WAVES

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WAVES

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WEST BETHESDA, Md. (Jan. 23-25, 2026) – Naval Surface Warfare Center, Carderock Division received around 10” of snow during a winter snowstorm.

Carderock

Leadership

Capt. Christopher K. Matassa, USN
Commanding Officer
NSWC Carderock Division

Capt. Christopher K. Matassa is a native of New Orleans, Louisiana. He was commissioned in 2002 through the Naval Reserve Officers Training Corps program at the University of Notre Dame where he received a Bachelor of Science in Computer Science.

Matassa’s tours as a surface warfare officer included USS Stump (DD 978), USS Stephen W. Groves (FFG 29), Afloat Training Group Pacific and an Individual Augmentation to U.S. Central Command Headquarters in support of the Global War On Terrorism. He also earned a Master of Science in Global Leadership from the University of San Diego, School of Business Administration.

He became an Engineering Duty Officer (EDO) in 2009 and attended the Naval Postgraduate School where he earned a Master of Science in Systems Engineering. He has served in a variety of industrial field activity and program office assignments in ship design, construction and fleet delivery, maintenance, and budgeting. His EDO assignments include: Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) Gulf Coast LPD 17 Class Program Manager’s Representative (PMR), LHA acquisition officer for the Amphibious Warfare program office (PMS 377), production and post-delivery officer for the DDG 1000 Class Destroyer program office (PMS 500) - delivering the first ship of the class, SUPSHIP Gulf Coast Ship to Shore Connector PMR and LPD project officer, and Southwest Regional Maintenance Center project officer.

At the Pentagon, he worked in the Chief of Naval Operations Surface Warfare Division (OPNAV N96) as future ships requirements officer and has most recently been the Chief of Staff for the Deputy Assistant Secretary of the Navy for Ship Programs.

On July 17, 2024, Capt. Matassa assumed command of Naval Surface Warfare Center, Carderock Division. As the 41st commanding officer to lead the organization since its founding as the Experimental Model Basin in 1898, he leads approximately 3,000 employees providing the Navy with a broad range of technical products and support services related to surface and undersea platforms.

Matassa’s personal decorations include the Meritorious Service Medal (two awards), Navy Commendation Medal (three awards), Joint Service Achievement Medal, and the Navy Achievement Medal (three awards).

Navy Expands 3D Printing to Frontline Fleet Operations in 2025

By Alisha Tyer, NSWC Carderock Division Public Affairs

BETHESDA, Md. – The Navy accelerated the transition of additive manufacturing (AM) (AKA 3D printing) from a promising capability to a warfighting capability in 2025, slashing lead times by 70 percent and solidifying strategic partnerships with AUKUS allies, which help establish the distributed manufacturing network.

Through a coordinated effort across Naval Sea Systems Command (NAVSEA), the Maritime Industrial Base (MIB), and the private sector, the naval enterprise moved beyond testing to integrate AM components directly into the supply chain, strengthening fleet readiness and logistics resilience.

Combatant Milestones

The year's most significant achievements involved putting AM parts onto the Navy's most complex platforms. Huntington Ingalls Industries installed the first additively manufactured 1.5-meter (5 ft) long, 450 kg (992 lbs) metal valve manifold aboard a nuclear-powered aircraft carrier, marking a critical step toward adopting the technology for surface combatants [1].

Not long after, the submarine force achieved a historic breakthrough. The Virginia-class submarine program installed a metal, 3D-printed component that industry partners described as a "giant leap" for the subsurface domain, validating that AM parts can withstand the rigorous standards required for deep-sea operations [2].

Strengthening Alliances

The expansion of AM capabilities extended beyond the U.S. Navy. International cooperation remained a central element of the Navy's strategy, specifically through the AUKUS security partnership. In 2025, the United States, the United Kingdom, and Australia advanced their shared industrial goals, with a successful shipboard installation of a metal, 3D-printed part, underscoring the potential for allied interoperability and interchangeable repair capabilities [3].

Readiness and Efficiency

Driven by the need to reduce production timelines, the Navy's adoption of AM delivered immediate logistical benefits. In one notable instance, an industry partner, Marotta, used metal, 3D printing to reduce the traditional lead time (29-weeks) by 70 percent for a critical valve aboard Navy destroyers, bypassing the traditional manufacturing bottlenecks related to porosity and part rejection rates [4].

These efficiencies were mirrored at the waterfront, where Navy maintenance centers applied AM to ship repair efforts. These organic capabilities enabled maintenance teams to deliver significant cost and schedule savings, returning ships to operations faster than conventional supply lines allowed. This single, polymer component developed by the Southeast Regional Maintenance Center (SERMC), accounted for over $300,000 in cost avoidance [5].

