. Ault has been named Shore Sailor of the Year by the Naval Facilities Engineering Systems Command (NAVFAC). SW1 Ault was one of the military personnel at the Naval Facilities Engineering and Expeditionary Warfare Center (EXWC) headquartered at Navy Base Ventura County (NBVC) in Port Hueneme, California. He is a qualified

U.S. NAVY OFFICIAL PHOTO: SW1 (SCW.EXW.DV) TYLER AULT.

Seabee Combat Warfare Specialist, an Expeditionary Warfare Specialist, Diver, and Advanced Underwater Technician. SW1 Ault has earned three Navy and Marine Corps Commendation Medals, four Navy and Marine Corps Achievement Medals, the National Defense Service Medal, the Global War on Terrorism Expeditionary Medal, and the Global War on Terrorism Medal.

As leader of EXWC's Diving Systems Division, SW1 Ault was responsible for the safety, training, and life support equipment for 17 military and civilian personnel as they executed construction projects and exercises at locations around the world. Their work included inspections, repair, and installation of water front facilities and Research, Development, Test, and Evaluation (RDT&E) for Naval Expeditionary Combat Command port damage repair and diving capabilities. In addition, SW1 Ault's team maintained all dive locker diving life support systems and supported diving operations. SW1 Ault personally organized and executed a Master Diver pre-screening course that produced six candidates and he was subsequently selected to assist with Master Diver screening at Naval Diving and Salvage Training Center in Panama City Beach, Florida.

While at EXWC, SW1 Ault became a fully qualified diving supervisor and completed a bachelor's degree in Information Technology. He also supervised multiple projects and exercises and evaluated new tools to increase expeditionary diving capabilities.

Navy Captain Scott Raymond, Commander of EXWC, described SW1 Ault as, "My number 1 of 20 highly competitive first class petty officers, who generated immediate impact for my command. He led nine sailors to execute three high-profile fleet and national security diving operations and two complex research and development projects accumulating 250 hours of bottom time with zero mishaps." SW1 Ault is now continuing his career at Underwater Construction Team Two (UCT-2) based at Port Hueneme.

About Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC)
NAVFAC EXWC is a U.S. Navy command of more than 1,000 dedicated federal employees, military personnel, and contractors who provide research, development, testing and evaluation, in-service engineering, and lifecycle management for shore, oceans, and expeditionary domains.

About Naval Facilities Engineering Systems Command
The military personnel, civilians, and contractors of NAVFAC serve as engineers, architects, contract specialists, and business professionals. NAVFAC delivers best value facilities engineering and acquisition for the Navy and Marine Corps, Unified Commanders, and Department of Defense agencies through our five business lines: Design and Construction, Environmental, Expeditionary, Public Works, and Asset Management.

"Teams with mentors can receive DoD funds that help meet their costs of materials and travel, but they also learn marketing and fundraising by soliciting funds from private industry. I hope others who read this article will consider becoming a mentor to one of these amazing teams."

UN-BOT-ABLE! DoD-STEM-SPONSORED VENTURA COUNTY HIGH SCHOOL TEAM TAKES FIRST PLACE AT PRESTIGIOUS INTERNATIONAL ROBOTICS COMPETITION

PORT HUENEME, Calif. (02 May 2023)—In late April, a team of Ventura County high-schoolers, known as HighTide, defeated teams from all over the United States, Canada, India, Mexico, Denmark, Israel, Chile, Brazil, India, Germany, Turkey, Japan, Spain, China, Australia, England, Ecuador, Colombia, Vietnam, Taiwan, Italy, France, Kazakhstan, Romania, Serbia, and others to win the FIRST Robotics Competition in Houston, Texas.

U.S. NAVY OFFICAL PHOTO: HIGHTIDE ROBOT IN ACTION AT THE FIRST ROBOTICS COMPETITION IN HOUSTON, TEXAS.

The team of students—from El Camino, Foothill, Ventura, Rio Mesa, and North Hollywood High Schools—is sponsored by the Department of Defense (DoD) Science, Technology, Engineering, and Math (STEM) program, the Naval Facilities Engineering and Expeditionary Warfare Center (EXWC) STEM Program, and 14 local companies. The DoD STEM program encourages young people to consider STEM-related careers.

To achieve their global FIRST Championship, HighTide had to compete against thousands of teams to win three regional competitions, one division-level contest, and finally, the championship event in Houston.

EXWC mentor Vincent "Vinny" Pecchia summed up his experience with the team in this way: "Team HighTide came off a hard-fought battle last year, achieving a second place finish. For most teams, this would have been enough, but HighTide, tasting victory, used it as fuel for the 2023 season. It's been an exciting year, seeing new and veteran team members step up to leadership roles. It amazes me to see these students go from an idea to a working prototype within a few days, then optimizing their design shortly after to achieve their goal. It was a great season, and I am forever grateful to have been a part of such a dedicated and knowledgeable team, that still knows how to have some fun along the way."

