

NAVAL SURFACE WARFARE CENTER CRANE DIVISION YEAR IN REVIEW 2019

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NAVAL SURFACE WARFARE CENTER CRANE DIVISION

2019 YEAR IN REVIEW



WARFARE CENTERS CRANE

BROUGHT TO YOU BY NSWC CRANE CORPORATE COMMUNICATIONS



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2019 YEAR IN REVIEW

Welcome to the Naval Surface Warfare Center, Crane Division (NSWC Crane) 2019 Year in Review. This document contains summaries, highlights, and featured stories from each of our mission areas, as well as our efforts to support the NAVSEA Campaign to Expand the Advantage 2.0.

Located on the third largest naval installation in the world, NSWC Crane leverages its technical capabilities for the rapidly changing combat environment. Anchored by technical expertise, a strong work ethic, and total life-cycle leadership, NSWC Crane's personnel and preeminent facilities set the standard for excellence in acquisition, engineering, and sustainment. NSWC Crane provides comprehensive support for complex military systems spanning design, development, deployment, and sustainment in three mission areas: Electronic Warfare, Strategic Missions, and Expeditionary Warfare.

NSWC Crane's skilled professionals put technical solutions directly into the hands of the warfighter, ensuring safer missions. Our broad customer base includes the Navy, Marine Corps, Army, Air Force, United States Special Operations Command, Coast Guard, NASA, and many other military, civilian, and foreign military organizations. NSWC Crane is one of Indiana's largest high-tech employers and the only federal laboratory in the state.

Keep reading to discover how NSWC Crane is a National Technical Leader in Electronic Warfare, Strategic Missions, and Expeditionary Warfare.



MISSION

MISSION, VISION, & VALUES

To provide acquisition engineering, in-service engineering and technical support for sensors, electronics, Electronic Warfare and Special Warfare weapons. NSWC Crane also works to apply component and system-level product and industrial engineering to surface sensors, Strategic Systems, Special Warfare devices and Electronic Warfare systems, as well as to execute other responsibilities as assigned by the Commander, Naval Sea Systems Command.

Combating our nation's greatest threats, NSWC Crane is the indispensable mission expert, leveraging our deep technical heritage to deliver solutions through innovation and strategic partnerships.

VISION

VALUES

HONESTY & INTEGRITY SOLUTIONS & EMPOWERMENT SERVICE & UNITY

COMMENTS ON CRANE





"NSWC Crane is on the forefront of providing effective technology solutions to meet evolving mission needs. Crane's unique test capabilities, combined with the planned infrastructure, makes NSWC Crane a vital mission component to the Navy."

THE HONORABLE THOMAS B. MODLY SECRETARY OF THE NAVY (ACTING)

"I know when I look at the future of Strategic Systems Programs, Crane will always be a part of that. Its infrastructure and expertise are critical to our nation."



VICE ADMIRAL JOHNNY R. WOLFE, JR. DIRECTOR, STRATEGIC SYSTEMS PROGRAMS



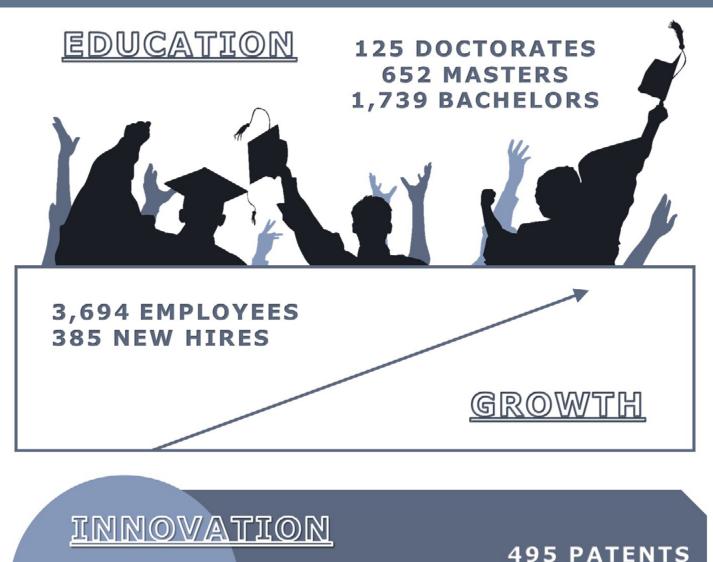
Crane - and that I witness every day dealing with capabilities they're providing - is their dedicated, hardworking, and incredibly capable workforce. Crane brings to the table real warfighting capability in a cost effective, accelerated manner."