Joint and Industrial Integration

The utility of AM also fostered stronger joint-service collaboration. The Navy recently partnered with the United States Coast Guard on a cross-service repair, rapidly restoring a critical piece of equipment on a United States Coast Guard vessel using a polymer 3D printer installed on an in-service submarine. This effort highlighted the technology's ability to rapidly bridge logistical gaps between the sea services [6].

Underpinning these successes is a deliberate effort to mature and scale additive manufacturing through a structured, low-risk process. NAVSEA engineering has empowered waterfront and forward-deployed maintainers to use AM for low-risk applications to support real-time maintenance needs. In this case, the Forward Deployed Regional Maintenance Center (FDRMC) Rota reduced repair times by 80% by using AM to fabricate the required part [7].

Material Specifications

NAVSEA's collaboration with academia and the industrial base is resulting in streamlined, more robust material requirement processes that have reduced testing requirements by over 60% and saved millions in qualification costs [8]. Additionally, NAVSEA has released three material specifications for additive materials (MIL-PRF-32802, MIL-PRF-32803, MIL-PRF-32804) available on ASSIST for use when specifying additive materials, with more to come [9].

Further Work

NAVSEA, in partnership with MIB, the industrial base, the Fleet, and academia, will continue the work of 2025 with more parts, more material specifications, and more examples of enhanced Fleet Readiness. Partners, such as Hunt Valve, are developing and certifying new AM parts to steadily expand the catalogue of components available to the fleet [10].

A Proven Reality

The progress made in 2025 reflects a broader shift across the naval enterprise: Additive manufacturing is no longer viewed as an emerging experiment, but as a readiness enabler fully integrated into planning, maintenance, and sustainment.

As the Navy continues to modernize the maritime industrial base, 3D printing stands as a pillar of its strategy to sustain a lethal, resilient fleet in an increasingly complex operational environment.

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Navy, Pike District Partnership Co-Host Maritime Tech Industry Day with 3D Scanning Focus

By Aaron Thomas, NSWC Carderock Public Affairs

NORTH BETHESDA, Md. (Feb. 25, 2026) – Odean Cameron, from Naval Surface Warfare Center, Carderock Division, switches places with an industry attendee to better understand their perspective during a collaborative session at Carderock's Industry Day. The exercise was designed to show how Carderock can help solve problems and foster collaboration between the Navy and industry partners. The event was co-hosted by Carderock and the Pike District Partnership with support from the Montgomery County Economic Development Corporation. (U.S. Navy photo by Aaron Thomas)

NORTH BETHESDA, Md. – In a move to bolster technological advancement, Naval Surface Warfare Center, Carderock Division, partnered with the Pike District Partnership (PDP) and with support from the Montgomery County Economic Development Corporation, hosted a two-day innovation summit on Feb. 25-26, 2026. The summit, held at the Bethesda North Marriott Hotel & Conference Center, brought together leaders from academia, government, and industry to unite the region's tech ecosystem and explore the future of 3D scanning and additive manufacturing.

Capt. Chris Matassa, Commanding Officer of NSWC Carderock, highlighted the significance of local collaboration. "This event is a great way for us to showcase Carderock's world-class ship design and maritime tech innovation mission and the many opportunities available for partnership with small business and industry right here in our backyard in Montgomery County," Matassa said.

The first day of the summit, Industry Day, was dedicated to opening a dialogue with the local business community and offering first-hand insight into Carderock's future requirements. Attendees engaged directly with command leadership and representatives from Carderock's technical codes, including its Naval Architecture and Engineering, Platform Integrity and Signatures departments, in an open forum discussion on "How We Work."

Theresa Cameron, executive director of the Pike District Partnership, commented on their role in facilitating these connections. "We're so happy to be assisting the Navy with this important event that will help local businesses get introduced to how they can work collaboratively with Carderock. We hope that everyone will take away some good tools that they can use to develop their businesses."

The second day, titled SIDE 2026: A Deep Dive into 3D Scanning. SIDE, which stands for Scanning Industry Day Event, focused on the rapid evolution of digital geometry technology as well as presentations from students showcasing how they use 3D scanning and printing to solve critical naval technical problems.

Rayna Roades, a student panelist from Northern Virginia Community College, shared her perspective on the value of the event: "As someone who is an artist and engineer at the same time, it was really fun to see other people passionate about intersections of technologies. This is really helpful; it helps us see what is happening in the industry with this software and where we can take this."