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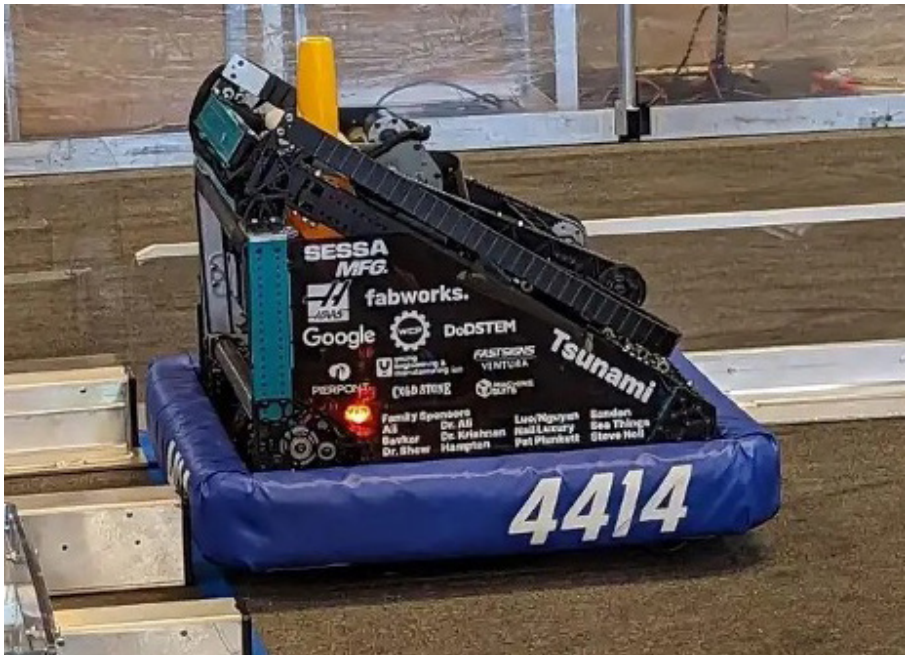
Since 1992, the FIRST Robotics Competition has challenged teams of high school students to build, under strict rules with limited time and resources, industrial-size robots capable of playing a difficult game while allied with other teams, while also fundraising to meet their goals, designing a team "brand," and advancing respect and appreciation for STEM within the local community.

"The FIRST Robotics Competition provides opportunities for students to experience the practical applications of theoretical concepts, and shows them how their work in the future could produce systems and devices to overcome real-world problems," said Kail Macias, Technical Director at EXWC. "Teams with mentors can receive DoD funds that help meet their costs of materials and travel, but they also learn marketing and fundraising by soliciting funds from private industry. I hope others who read this article will consider becoming a mentor to one of these amazing teams."



(R.) U.S. NAVY OFFICIAL PHOTO: HIGHTIDE ROBOT SITS AT STARTING BLOCKS DURING FIRST ROBOTICS COMPETITION IN HOUSTON, TEXAS.

About the DoD STEM Program

DoD STEM's mission is to inspire, cultivate, and develop exceptional STEM talent through a continuum of opportunities to enrich our current and future Department of Defense workforce poised to tackle evolving defense technological challenges.

U.S. NAVY OFFICIAL PHOTO: DOD-STEM-SPONSORED VENTURA COUNTY HIGH SCHOOL TEAM TAKES FIRST PLACE AT PRESTIGIOUS INTERNATIONAL FIRST ROBOTICS COMPETITION IN HOUSTON, TEXAS

NAVFAC EXWC HOSTS NAVY EXPEDITIONARY LEADERS

(L. TO R.) U.S. NAVY OFFICIAL PHOTO NECC ED TRACY RIKER, EXECUTIVE DIRECTOR OF THE NAVY EXPEDITIONARY COMBAT COMMAND, NAVY CAPTAIN CAMERON CHEN, BRANCH HEAD FOR NAVY EXPEDITIONARY COMBAT (OPNAV N957), MR. BRANT PICKRELL EXWC DEPUTY TECHNICAL DIRECTOR DISCUSS NAVY PRIORITIES FOR EXPEDITIONARY WARFARE.

PORT HUENEME, Calif. (02 May 2023) — The Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) based at Port Hueneme, California, recently hosted a visit by two senior U.S. Navy leaders tasked with ensuring that the Navy has what it needs to operate in an expeditionary environment.

Ms. Tracy V. Riker is the current Executive Director of the Navy Expeditionary Combat Command where she is the senior civilian responsible for manning, training, and equipping the Navy's 19,000 plus Expeditionary Sailors with an annual budget of $575 million. Ms. Riker is a 21-year navy veteran with extensive legal and management experience.

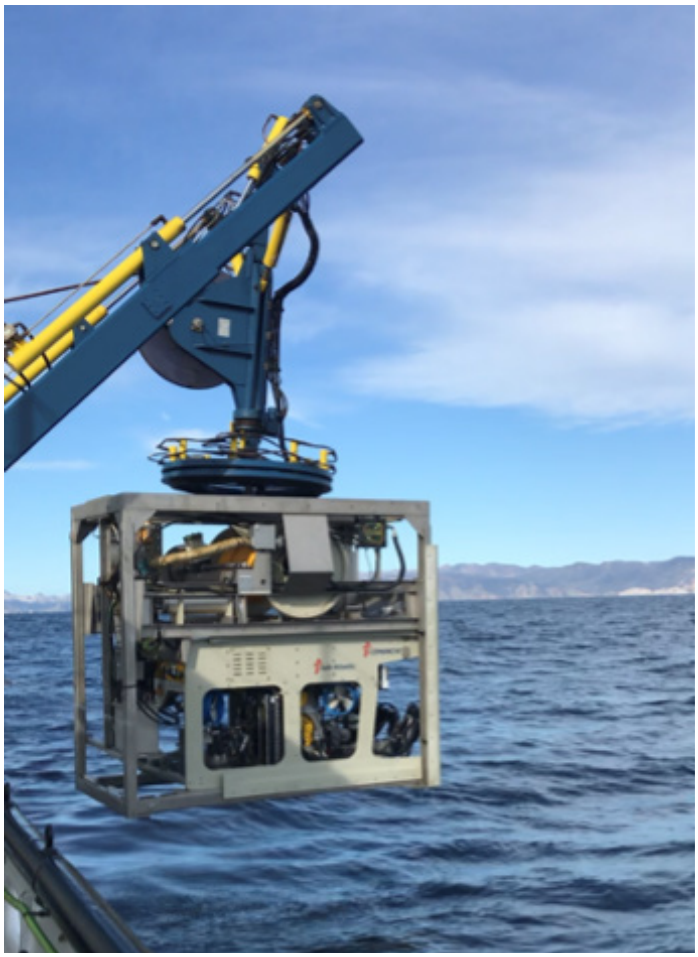
Navy Captain Cameron R. Chen is currently Branch Head for Navy Expeditionary Combat (OPNAV N957) where he directs the resourcing, requirements and programming for expeditionary combat capabilities. Captain Chen is a designated Explosive Ordnance Disposal (EOD) Warfare Officer, Deep Sea Diving Officer, Surface Warfare Officer, and Naval Parachutist with extensive experience in EOD, expeditionary warfare, and special operations.