"The most impressive thing I saw when I was at

MR. JAMES H. SMERCHANSKY EXECUTIVE DIRECTOR, NAVAL SEA SYSTEMS COMMAND

CRANE BY THE NUMBERS





737 PIECES OF INTELLECTUAL PROPERTY

WORKFORCE

65 PERCENT SCIENTISTS, ENGINEERS, AND TECHNICIANS



9

IN FY19:

12,859 STUDENTS SERVED 181 EMPLOYEE VOLUNTEERS 2,345 PARTNERSHIP HOURS



TECHNOLOGY TRANSFER

20 PARTNERSHIP INTERMEDIARY AGREEMENTS 96 COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS 29 WORK WITH PRIVATE PARTIES 25 PATENT LICENSE AGREEMENTS 70 EDUCATIONAL PARTNERSHIP AGREEMENTS

<u>total Impact</u>

\$1.4M IN CONTRACTS \$335.6M TOTAL SALARIES

<u>INDIANA ECONOMIC</u> <u>IMPACT</u>

\$287.6M IN CONTRACTS \$319.8M TOTAL SALARIES







NSWC Crane employee recognized for contributions to the flexible hybrid electronics industry

Craig Herndon, the Program Manager for the DoD Executive Agent for Printed Circuit Board and Interconnect Technology, received the NextFlex 2019 Fellow Award in Monterey, California. Herndon was one of nine recipients of the Fellow Award for accelerating the development of flexible hybrid electronics in emerging technologies, manufacturing, defense, aerospace, and medical applications.

NSWC Crane nationally recognized expert received second highest DoN award for electronic warfare efforts

Thomas Dalheim, Crane's Spectrum Warfare System Department Senior Scientific Technical Manager (SSTM) for Advanced Electronic Warfare (EW), was awarded the DoN Superior Civilian Service Award in recognition of his contributions as an Airborne Electronic Attack expert at NSWC Crane from 1999 to 2019.

from 1999 to 2019. "As a nationally recognized leader, [Dalheim] enhanced electronic warfare technology for the United States Navy across the air, surface, and ground domains, and ensured maintainable systems to [his] current role as Distinguished Engineer for Advanced Electronic Warfare," says the official award letter from Vice Admiral Thomas Moore, the Commander of Naval Sea Systems Command, to Dalheim.





NSWC Crane engineer received third Purdue University Materials Engineering award for exemplary accomplishments

Dr. Aaron Pedigo, a Materials Engineer at NSWC Crane, was recognized with the Outstanding Materials Engineer (OMSE) award for demonstrating exemplary accomplishments and leadership in his field. With over two thousand living Purdue MSE alumni, the award is considered one of the highest honors Purdue's School of Materials Engineering can offer.

NSWC Crane recognized with three national Federal Laboratory Consortium (FLC) awards for Technology Transfer

The NSWC Crane T2 Program received the Excellence in Technology Transfer Award, the Service Award for FLC Representative of the Year, and the Rookie of the Year Award from FLC. FLC is the nationwide network of over 300 federal laboratories, agencies, and research centers that foster commercialization best practices and opportunities to accelerate federal technologies out of labs and into the marketplace.



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VISITORS







ELECTRONIC WARFARE

As the largest multi-service facility within the Department of Defense for Electronic Warfare (EW), EW sensors and electronics, NSWC Crane's EW Center is critical to the success of many military operations and is designated as the Naval Sea Systems Command Center of Excellence for Electronic Warfare.

CONTROL THE SPECTRUM CONTROL THE FIGHT

MISSION AREA FEATURES





NSWC Crane hosted national leaders for 11th annual Electronic Warfare conference

NSWC Crane hosted the 11th Annual Electronic Warfare Capability Gaps and Enabling Technologies Conference with the Association of Old Crows from May 14-16 at NSWC Crane.