The significant turnout and active participation across both days underscored a strong desire from the private sector to collaborate with the Navy. "I think one of the takeaways is that people really want to have the engagement, they've got a lot of questions. And they do want to work with Carderock," observed Lauren "Tink" Hanyok, Carderock's innovation and foresight lead, who helped organize the summit.

The primary goal of the technical sessions was to produce draft proposals that could be developed into working agreements to directly support the warfighter. As Hanyok concluded, "Having these types of engagements as often as we can is really valuable to build sort of that ecosystem that sort of surrounds the type of tech that Carderock works on."

The summit marked a key step in building a robust innovation ecosystem that serves both national security and regional economic vitality.

NORTH BETHESDA, Md. (Feb. 26, 2026) – Brendon "Cobie" Bondoc, right, a mechanical engineer at Naval Surface Warfare Center, Carderock Division, moderates the Leadership Perspectives Panel during the SIDE 2026: A Deep Dive into 3D Scanning industry partnership forum. The panel brought together leaders from government, industry, and academia to discuss advancements in 3D scanning technology. Panelists included Dr. Davis McGregor from the University of Maryland, Dr. Bala Muralikrishnan from the National Institute of Standards and Technology (NIST), Jay Ong from Naval Sea Systems Command (NAVSEA), Michael Raphael from Direct Dimension, Inc., and Dr. Cindy Waters from Carderock. The event was co-hosted by Carderock and the Pike District Partnership with support from the Montgomery County Economic Development Corporation. (U.S. Navy photo by Aaron Thomas)

Safeguarding Innovation: The Strategic Role of Patents at Carderock

By Alisha Tyer, NSWC Carderock Division Public Affairs

BETHESDA, Md. – At Naval Surface Warfare Center, Carderock Division, innovation is more than a breakthrough in the lab. It is a lineage that stretches back more than a century and continues to shape how the Navy protects and advances its intellectual capital.

The practice of safeguarding Navy innovation at Carderock traces back to Rear Adm. David W. Taylor, whose groundbreaking work in ship design and model testing earned him 13 patents from the late 1890s through the 1930s. More than a century later, that tradition of inventiveness remains central to how Carderock protects and advances Navy innovation.

Capt. Chris Matassa, Carderock's commanding officer, highlighted how Carderock's current inventors continue the command's long tradition of technical innovation.

"We have a proud tradition here of inventing useful technologies and then ultimately patenting them," Matassa said. "It's great to be able to continue the tradition that our founder started."

Today, the patent process plays a strategic role in ensuring that Carderock's early-stage technologies remain assets the Navy can rely on as they evolve into future systems and capabilities. It also supports Naval Sea Systems Command's (NAVSEA) broader mission priorities by reinforcing Carderock's technical authority and preserving access to high-value technologies as they mature.

Patents as strategic leverage

As the Navy's primary center for ship and ship system innovation, Carderock delivers world-class, cost-effective, and groundbreaking technical solutions for advanced ships and systems to strengthen the U.S. maritime industrial base and ensure long-term maritime superiority. These inventions often become the building blocks of future Navy systems, platforms, and processes.

From the Office of Counsel's perspective, patents create essential leverage long before a technology reaches a program of record.

"Building a robust patent portfolio allows Carderock, and the broader U.S. Navy, to have negotiating latitude in the formulation of major Navy programs," said Jesus Hernandez, Carderock's associate counsel for intellectual property. "Patents are strategic tools that protect investment, expand options, and help sustain a culture of innovation."

That leverage can influence competition, timelines, contracting terms, long-term sustainment considerations and pricing, said Hernandez, giving the Navy a stronger negotiating position when technologies are ready to develop at scale.

Patents as enablers of technology transition

Patents are also a critical enabler for technology transition. Carderock's Technology Transfer Office manages the process that allows innovations to move beyond the laboratory and into the hands of companies, partners, and eventually, the fleet.

Intellectual property (IP) is the broad category of legal protections applied to intangible creations such as inventions, secrets, commercial symbols, and artistic works. Different types of IP correspond to different kinds of assets: inventions are protected through patents; confidential know-how through trade secrets; product names and symbols through trademarks; and creative works through copyrights. Patents are one of the most important forms of IP for Carderock because they safeguard the technologies our researchers develop and allow those technologies to be responsibly advanced, shared, or commercialized. The process ensures that Carderock research is protected and positioned to create real-world impact.

However, even with strong IP protection, moving an invention beyond the patent stage remains one of the hardest parts of the innovation lifecycle.

In a 2018 NAVSEA article about Carderock's partnership with the FedTech program, Joseph Teter, director of technology transfer, explained the challenge: "The benefit for Carderock is that we're exposing our scientists and engineers to a new way of thinking about how they interact with companies and get their technology to the point where it's usable by the Navy. It's great to come up with a new idea and then patent that idea. But then you have to take that idea and see if you can get it to the fleet. That's difficult."