During World War II, as U.S. Marines captured Pacific islands from the Japanese, Navy personnel (primarily the Navy's Construction Battalions, known as Seabees) rapidly constructed bases and facilities for further operations. Future conflicts may require similar activities, but often in contested environments. In other words, the Navy may need to support forces engaged in combat, from temporary locations under the threat of attack themselves.

Senior EXWC leaders provided Ms. Riker and CAPT Chen overviews of EXWC's current operations and future plans. Lively discussions centered on the transition from budgeting and supporting Global War On Terror operations to sustaining expeditionary forces against peer and near-peer adversaries in a contested environment.

Both sides of the conversation developed a deeper understanding of each organization's operations and how we can work together to support expeditionary warfare and to make best use of EXWC's capabilities and scarce defense dollars on high-priority Navy expeditionary goals.

U.S. NAVY RECOVERS LOST NOAA OCEAN SOUND MONITORING BUOY FROM SEABED



U.S. NAVY OFFICIAL PHOTO: EXWC'S M/V INDEPENDENCE DEPLOYS EXWC'S CAMERA-EQUIPPED ROV USING THE SHIP'S CRANE.

PORT HUENEME, Calif. (21 March 2023) — This past December, the U.S. Navy's Living Marine Resources (LMR) program and the U.S. Navy's Naval Facilities Engineering Systems Command, Engineering and Expeditionary Warfare Center (EXWC), headquartered at Port Hueneme, California, executed the successful recovery of a lost buoy owned by National Atmospheric and Oceanographic Administration (NOAA). NOAA deployed the buoy seven years ago as part of an underwater noise monitoring program that measures changes in ambient ocean noise over long periods of time. Moored underwater and recovered using an acoustic release system that failed, the expensive scientific device and two years' worth of monitoring data was considered lost until the Navy stepped in to help.

LMR and EXWC had carried out a similar recovery in the summer of 2018, when a few of LMR's own buoys in the Southern California Offshore Range experienced failure of their acoustic release systems and could not be recovered. LMR contacted EXWC, which deployed M/V Independence, a research ship equipped with a remotely operated vehicle (ROV) to retrieve the buoys and their valuable data.

NOAA's problem was first revealed during an unrelated meeting between LMR and Jason Gedamke of NOAA's National Marine Fisheries Service (NMFS). Gedamke mentioned the missing buoy and asked if LMR could help recover it. So, LMR again contacted EXWC to see if the same ship might be available to retrieve NOAA's lost buoy. Due to the ship's high-tempo operations schedule, it was three years before an opportunity arose. EXWC agreed to squeeze the operation into their schedule, if Kumar could be ready to deploy within 24-hous. LMR Program Manager, Anu Kumar, quickly called Lauren Roche, a marine technician from NOAA's Pacific Marine Environmental Laboratory (PMEL) and Oregon State University's

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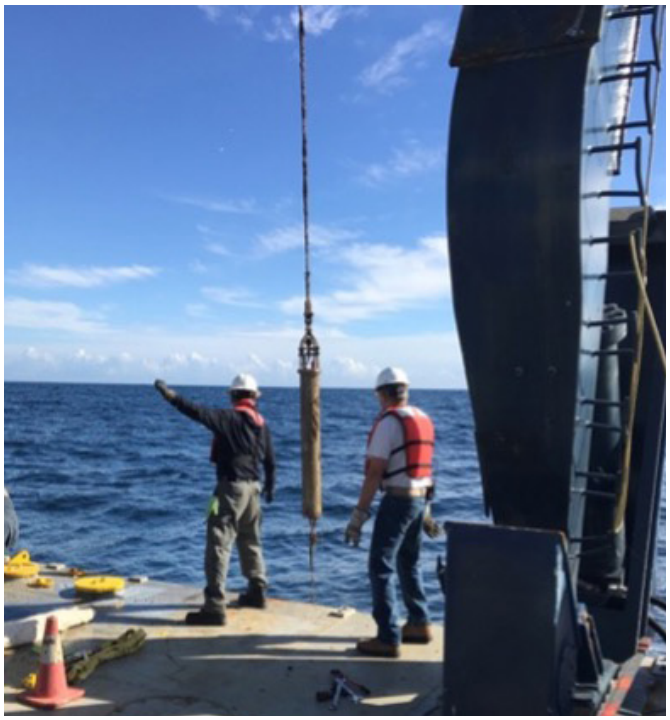

U.S. NAVY OFFICIAL PHOTO: EXWC PERSONNEL MANEUVER NOAA'S BUOY ONTO THE DECK OF M/V INDEPENDENCE.