The theme of the conference focused on Achieving Freedom to Maneuver Leveraging Non-Kinetic Capabilities. The event provided an interactive forum for EW professionals from the military, government, industry, and academia to discuss technologies and capabilities related to EW programs, platforms, and operations within the Electromagnetic Spectrum.

NSWC Crane Chief Engineer awarded medal for leveraging naval research to rapidly field solutions

Timothy Vance received the Department of the Navy Meritorious Civilian Service Award for leveraging naval research to rapidly field solutions to the warfighter. The Meritorious Civilian Service Award is the third highest honor bestowed upon Navy civilians.

Vance is one of the founding members of NSWC Crane's Expeditionary Electronic Warfare Division established in 2007.





NSWC Crane unveiled new Intermittent Fault Detection and Isolation Systems (IFDIS) integration efforts

NSWC Crane Division hosted Mr. Ken Watson (SES), Deputy Assistant Secretary of Defense for Materiel Readiness, on May 30. Watson (center) served as keynote speaker during the ribbon-cutting ceremony for the command's EA-18G Growler Tactical Aircraft Airborne Electronic Attack (AEA), Fleet Support Team's (FST) IFDIS integration efforts.



EXPEDITIONARY WARFARE

Expeditionary Warfare's mission is to provide intelligent systems solutions for all domains that enhance detection, decision-making, maneuver, and kinetic and non-kinetic engagement capabilities for the Expeditionary warfighter by utilizing open architecture designs to integrate multi-platform advanced sensors and specialized weapons systems.

RAPID RESPONSE PROVEN SOLUTIONS

MISSION AREA FEATURES





NSWC Crane Celebrated 50 Years of Electro Optics

In 1969, NSWC Crane completed the design and installation of integral night vision equipment on five deploying ships for the first time. Today, Crane's electro-optics division employs over three hundred personnel and fields more than 20,000 devices annually.

NSWC Crane collaborated with NIWC Atlantic, MCWL in intensive rapid prototyping event

NSWC Crane hosted Naval Information Warfare Center (NIWC) Atlantic and Marine Corps Warfighting Laboratory (MCWL) to collaborate on warfighter problems in a oneweek, rapid prototyping event. Engineers and technicians from both NSWC Crane and NIWC Atlantic worked alongside MCWL Fellows to solve their operational challenges at the Warfighter Driven Challenge (WDC) at Crane's Rapid Innovation Prototype Laboratory (RIPL).

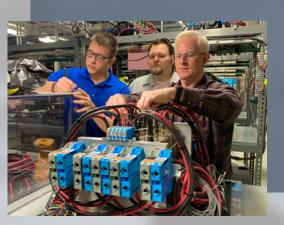


WDC is a process where warfighters bring problems they are

experiencing to Crane to find a collaborative solution. During the week-long events, several warfighters travel to Crane to work with a diverse, multi-disciplined team to thoroughly understand the problem and brainstorm solutions.

NSWC Crane demonstrated continued support for NASA energy storage life cycle testing for more than 60 years

NSWC Crane has supported National Aeronautics and Space Administration (NASA) and other programs for more than 60 years in energy storage life cycle testing. Currently, NSWC Crane is conducting tests for the NASA Glenn Research Center (GRC) International Space Station (ISS) Lithium-ion Program, which replaces outdated units to allow longer energy storage for ISS missions. This testing allows ISS to complete critical scientific research in space.



Since the 1950s, NSWC Crane has been a trusted energy storage device research, development and test organization

due to the expertise of its personnel and state-of-the-art facilities and equipment.



STRATEGIC MISSIONS

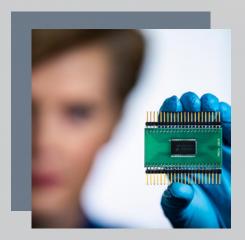
NSWC Crane Strategic Missions Center delivers technical solutions to detect threats, provides a layered, integrated missile defense, and offers global strike capability. Strategic Missions professionals work to develop, deploy, and sustain the technologies to ensure that weapons systems are fully reliable and always available to the warfighter.



MISSION AREA FEATURES



NSWC Crane leveraged OTA to ensure U.S. Government has access to secure state-of-the-art design, assembly, packaging and test for state-of-the-art microelectronics



In less than 90 days, NSWC Crane awarded multiple contracts for ensuring access to secure advanced assembly, packaging and test of digital and RF microelectronics, which is a DoD priority and critical to the department's microelectronics strategy.