Teter's perspective highlights an important point that's still relevant years later: securing a patent is only the first step. This is where Carderock's patent portfolio becomes more than an archive of ideas – it becomes a platform for partnership.

"A patent portfolio allows the Navy to support startups, spin-offs, small businesses, and even large businesses interested in developing defense technologies," Hernandez said. "Our patents can be licensed or paired with collaborative technology transfer arrangements that leverage the amazing facilities here at Carderock."

In cases where Navy-owned technologies are licensed, any revenue that is generated may support both the inventor and the command. Inventors may receive financial awards, and remaining funds can be reinvested into Navy research and technology transfer activities to help sustain future innovation.

Recognizing the workforce behind the innovation

While patents serve many strategic functions, they also reflect something more personal: the creativity, discipline, and perseverance of Carderock's workforce.

Although the rights to each invention belong to the U.S. government, every patent issued at Carderock bears the inventor's name, recognizing the individual expertise behind the work. Patentees are honored not only through financial awards but also at the command's annual Patent Awards Ceremony, reinforcing a culture where innovation is both encouraged and celebrated.

Hernandez explained that securing a patent is a rigorous process and a meaningful milestone. Within the scientific and engineering community, patents represent technical excellence and serve as an informal marker of an individual's innovative capacity.

"The research and innovation that's involved in these patents reinforces Carderock's core values of integrity, innovation and excellence," Matassa said. "I commend our inventors for their curiosity, their technical skill, and their perseverance. Their work directly supports our mission and strengthens the capabilities our warfighters depend on."

A tradition that will continue to shape the Navy

From Rear Adm. Taylor's propeller designs more than a century ago, to today's advanced materials, hydrodynamic tools, and manufacturing technologies, Carderock's commitment to invention has remained constant. As the Navy continues to advance its capabilities, the practice of protecting those innovations, and the people who create them, remains essential to sustaining maritime dominance.

Calvert County STEM Expo

PRINCE FREDERICK, Md. (Feb. 21, 2026) – Dr. Shane Wines and Jacquelyn Southerland, both Albert Einstein Distinguished Educator Fellows, attended the 13th Annual Calvert County Science and Engineering EXPO at Calvert High School. The event, hosted by Calvert County Public Schools, offered a platform for STEM professionals to engage with the local community and inspire the next generation of innovators.

The event featured dozens of hands-on activities designed to connect students with real-world applications of STEM principles used in naval and other scientific fields and provided an opportunity for future innovators of all ages to encounter and learn about the advanced technology used in naval research and development. (U.S. Navy photos by Aaron Thomas)

Emerging Technology Youth Summit

WEST BETHESDA, Md. (March 24, 2026) – More than 125 students from Calvert, Baltimore and Montgomery counties participated in an Emerging Technology Youth Summit at Naval Surface Warfare Center Carderock Division. During the summit, students toured the facilities and participated in hands-on activities with Carderock engineers and partners, including Ozobots, Escape Velocity Academy, ATDM and the Office of Naval Research (ONR). The event was designed to teach students about computational engineering, coding, robotics, and internship and apprenticeship opportunities at NSWCCD. (U.S. Navy photo by Corum Byers)

Montgomery Blair High School

WEST BETHESDA, Md. (Jan. 6-7, 2026) – Ninth grade students from Montgomery Blair High School visited Carderock. Through Carderock's Educational Partnership Agreement, students piloted Sea Perch tethered robots in the mini model basin, competed in a Wind Tunnel Design Prize Challenge, toured multiple research labs, and engaged directly with researchers and scientists. They also learned about educational internship, fellowship, and scholarship opportunities available through Naval STEM, NSWC Carderock, and the Office of Naval Research- highlighting clear pathways to future STEM careers.

STEM Graham Park Middle School

WEST BETHESDA , Md. (Jan. 13, 2026) – Students from Graham Park Middle School in Triangle, Va. learn to program 'Ari' ozobots during a STEM activity at Naval Surface Warfare Center, Carderock Division.

Queen Anne's County High School

WEST BETHESDA, Md. (Jan. 14, 2026) – 9th and 10th grade students from Queen Anne's County High School plunged into #STEM learning at Carderock. Exploring the Fabrication Lab, Wind Tunnel, and Ship Model Lab, where engineers shared their journeys and insights at Carderock, students were able to engage in thought-provoking conversations and ask questions about naval innovations, their significance, and beyond. Students also participated in the Seaworthy STEM™ Curriculum, using rapid prototyping to design, test, and convince their peers to invest in their prototypes. This experience offered a day-in-the-life perspective, igniting interest in internships and other opportunities at Carderock.