NAVFAC EXWC

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Cooperative Institute for Marine Ecosystem and Resources Studies in Newport, Oregon, who immediately flew to Port Hueneme to join the effort.

The team sailed from Port Hueneme to the GPS location provided by Roche in the Channel Islands, about 50 miles off the California coast. Upon reaching the site, Roche tried once again to signal the buoy to release. The device failed to release, but it pinged, letting the rescuers know it was still there. The ship deployed a camera-equipped ROV that located the buoy after 30 minutes, 2,500 feet below the surface.

As the ROV descended, its cameras revealed ropes, hooks, and other debris attached to the buoy, possibly from fishing activity in the area. The crew halted the ROV so it wouldn't become entangled in the debris and cut a rope above the release mechanism, allowing the 3-foot-diameter buoy to float back to the surface right next to the ship. The ship's crew pulled it aboard with the ship's A-frame arm.

After returning to port, the team packed the buoy into a shipping container and sent it to Oregon. NMFS and PMEL are currently reviewing the data, and the reasons for the release mechanism malfunction are under investigation.

The hydrophone buoy was part of NOAA's Ocean Noise Reference Station network. This ocean acoustic monitoring network was first deployed in U.S. coastal waters in 2014 to collect data that will help identify and delineate seasonal to long-term man-made and climate-induced sources of ocean noise The data will eventually be added to NOAA's National Centers for Environmental Information website, a public database set up to aid regulatory agencies in marine mammal conservation efforts. The data also helps the Navy predict how sound will travel in the ocean in a changing environment.

NSWC PHD

NAVY LEAGUE CATCHES UP ON MILITARY AND YOUTH PROGRAMS

BOB QUINN

The Channel Islands Council Navy League has been catching up on our Military and Youth awards programs.

The Military awards for outstanding individual for the year are on schedule and the winners are truly remarkable.

The Sea Cadet units and the NJROTC unit at Hueneme High are growing in numbers and activities. We reward the outstanding Cadet of the year in each unit with a certificate, a coin and a monitary award.

The caliber of the winning Cadets is hard to believe. Their academic achievements, communite involvement, leadership and citizenship make one proud to be involved in their support.

Most of the Cadets will be going to college and in nearly every case they will be the first family member to go to college.

The members of these units make me believe there is hope for the future of our country. A feeling I do not get from the news media. We can always use more volunteers as the units grow. Working with these amazing young people will make you proud to be involved.

> "WORKING WITH THESE AMAZING YOUNG PEOPLE WILL MAKE YOU PROUD TO BE INVOLVED."

NAVAL SURFACE WARFARE CENTER PHD

SUCCESSION PLANNING: BRIDGING THE GENERATIONAL KNOWLEDGE GAP

BY MAT MAIO AND TERI CARNICELLI, NSWC PHD PUBLIC AFFAIRS

With hundreds of seasoned teammates on the cusp of retiring across the command, succession planning has taken on new urgency for NSWC PHD.

Human resources experts are alerting senior leaders by sharing numbers of those eligible to retire, while managers are creating training programs for newer employees, finding new hiring pipelines and tapping the expertise of highly experienced team members — even asking some to delay retiring or return after retiring — to help bridge the widening generational knowledge gap.

One area at NSWC PHD where a number of succession planning efforts are in place to retain institutional knowledge and convey it to the next wave of engineers and technicians is the Underway Replenishment (UNREP) division.

JOSE LEON (LEFT), SENIOR ENGINEERING TECHNICIAN, AND ALFREDO RUIZ, ENGINEERING TECHNICIAN, AT THE UNDERWAY REPLENISHMENT (UNREP) TEST SITE AT NSWC PHD, WORK TOGETHER TO REPAIR A HYDRAULIC PUMP ON MARCH 1. LEON FIRST RETIRED FROM THE NAVY IN 1991, AND REJOINED UNREP AS A CIVILIAN THE FOLLOWING YEAR. HE AGAIN RETIRED IN 2016 AND CAME BACK AGAIN IN 2018 TO SET UP A TRANSMISSION REBUILDING PROGRAM WITH YOUNGER CO-WORKERS LIKE RUIZ WHO NEED GUIDANCE. (U.S. NAVY PHOTO BY DANA RENE WHITE/RELEASED)

UNREP Division Manager Rich Hadley, who is among those approaching retirement age, has a retiree who has returned part-time to pass knowledge along to younger workers for a program to rebuild vintage transmissions needed in the fleet.

Hadley has also asked another key employee to delay retirement to impart sage advice, and he's getting ready to unveil an UNREP-wide training program to document institutional knowledge and help his team better perform its mechanical and technical jobs.

The division has also found a new, local pipeline to help replenish the UNREP workforce in an influential auto repair program with Ventura College.

Replenishing the fleet

An UNREP job is tough work — and critical to NSWC PHD's mission to keep the fleet underway and ready and the greater Navy's mission to defend the nation and maintain global maritime trade.

UNREP systems deliver fuel, munitions, supplies and personnel to naval vessels while at sea, with the two ships roughly 200 feet apart and connected by tensioned wire rope.

NSWC PHD's UNREP division, which has 70-plus engineers, logisticians and technicians, is the in-service engineering and design agent for the Navy's UNREP systems.

Without UNREP, warships would have to regularly travel to ports to resupply, hindering the U.S. Navy's ability to continuously operate at sea.

Most of the UNREP division's workforce is based at NSWC PHD in Port Hueneme, with about a dozen personnel at the command's Virginia Beach Detachment.