The project, SOTA Heterogeneous Integration Prototype (SHIP), will strengthen the United States' microelectronics industrial base while allowing customization for DoD-unique applications.

NSWC Crane hosted 2019 Triad Symposium

NSWC Crane hosted nearly 300 military and civilian experts for the 2019 Triad Symposium on August 23 at WestGate Academy in Odon, Indiana. The event featured Crane's collaboration with the U.S. Air Force, Missile Defense Agency (MDA), U.S. Strategic Command (USSTRATCOM), Office of the Secretary of Defense (OSD), and various universities in Indiana to pursue strategic nuclear modernization and other key conventional strike technological requirements.

Speakers, including senior level military leadership, addressed current plans to modernize U.S. systems through collaborative, cost-effective solutions for our nation's nuclear deterrent.





NSWC Crane built on 60 years of history to provide innovative solutions for SSP

NSWC Crane celebrated sixty years of support to the U.S. Navy's Strategic Systems Programs (SSP).

SSP is responsible for the development, production, and life cycle support of the U.S. Navy's Fleet Ballistic Missile (FBM) Strategic Weapons System (SWS) – the nation's primary strategic deterrent.



NATIONAL TECHNICAL LEADERSHIP



NSWC Crane selected to host Midwest Tech Bridge to enhance collaboration and agility

NSWC Crane was selected to host the Midwest Tech Bridge to improve collaboration and agility throughout the Department of the Navy. James Geurts, Assistant Secretary of the Navy for Research, Development, and Acquisition, announced five Tech Bridges launching across the country on September 3.

The Midwest Tech Bridge will enhance agility to ensure the latest technology will be in the hands of the warfighter so they can complete their missions successfully.



NSWC Crane employee received prestigious Department of Defense award for contributions to electronic warfare

Adam Miller received the Office of the Secretary of Defense Award for Excellence for his work during a one-year assignment as a Staff Specialist for the Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD(A&S)).

NSWC Crane's Platform and Launch Systems Division provided trusted support to SSP through multi-disciplinary expertise

NSWC Crane's Platform and Launch Systems Division provides high reliability design as well as test and sustainment of electronics, sensors, and mechanical systems in use of Strategic Missions Platform and Launch Systems.

NSWC Crane's Platform and Launch Systems Division delivers full life cycle support of strategic missions hardware on both the shipboard systems and the flight system, or the missile. This includes work in navigation, fire control, and launch systems.





NSWC Crane hosted five hundred at the fifth annual Microelectronics Integrity Meeting

NSWC Crane hosted its fifth annual Microelectronics Integrity Meeting (MIM) in downtown Indianapolis August 6-7. Five hundred professionals from across the country attended the event, including registrants from the Department of Defense, DoD contractors, academia, and industry.

The MIM conference featured several speakers who discussed Resilient Systems and their impact across defense systems and in daily lives.

NATIONAL TECHNICAL LEADERSHIP



NSWC Crane employee led a new data science team to implement artificial intelligence technology

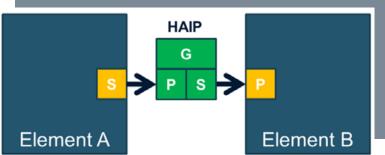
Data Scientist Alicia Scott is leading a new data science team to improve and streamline processes, a method that could improve efficiency by 13 million percent. Scott provides customers better access to the data they already have by using Artificial Intelligence (AI).

Scott has used the Naval Innovative Science and Engineering (NISE) program and the Crane Al Development Lab (CrAIDL) to conduct Research and Development (R&D) that exemplifies this.



NSWC Crane and NIWC Atlantic researchers used computer science methods to make Navy systems more secure

NSWC Crane and Naval Information Warfare Center Atlantic researchers are collaborating to make Navy systems more secure. The research project, called High Assurance Interface Protocols (HAIP), is a proactive approach to prevent cyber-attacks that exploit common interfaces like USB, which is commonly used with mice or keyboards.



Without HAIP, the process of reacting to a threat is time-consuming and includes identifying, assessing, patching, and fixing as rapidly as possible.



NSWC Crane honored more than 70 inventors in patent showcase

NSWC Crane honored 75 inventors in the Sixth Annual Invention and Technology Showcase at the High Velocity Innovation Center (HiVe) on December 12. Three NSWC Crane employees were recognized as "Technology Transfer (T2) Contributors of the Year", one from each of Crane's mission areas.

NSWC Crane recognized for contributions to the international electronics industry

NSWC Crane was recognized before an international audience for its contributions to the electronics industry with the IPC - Association Connecting Electronics Industries Peter Sarmanian Corporate Recognition Award. As the Executive Agent, Crane represents the DoD and serves as technical expert to ensure DoD access to trusted and affordable electronic interconnect technology necessary for critical national defense system and warfighter superiority.



WARFIGHTER CONNECTEDNESS



NSWC Crane launched first summer internship program with the U.S. Naval Academy

Five USNA midshipmen were accepted to participate in internships supporting the fleet in Strategic Missions at NSWC Crane. Three of the midshipmen, studying science, technology, engineering, and math (STEM), completed their final projects and presented them to NSWC Crane subject matter experts and leadership. The USNA midshipmen came from Georgia, Alabama, and Massachusetts.



NSWC Crane leader recognized throughout Navy for driving rapid innovation

Andrew Brough was recognized with the Department of the Navy (DoN) Meritorious Civilian Service Award for his contributions to the Navy and Marine Corps.

Brough, the NSWC Crane Expeditionary Warfare Lead across Naval Sea Systems Command (NAVSEA), has led initiatives to pursue Expeditionary Warfare rapid prototyping development to address operational gaps and needs identified by the Navy, Marine Corps, and Special Operations Command (SOCOM) operational forces.

NSWC Crane, Old Dominion University machine learning research could significantly improve warfighter capability to detect drones

NSWC Crane and Old Dominion University (ODU) are researching machine learning (ML) based drone detection methods to enhance warfighter capability in the field. Through a Cooperative Research and Development Agreement (CRADA), NSWC Crane and ODU's research uses ML techniques to detect and identify drones based on their classification of Radio Frequency (RF) signals.

This collaborative research method aims to work in remote and constrained environments and is portable – which is useful for warfighters. This method takes the latest technology and applies it to RF signals.



NSWC Crane continued to foster Innovation Ecosystem that accelerates technology advances to warfighter

In 2019, NSWC Crane's ecosystem was validated through an academic study by Massachusetts Institute of Technology (MIT), independently endorsed by the National Security Commission on Artificial Intelligence (NSCAI), and nationally recognized by the White House as a best practice across Federal Government.

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WARFIGHTER CONNECTEDNESS



NSWC Crane employee recognized for supporting citizen warrior

Logan Corbett received the Employer Support of the Guard and Reserve (ESGR) Patriot Award, which acknowledges efforts to provide flexible schedules, time off prior to and after deployment, caring for families, and granting leaves of absences if needed. Corbett said the employees within his branch work like a family toward a common goal.



NSWC Crane employee awarded Medal of Valor for extinguishing fire, saving lives in war zone



William (Bill) Taylor, an AC-130W Weapons Specialist at NSWC Crane, received the Command Civilian Service Medal for Valor and Courage in a combat zone for saving seven lives and extinguishing a fire.

The AC-130W Stinger II is a United States Air Force (USAF) aerial gunship that supports special operations forces in war zones. As a Crane employee, Taylor is currently supporting Combined Joint Task Force - Operation Inherent Resolve (CJTF-OIR).

NSWC Crane employee's experience as a sailor provided insight into warfighter needs

James Garrett is a Logistics Management Specialist NSWC Crane and helps provide the logistics element of the Test, Measurement, and Diagnostic Equipment (TMDE) Life Cycle Support Program for the OHIO Class and COLUMBIA Class Submarine. He provides product support, data management, quality assurance, training, and more to ensure sailors are successful.

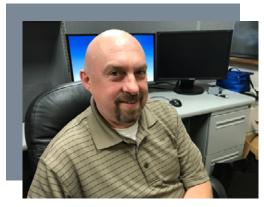
Garrett now travels from coast to coast interacting with sailors. He said he gets a better understanding of their needs when he is able to engage with them in-person.