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The age gap within UNREP began to widen in the late 1990s when the U.S. Navy turned over operation of military-crewed UNREP ships to the civilian crews who run Military Sealift Command (MSC) ships, explained Hadley, who has worked with UNREP since the late 1980s.

"When the Navy owned UNREP ships, we relied on a Navy workforce that knew what we did," he said. "Today, there aren't as many former Navy personnel who work with us, and they're not as experienced."

There is now a shortage of middle-aged workers and a lack of institutional knowledge that has created challenges, Hadley explained. As older UNREP workers retire, the younger ones don't have the same naval background and experience with the division's work. Without the middle-aged workers, retaining institutional knowledge is more challenging.

"We are putting a lot more green people on ships who don't have the inherent background that previous generations had," Hadley said.

FROM LEFT: GIL NEGRETTE, ENGINEERING TECHNICIAN, JOSE LEON, SENIOR ENGINEERING TECHNICIAN, AND MARIO ESTRADA, ENGINEERING TECHNICIAN, HELP EACH OTHER REBUILD PART OF A HYDRAULIC TRANSMISSION AT THE UNDERWAY REPLENISHMENT TRANSMISSION REFURBISHMENT SHOP AT NSWC PHD ON MARCH 1. LEON RETURNED FROM A SECOND RETIREMENT TO HELP YOUNGER TECHNICIANS KEEP THE FLEET COMBAT READY. (U.S. NAVY PHOTO BY DANA RENE WHITE/RELEASED)

UNREP is addressing the age gap in a few creative ways. Hadley has taken steps to standardize training for UNREP workers, and retain some older workers to train younger ones.

John Mondragon, a mechanical engineer who has been with UNREP for 38 years, had planned to retire by late January 2024, but Hadley has asked him to remain an extra year, and Mondragon has agreed to stay on for a few years.

"Two of us are left who have the historical knowledge and workings of UNREP," Mondragon said. "There is a serious knowledge gap between young and older people."

Passing that knowledge down to the younger generations is key to maintaining the command's status as the UNREP Center of Excellence, Hadley explained.

Mondragon wants to focus his responsibilities on training.

"It's very important, because when I walk away, my phone doesn't work anymore," Mondragon said.

Reaching out to retired employees for support — particularly in a wartime scenario — is a strategy that Naval Sea Systems Command leaders have endorsed during recent visits to NSWC PHD. The UNREP division has already seen success with the practice by bringing back a veteran technician.

Temporary return

Jose Leon, a senior engineering technician with UNREP who previously retired with the government and military, has returned to UNREP part-time to train younger mechanics.

He first retired from the Navy in 1991 as a senior chief machinist's mate, then rejoined UNREP as a civilian the following year, and finally retired from UNREP in 2016.

Leon returned to NSWC PHD in 2018 to help UNREP set up a transmission rebuilding program. But he's leaving for good later this year to retire in Idaho.

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For the time being, however, he's working three days a week, teaching younger workers the ropes on rebuilding winch transmissions that are 40 to 50 years old so UNREP can rotate them back into the fleet.

"I have been fortunate to train people who are fast learners," Leon said of the mechanics, some of whom are graduates of an auto repair training program with Ventura College that has become a source of human capital for UNREP.

Tapping local training

The Ventura College auto repair training program is part of the Toyota and Lexus Technician Training and Education Network, or T-TEN.

"It's been a really good pipeline," Hadley said. "As far as getting new hires with a military background, the reality has changed. We now have to find new places."

Ventura College is one of five accredited schools in California to offer a degree in the nationwide T-TEN program.

The T-TEN program has already supplied a few mechanics to the UNREP division. Brett Winston joined UNREP from Ventura Toyota in 2018, while Christian Moreno came from Longo Toyota dealership in El Monte, California, in 2019.

"It doesn't surprise me," said Chad Stangeland, coordinator of the T-TEN program and a professor in automotive technology with Ventura College, of UNREP's recruitment of mechanics. "People want our students."

The T-TEN students have been recruited by everyone from Tesla dealerships and electric utility giant Edison International, parent of Southern California Edison Co., to global logistics and shipping company Wallenius Wilhelmsen and NSWC PHD, according to Stangeland.

Moreno then brought on former Longo Toyota co-worker Fredi Carranza, who worked on transmissions as a senior technician for the dealership. He joined UNREP in early 2020.

"The pay with Toyota was up and down, and it depended on the workload. I wanted stability," Carranza said. "I love hands-on work — touching and disassembling things. I love making the transmissions work here at UNREP. It's rewarding."

FROM LEFT: NSWC PHD ENGINEERING TECHNICIAN ALFREDO RUIZ WATCHES AS SENIOR ENGINEERING TECHNICIAN JOSE LEON DEMONSTRATES A REPAIR PROCEDURE AT THE UNDERWAY REPLENISHMENT TEST SITE AT NSWC PHD ON MARCH 1. LEON RETURNED FROM A SECOND RETIREMENT TO HELP YOUNGER TECHNICIANS KEEP THE FLEET COMBAT READY. (U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED)

Strengthening training

Navy Machinist's Mate Chief Petty Officer Alasthair "Al" Lyne and Boatswain's Mate 1st Class Carson Wiecking, both of whom work with UNREP Fleet Support, have been developing a new standardized UNREP training program because of growing concerns about In-Service Engineering Agent knowledge gaps between retiring workers and a younger workforce entering the field.

Lyne anticipates the training program schedule for new UNREP workers to come online in the next month or two. "We don't want to waste time trying to figure something out in the field," he explained. "For new hires or newly transferred people to UNREP, you'll get a one-stop shopping document for everything we touch. The idea is to get everybody up to speed."

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The training would permit UNREP engineers and technicians to move up the rungs of certification, from level one to level four, by meeting checkpoints on how to repair mechanical items.

Christopher Clenney, an engineering technician with UNREP, is helping to design the training program — similar to a personnel qualification standard that compiles the minimum knowledge and skills needed to perform specific duties.
Most of the workers coming into UNREP today are either returning as retirees or coming from college, Clenney said.

"The knowledge gap here is not with the leadership, but the technicians who travel out on the road," Clenney said. "They've done the training, but they can't learn this job overnight. You can do this job for 20 years and still not know everything."

3D PRINTING TACKLES DESIGN CHALLENGE FOR UNREP PART

BY TERI CARNICELLI, NSWC PHD PUBLIC AFFAIRS

Mechanical engineers from the command's Underway Replenishment (UNREP) division are 3D printing a solution for Military Sealift Command (MSC) for UNREP fuel delivery system controls.

The design change aims to enhance the simultaneous operation of control handles on the new Electric Standard Tensioned Replenishment Alongside Method (E-STREAM) UNREP system, which is being installed aboard the new T-AO 205 class of oilers that MSC operates with civilian mariner crews to deliver fuel and stores to U.S. Navy ships at sea.

NSWC PHD UNDERWAY REPLENISHMENT (UNREP) MECHANICAL ENGINEER BRYAN NGUYEN DEMONSTRATES HOW A PROTOTYPE SADDLE HANDLE (IN WHITE), WHICH HE CREATED USING A 3D PRINTER, HAS BEEN FLIPPED 180 DEGREES FROM ITS ORIGINAL POSITION SO THAT IT NOW LIES CLOSER TO THE STRAIGHT SADDLE HANDLE TO ITS RIGHT, THUS ALLOWING AN UNREP OPERATOR TO CONTROL BOTH HANDLES SIMULTANEOUSLY WITH ONE HAND. THE SADDLE HANDLES, LOCATED AT THE COMMAND'S UNREP TEST SITE, ARE USED TO CONTROL FUEL LINES. (U.S. NAVY PHOTO BY TERI CARNICELLI/RELEASED)

"The UNREP division at Port Hueneme (Division) is not only the In-Service Engineering Agent for the Navy's UNREP system but also the design agent for that system," UNREP Division Manager Rich Hadley said. "This means when a new system is desired, or something new with the system needs to be developed, we are in charge of developing it here."

When feedback about the E-STREAM saddle winch control handles came in earlier this year from MSC mariners participating in a Ship Qualification Trial, UNREP engineers jumped into action.

Three saddles inside the UNREP portside operator booth control the movement of the fuel lines. The small booth fits only one operator at a time. Unlike the new E-STREAM system, the legacy UNREP system allows operators to move two winches simultaneously using one hand, spread out flat, with the palm on one handle and fingertips on the other.

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NAVAL SURFACE WARFARE CENTER PHD

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Chris Chandra, a mechanical engineer with the UNREP design branch, explained, "The MSC civilian mariners requested some improvements to bring the E-STREAM handles more into line with how the legacy system is able to operate during certain procedures, specifically emergency breakaway," when all three saddle handles need to be pulled back simultaneously to quickly move unattached fuel lines away from the receiving ship.

"The E-STREAM system currently can't do that due to spacing of the handles," Chandra said.

Chandra worked with UNREP Mechanical Engineer Bryan Nguyen, who 3D printed plastic models of the stair-stepped saddle handle No. 2. The new configuration flipped the handle 180 degrees so that the top handle ball rested closer to the top handle ball of the adjacent saddle handle No. 1.

UNREP MECHANICAL ENGINEER BRYAN NGUYEN SHOWS OFF TWO OF FOUR PROTOTYPE SADDLE HANDLES USED TO CONTROL FUEL LINES DURING AN UNDERWAY REPLENISHMENT (UNREP). NGUYEN USED THE PLASTIC 3D PRINTER AT THE COMMAND'S OFFSITE FATHOMWERX LAB TO ENGINEER THE HANDLES THAT CONTAIN THREE COMPONENTS: THE ROUND KNOB AT THE TOP, THE STEM AND THE CUP-SHAPED BASE. THE WHITE HANDLE PROVED TO BE TOO CLOSE TO THE ADJACENT SADDLE HANDLE, SO NGUYEN DESIGNED ANOTHER ONE (IN BLACK) WITH A SHORTER OFFSET TO ADD SPACE BACK BETWEEN THE TWO HANDLES. (U.S. NAVY PHOTO BY TERI CARNICELLI/ RELEASED)

"Right now, an operator can't control all three saddles at the same time," Nguyen said. "By flipping the middle saddle handle 180 degrees and putting it closer to the far right saddle handle, both can be controlled with one hand," just like the legacy UNREP system.

Alan Jaeger, manager of the command's Office of Research and Technology Applications and director of the Ventura Tech Bridge at the offsite Fathomwerx Lab, said that utilizing the inexpensive plastic 3D printers at Fathomwerx is an efficient in-house approach to redesigning the E-STREAM handles.

"In the past, we would have to contract out this effort, or would have had to machine the prototypes with metal. This would be expensive and time consuming," Jaeger said. "3D printing the plastic parts allows our technical experts to rapidly evaluate a part and make a decision.

"It's a great example of how workforce members can be more innovative with the tools and capabilities the command has invested in," he added.