NSWC Crane employee developed software tool to increase cybersecurity, cost avoidance over \$8 million



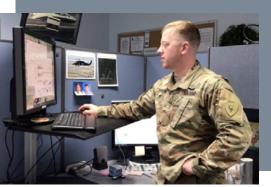
Dan Ireland combined and expanded sample code provided by colleagues Nick Hurley and Rickey Beem to create the Evaluate-STIG (Security Technical Implementation Guide) tool, a Windows Powershell tool with the ability to highly automate the process of documenting system compliance.

Ireland's tool could cut over 1500 work hours by automating the otherwise manual process. The Evaluate-STIG tool also strengthens Crane's cyber security posture by closing the gap left from the benchmark scans and producing accurate, more complete STIG compliance documentation through an automated and consistent process.

NSWC Crane received 2019 Philip Heiler Award for innovative developments in human resources information systems

The Human Resources Information Systems (HRIS) team developed information systems solutions for Human Resources, including two that provided more than 228 thousand dollars in cost savings and saved 6.6 thousand in work hours per year since implementation.

The HRIS team has created more than a dozen tools that eliminate duplication of effort, automate transactional processes for HR customers and staff, and provide real-time, relevant and reliable data and information analysis and reports.



NSWC Crane won statewide "Employer of the Year" award for innovative internship program



NSWC Crane received the award in the nonprofit category at the Indiana Chamber of Commerce Indiana INTERNnet 2019 IMPACT Awards in Carmel, Indiana on February 26.

Four years ago, NSWC Crane's internship program included 60 students. In 2019, 150 students were in the two federal intern programs: Pathways and STEM Student Employment Program (SSEP).

BUSINESS EXCELLENCE



NSWC Crane recognized throughout Navy for swift personnel system conversion of nearly one-third of its workforce



NSWC Crane's Human Resources team received the Team Impact award for converting nearly one-third of the workforce from General Schedule (GS) to the NAVSEA Warfare Center Personnel Demonstration (Demo) project in less than six months.

The remaining two-thirds of Crane's workforce was already using the Demo pay-for-performance system prior to the conversion.

NSWC Crane Human Resources hosted Warfare Centers to create significant efficiencies across workforce

More than thirty personnel in Human Resources and Information Technology from Warfare Center Headquarters, NAVSEA, and Warfare Centers across the country came together at NSWC Crane to collaborate on the latest Information System (IS) tools August 20-22.

Warfare Centers presented tools and reporting systems at this HR-IT collaborative meeting including Keyport, Newport, Dahlgren, Corona, Port Hueneme, Philadelphia, Carderock, as well

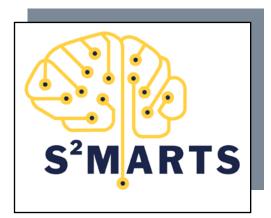


as Crane. Tools created streamlined and automated hiring processes, telework applications, enhanced performance tracking methods, and more.

NSWC Crane used its unique OTA to drive advanced microelectronics technology to the fleet

NSWC Crane received its first primary authority from the Department of Navy to drive advanced microelectronics technology to the fleet. This Other Transaction Authority (OTA), called Strategic and Spectrum Missions Advanced Resilient Trusted Systems (S2MARTS) OTA, conducts prototype projects under 10 USC 2371b. (Prototyping Other Transactions (OTs)).

NSWC Crane has used OTAs before to transfer cutting-edge technology into military hands, but this has been through using other command's vehicles.



DIVERSITY & INCLUSION



NSWC Crane hosted Master Chief Petty Officer Dwayne D. Beebe-Franqui for Pride Month Luncheon



NSWC Crane hosted Master Chief Petty Officer Dwayne D. Beebe-Franqui on June 25 as the guest speaker at the Lesbian, Bisexual, Transgender, Queer, plus Allies (LGBTQ+A) Pride Month Luncheon. Beebe-Franqui spoke about his experience in the military while serving in the Navy under the Don't Ask, Don't Tell policy, which allowed LGBTQ Americans to serve in the armed forces – as long as they hid their orientation or identity from everyone.