The initial plastic model's stem pulled away too easily from the base, so Nguyen created a new model with a stronger bond between the two parts. There was also concern that an operator wanting to use handles No. 1 and No. 2 with separate hands might "bump knuckles" with them now lying so close together, so Nguyen also adjusted the stair step, shaving off a few centimeters to widen that gap between the two handles.

Nguyen also 3D printed a straight handle, with no stair step, to see if that also served the requested purpose.

"I love working at Fathomwerx Lab and using the tech that's available there," Nguyen said. "I've always been interested in 3D printing so this was a lot of fun for me."

In all, the UNREP division will test three plastic handles: a straight handle, the initial 180-degree flip handle and the 180-degree handle with shorter offset.

Engineers and technicians will test the handles at the UNREP test site next month, and their feedback will be collected before a final prototype design is selected.

"We will then bring a set to T-AO 205 to have the MSC civilian mariners test them and provide feedback," Chandra said.

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If the new handle design gets green lights across the board, the command's UNREP division will officially propose an

engineering change update to the E-STREAM technical drawings. Chandra said it's likely MSC will fund production of metal replacement handles, which would be in the low numbers at this time.

Once produced, UNREP technicians will replace the handles aboard USNS John Lewis and other ships in the class in production.

Last summer, MSC took delivery of first-in-class USNS John Lewis, constructed by General Dynamics National Steel and Shipbuilding Company (NASSCO) in San Diego. The ship stopped by NSWC PHD in November for a stores resupply and minor builder repairs.

USNS Harvey Milk (T-AO 206), Earl Warren (T-AO 207) and Robert F. Kennedy (T-AO 208) are under construction at the NASSCO shipyard in San Diego. The Navy has procured a total of nine John Lewis-class oilers through fiscal 2023. Navy plans call for procuring a total of 20 T-AO 205s, all of which will have the E-STREAM system aboard.

FEMALES FOR MAJORITY IN PRE-ENGINEERING PROGRAM SPRING GRADUATING CLASS

BY GABRIELLE DELLARIPA, NSWC PHD PUBLIC AFFAIRS

The May 2 commencement celebration of NSWC PHD's spring 2023 Pre-Engineering Program (PEP) featured a majority of female graduates for the first time, representing a significant milestone for the local initiative and progress for the future of women in the science, technology, engineering and math (STEM) fields.

NSWC PHD SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) COORDINATOR RAMON FLORES, RIGHT, WELCOMES STUDENTS AND THEIR FAMILIES TO THE SPRING 2023 PRE-ENGINEERING PROGRAM GRADUATION CEREMONY ON MAY 2 AT THE OXNARD HARBOR DISTRICT OFFICE IN PORT HUENEME. (U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED)

As of the U.S.a Census Bureau's 2021 American Community Survey, females filled 27% of professional STEM positions in the United States. Women comprised 26% of the largely STEM-oriented workforce at NSWC PHD in 2022, roughly aligning with the national metric. This term, 16 of 31 PEP graduates were female.

All students received class credit towards graduation, a certificate of completion and a signed letter of recommendation from NSWC PHD's Commanding Officer Capt. Tony Holmes.

NSWC PHD's Technical Director Jeffrey Koe recognized the accomplished graduates as the "top guns" of their districts during the ceremony.

Many participants joined NSWC PHD's PEP due to STEM passion or skill. The program requires a GPA of 3.0 and dedication – students are dropped from the PEP after two absences.

For 15 weeks, since January 31, industrious high schoolers worked their way through modules that coincide with the STEM concentrations frequently utilized at NSWC PHD. They spent an hour and a half every Tuesday after school learning about systems and model based systems engineering, test equipment, ocean engineering, design optimization, electrical engineering, environmental

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engineering and drones. Students constructed an electrical circuit with an added diode to signal an SOS alert, assembled paper mini-missiles, made a speaker, and built and tested drones in the drone cage at Fathomwerx Lab at the Port of Hueneme.

The program was crafted to reflect the four Cs of education: collaboration, communication, creativity and critical thinking. Honing teamwork and presentation skills was equally prioritized with learning the STEM content.

Partners Naval Facilities Engineering and Expeditionary Warfare Center, the Engineering Duty Officer School and the Naval Postgraduate School in Monterey, California, provided additional facilities for the program as well as representatives to guide students through the expansive course material.

"One of the strong points of the program is what we call 'positive contact' with the working professionals," said Ramon Flores, NSWC PHD's STEM coordinator, referring to the over 30 engineers and scientists who served as subject matter experts and mentors for the program, dedicating their personal time.

Flores, the Pre-Engineering Program's primary facilitator, said he selected mentors who reflect the diverse workforce the command is striving to create.

"Students cannot be what they cannot see," Flores explained.

NSWC PHD TECHNICAL DIRECTOR JEFF KOE ADDRESSES PRE-ENGINEERING PROGRAM GRADUATES AND THEIR FAMILIES DURING THE SPRING 2023 COMMENCEMENT CEREMONY ON MAY 2 AT THE OXNARD HARBOR DISTRICT OFFICE IN PORT HUENEME. (U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED)

Leadership representatives from the three participating Ventura County school districts of Oxnard Union High School District, Ventura Unified School District and Santa Paula Unified School District (and some of their eleven included high schools) lauded the program and its graduates.

"We are thrilled to be part of this partnership for more than 20 years," said Tom McCoy, superintendent of Oxnard Union High School District. "As an assistant principal at Hueneme High School around 2000, I was able to recruit some of the first students to come through this program. We are nothing but grateful for our partners at Naval Surface Warfare Center, (Port Hueneme Division) for our engineering instructors, and for our students to be able to get in the water with one of the best high-wage, high-need careers in Ventura County."

The academic partnership between NSWC PHD and Santa Paula Unified is the youngest of similar agreements with Oxnard Union High and Ventura Unified school districts, though Santa Paula provided almost 40% of this semester's graduates.

On average, each high school sends three students typically in their junior or senior year of study. This semester also included one freshman, Madilyn Olvera from Santa Paula High School, deemed "scary smart" by Flores. He explained

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FROM CENTER: PACIFICA HIGH SCHOOL STUDENT GABRIEL PADILLA SHAKES HANDS WITH NSWC PHD TECHNICAL DIRECTOR JEFF KOE AFTER RECEIVING A CERTIFICATION OF COMPLETION DURING THE SPRING 2023 PRE-ENGINEERING PROGRAM GRADUATION CEREMONY ON MAY 2 AT THE OXNARD HARBOR DISTRICT OFFICE IN PORT HUENEME. (U.S. NAVY PHOTO BY ERIC PARSONS/RELEASED)

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that some high schools have over 70 applicants for the limited positions.

Johanna Martinez, a senior, was the sole graduate selected for an eight-week paid internship at NSWC PHD this summer, joining two students from the PEP's fall term. Following her internship, Martinez plans to start college at University of California, Santa Cruz, as a computer science major.

The only participant from Oxnard Middle College High School, Martinez said her favorite part of the program was collaborating with other local students outside her small campus.

"Interacting with others was really nice, even meeting people from my own district," Martinez explained. "Everyone has different experiences and different goals, so learning about what engineering types they like and what careers they want to focus on was really important and interesting."

NRL FORGES PARTNERSHIP WITH SHERWIN-WILLIAMS TO PRODUCE NON-SKID COATINGS FOR GOVERNMENT VESSELS

The U.S. Naval Research Laboratory (NRL) Technology Transfer Office entered into a limited government purpose license (GPL) with The Sherwin-Williams Company.

NRL has developed polysiloxane nonskid coatings with extended durability. Sherwin-Williams requested a GPL to make, use and sell the invention directly and solely to shipyards or contractors performing maintenance, repair or new construction of vessels owned by the U.S. government.

"The polysiloxane nonskid coating developed by NRL represents a significant advancement in technology over standard products available on the market today," said Mark Schultz, business development manager for Sherwin-Williams Protective & Marine. "This novel solution has extended durability and excellent color retention; the polysiloxane nonskid coating doesn't chalk, discolor or fade; and it can be rolled or spray-applied — helping to minimize waste, increasing efficiencies in the coatings maintenance process and reducing overcoating for aesthetic purposes. This combination of benefits has been well received by the U.S. Navy."

A key part of NRL's mission is the development and transition of technologies to support the Navy and, more broadly, the warfighter. NRL's intellectual property can be used to support those and other U.S. government-specific efforts. NRL offers no-cost GPLs to any of its over 1,200 patented or patent-pending technologies and protected software.

"NRL's wide breadth of intellectual property are available for use at no cost by the private sector in perfor-mance of awarded U.S. government contracts," said Dr. Holly Ricks-Laskoski, who is NRL's Technology Transfer Office senior partnership manager. "Leveraging NRL's intellectual property in this way is an opportunity for cost savings for our government contractor partners."

NRL partners with a wide variety of organizations — including industry, academia and other government organizations — to accelerate the development and transition of new, innovative technologies for the warfighter.

"We are very appreciative of our long-standing partnership with NRL. The innovation, testing and evaluation of forward-looking technologies has produced tangible results for our customers in terms of lowering total ownership cost and effectively maintaining ship schedules," said Bryan Draga, global vice president of marketing for Sherwin-Williams Protective & Marine. "Sherwin-Williams has been uniquely qualified to bring the MIL-Spec products and technologies to the market, thanks to our quality manufacturing processes and MIL-Spec controls."

Original Article: https://www.dvidshub.net/news/419728/nrl-tech-transfer-continues-forging-partnerships-with-sherwin-williams

NSWC PHD

STUDENTS CREATE THE FUTURE AT HACKATHON BY THE SEA

SEE THE WINNERS OF THIS OVERNIGHT CODING EVENT

CONGRATULATIONS TO WINNING TEAM MEMBERS: GAVIN JOHNSON, ORFEAS MAGOULAS, AND CALEB SAUCEDA, WHO ARE PICTURED ABOVE.

Presented by the Ventura County Office of Education and the Hacker Fund, the Hackathon encourages students to use technology in creative ways to solve problems and engage users. At the end of the event, student teams presented their creations to judges, who awarded prizes.

Team from Nordhoff High School in Ojai Wins Grand Prize

The overall winner of the Hackathon was a team of three from Nordhoff High School in the Ojai Unified School District. They built a system that allows remote monitoring and interaction with plants or gardens from anywhere in the world. By using a special device, real-time data about the plants' temperature and humidity is sent to the cloud, allowing bidirectional communication from any cell phone or computer. Users can see trends, set thresholds for text notifications, or even activate a solenoid valve to turn on a water pump. The device can reduce water waste, ensure the ecosystem stays healthy, and be scaled for use in the agriculture industry.

Honorable mentions went to two students from The High School at Moorpark College. They developed an app that matches students with advisors who can help them with academic subjects and other issues. Users create an account by entering their demographic information and the system matches them with a volunteer who is best able to help.

More information about the 2023 Hackathon by the Sea and the student projects that were developed is available here.