NSWC Crane Distinguished Visitor encouraged leaning in at Women in Leadership luncheon

NSWC Crane, in conjunction with the Hoosier Hills Chapter of Federally Employed Women (FEW), hosted a luncheon celebrating Women in Leadership. Paige Hinkle-Bowles (SES), the Deputy Assistant Secretary of the Navy for Civilian Human Resources (DASN (CHR)), was the featured speaker at the luncheon on Wednesday, April 3 at NSWC Crane.





NSWC Crane Employee used experiences to mentor and educate

Growing up, NSWC Crane employee Fred Seitz contended with discrimination due to his hearing loss and craniofacial condition. Now, he volunteers for the Children's Craniofacial Association to help kids going through the same experiences. Seitz said his parents taught him to never let anyone treat him poorly, coaching him on how to deal with ignorance and ways to educate others on his perspective.

NSWC Crane New Hire embraced Diversity Leadership Role

Mechanical Engineer Luis J. Bastidas, a graduate of Florida Atlantic University, grew up in West Palm Beach, Florida. His Colombian family instilled in him a pride for his Latin culture, leading him to take on the responsibility of becoming the Special Emphasis Program (SEP) Lead for the Hispanic Employment Program at NSWC Crane. He spoke at the Hispanic Heritage Month Panel and Luncheon.







NSWC Crane collaborated with Purdue and a UK-based university to provide tailored, advanced education to workforce



Purdue University and Cranfield University have partnered to support the Department of Defense by developing a tailored Master's Degree program at NSWC Crane. The jointly delivered, or dual Master's Degree, will be in Defense Engineering and Technology with a concentration in Expeditionary Warfare once officially finalized. Purdue and Cranfield Universities signed a Memorandum of Agreement in October of 2018 to deliver the program. Purdue completed its first offerings in summer 2019 – a course on Data Science and Analytics and a course titled Science and Engineering of Energetic Materials.

NSWC Crane engineer leveraged resources to conduct deep learning research



David Emerson, an engineer at NSWC Crane, defended his research that uses deep learning to process images and determine distances between objects in a scene this year.

Emerson's research was partially funded first with a Department of Defense (DoD) Science, Mathematics And Research for 'Transformation (SMART) Scholarship for Service Program, and then followed with full sponsorship by the NSWC Crane Ph.D. Fellowship Program.

Continuous investments in education strengthened NSWC Crane workforce

Over the years, NSWC Crane has made significant investments in the educational advancement of its workforce. A wide variety of opportunities exist for employees to earn both technical and business bachelors, masters, and doctorate degrees.

Between 150 and 200 Crane personnel take part in one of the various academic programs available. In 2019, 175 Crane employees furthered their education through these programs.



NSWC Crane's EEO Office has been working hard to increase its offerings, obtaining a video relay service phone for an employee, expanding lactation areas for new mothers, and implementing the Diversity Leadership Council (DLC).





CORPORATE CITIZENSHIP



NSWC Crane recognized across Indiana for enhancing workplace safety and health

NSWC Crane was recognized with the Governor's Workplace Safety "Rising Star" Award at the 2019 Indiana Safety and Health Conference & Expo. The Governor's Workplace Safety Awards recognizes Hoosier workplaces that have made employee safety and health a deep-rooted component of their culture.



NSWC Crane employees empowered young women of color to pursue STEM careers



Adriann Wilson, a Mechanical Engineer at NSWC Crane, volunteers as an ICP Professional Affiliate and mentors area high school, undergraduate, and graduate students at monthly Empowerment dinners. The I CAN PERSIST (ICP) STEM initiative is a new, year-long program at Indiana University that aims to promote STEM persistence among girls and Women of Color.

NSWC Crane technology transformed into USI student business plans and prototypes for eighth consecutive year

Sixteen students, competitively selected from a pool of nearly seventy applicants, participated in the Technology Commercialization Academy (TCA) 2019. TCA is a summer program, similar to an internship, designed for USI students to develop business plans based on NSWC Crane intellectual property (IP). TCA is a program made possible through a partnership with the Lilly Foundation.



NSWC Crane, Crane Army, and NSA Crane received joint award for blood donation milestone

The Red Cross recognized NSWC Crane, Crane Army Ammunition Activity, and Naval Support Activity Crane for donating upwards of 1,000 units of blood, making Team Crane the top blood collector for 2019 throughout the state. The amount of units donated could save more than 3,000 lives.





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STEM



NSWC Crane displayed nanotechnology invention at Military Invention Day, engages students

NSWC Crane personnel participated in the third annual Military Invention Day, presented by the Smithsonian's Lemelson Center for the Study of Invention and Innovation and the United States Patent and Trademark Office (USPTO) at the National Museum of American History on May 18. Thousands visited 33 displays from the Army, Navy, Air Force, Coast Guard, Defense Advanced Research Projects Agency (DARPA), Department of Energy, National Nuclear Security Administration, and the Massachusetts Institute of Technology (MIT) Lincoln Lab alongside the museum's collections to provide historical context.





NSWC Crane supported Indiana University in advancing STEM research collaboration with Minority Serving Institutions

There are five components that make up the initiative. One component is the NSWC Crane Division Connection, which is the partnership that offers research connections across Crane's areas of STEM expertise, including optics, material science, computer, mechanical, and electrical engineering. Crane also offers students opportunities to engage with scientists through internships and fellowships.

2019 NSWC STEM Science Fair & Expo created unique learning environment for regional students

292 students from 14 southern Indiana schools participated at the annual NSWC Crane Science Fair this year. Several NSWC Crane personnel volunteered as judges and reviewed more than 180 projects.

NSWC Crane professionals also showcased technology from each of Crane's mission areas: Electronic Warfare, Strategic Missions, and Expeditionary Warfare. Students were able to see first-hand how learning STEM skills can apply to a career later in life.















COMMANDING OFFICER CAPT MARK H. OESTERREICH

In July 2017, Captain Mark H. Oesterreich assumed command of the Naval Surface Warfare Center, Crane Division. A native of South Holland, Illinois, Captain Oesterreich received his commission from the United States Naval Academy in 1991, graduating with a Bachelor of Science degree in Naval Architecture and completing the nuclear training pipeline earning his qualification in Submarines. He earned a Master of Science degree and Professional Engineer's degree in Mechanical Engineering as well as certification as a Professional Engineer in Mechanical Engineering from the Naval Postgraduate School.

Captain Oesterreich has served as Deputy Project Superintendent, Ship and Submarine Readiness Action Officer, Chief Engineering Officer, and Carrier Force Maintenance Officer. Following selection for Captain, he served as the Business and Strategic Planning Officer and Production Resources Officer at Pearl Harbor Naval Shipyard and as the

Assistant Chief of Staff for Ship Maintenance and Material at both Naval Air Forces Atlantic and Pacific Fleets. Captain Oesterreich's service decorations include the Legion of Merit, Meritorious Service Medal and various personal, campaign, service, and operational awards.

TECHNICAL DIRECTOR

DR. BRETT A. SEIDLE, SES

On 2 October 2016, Dr. Brett Seidle was appointed as a member of the Senior Executive Service and named the Division Technical Director (TD) at NSWC Crane. Dr. Seidle began his career in the public sector with NSWC Crane in 2000, working intimately with the Strategic Systems Program's Failure and Material Analysis Laboratory. He continued to take ever-increasing roles of responsibility at NSWC Crane and became Deputy Director of the Mission Support Services Department in 2004. It was in this role in 2007 that he was awarded a fellowship from NSWC Crane to pursue his PhD in Public Policy at Indiana University, which he completed in 2010.

Upon his return, Dr. Seidle assumed the role of Deputy Director in the Applied Science Department, before being selected in 2012 as the Department Director for Mission Support Services Department, with responsibility for providing business planning, financial services, IT services,



facility planning, human resource services and other support functions to the NSWC Crane Command. In 2013, Dr. Seidle was selected as NSWC Crane Division's Deputy Technical Director.

EXECUTIVE LEADERSHIP TEAM





DEPUTY TECHNICAL DIRECTOR MS. JANNA FOXX, SSTM



DEPARTMENT DIRECTOR GLOBAL DETERRENCE & DEFENSE MR. BEN HARKNESS, SSTM



DEPARTMENT DIRECTOR SPECTRUM WARFARE SYSTEMS MR. ZAHID DIN, SSTM



DEPARTMENT DIRECTOR SPECIAL WARFARE & EXPEDITIONARY SYSTEMS MS. PATRICIA HERNDON, SSTM



DIRECTOR OF ENGAGEMENT DR. KYLE WERNER



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