Northern High School STEM

WEST BETHESDA, Md. (Feb. 3, 2026) – Northern High School STEM students with a biomedical and engineering focus visited Carderock, for an immersive field experience. In the Rubber Lab, they observed engineers refining maritime materials. In the Battery Lab, they learned about explosive battery testing and its importance for naval vessels. The Ship Model Lab demonstrated advances in ship modeling. Engineers described their career paths and offered practical engineering insights throughout. Following the lab tours, students participated in the Carderock engineering challenge. They designed, prototyped, tested, and pitched solutions, simulating real engineering tasks and incorporating Ozobots into robotics.

Hood Elementary Visit

WEST BETHESDA, Md. (Feb. 4, 2026) – Hood College's elementary pre-service teachers participated in an immersive STEM experience at Carderock. The day was filled with engaging activities designed to inspire and prepare the next generation of elementary science educators. The visit included guided tours of the Maneuvering and Seakeeping Basin (MASK; AKA "Indoor Ocean") and the David Taylor Model Shop and Basin, giving students a firsthand look at our world-class facilities. Participants took part in hands-on lab activities, applying scientific concepts and inquiry skills in real-world contexts. Additionally, there were in-depth discussions centered on the Next Generation Science Standards (NGSS), helping students connect educational theory with practical engineering applications at the elementary level through our "Seaworthty STEM" curriculum.

Carderock Springs Elementary School

BETHESDA, Md. (March 10, 2026) – The Carderock STEM team visited Carderock Springs Elementary School to assist fourth graders in their SeaPlane Builds. The students took to the productive struggle of building their planes using their collaboration and comprehension skills. We thank Carderock Springs Elementary staff and volunteers for their support and look forward to seeing their school on April 27th for the SeaPlane Competition!

Bennett Middle STEM

WEST BETHESDA, Md. (March 11, 2026) – Bennett Middle School, a part of Wicomico County, and Chesapeake High School, a part of Anne Arundel County visited Carderock, as part of a STEM field experience. Students toured the Additive Manufacturing Lab and Model Basin, competed in Morse Code Madness, and did a Wind Tunnel Design Engineering Challenge.

PG County Science Fair

SPRINGDALE, Md. (March 21, 2026) – A student and a Boston Dynamics robotic dog, nicknamed "Gromit," pose with paper airplanes at the Prince George's Area Science Fair and STEM Expo, held at the Prince George's Sports & Learning Complex on March 21, 2026. The demonstration, hosted by engineers from the Naval Surface Warfare Center, Carderock Division, challenged participants to land paper airplanes on a stationary target designed to simulate an aircraft carrier. This hands-on activity was created to illustrate the aerodynamic challenges of naval aviation and to inspire students to pursue careers in science, technology, engineering, and math (STEM). (U.S. Navy photo by Aaron Thomas)

Rockstar: Joshua Park

WEST BETHESDA, Md. (Feb. 2, 2026) – Capt. Chris Matassa, commanding officer of Naval Surface Warfare Center, Carderock Division, presents a letter of appreciation and a command coin to Joshua Park at the command's headquarters. Park was recognized for his work in May 2025 supporting Naval Special Warfare Group 4 (NSWG-4) and Special Boat Teams. His critical insights led to the development of tactics, techniques and procedures to address certain threats of interest. (U.S. Navy photo by Corum Byers)

Rockstar: Jon Thompson

WEST BETHESDA, Md. (Feb. 12, 2026) – Deputy Assistant Secretary of the Navy, Research, Development, Test & Engineering (RDT&E), Peter Reddy, left, and Naval Surface Warfare Center, Carderock Division's Director of Engagement, Jonathan Thompson, listen as Carderock Commanding Officer, Capt. Chris Matassa reads a letter of appreciation during an awards ceremony at Carderock's headquarters in West Bethesda. Thompson received a letter of appreciation and a command coin for his work as executive producer of the Naval Research & Development Establishment (NR&DE) introduction video filmed at Carderock's Maneuvering and Seakeeping (MASK) Basin. During his tenure, Thompson curated more than 100 NR&DE video submissions highlighting the strategic importance of the maritime industrial base and the NAVSEA enterprise. (U.S. Navy photo by Travis Troller)

Command Coin: Facilities Team

WEST BETHESDA, Md. (Feb. 18, 2026) – Naval Surface Warfare Center, Carderock Division's Facilities team, Code 102, were recognized for their exceptional dedication and tireless efforts before, during, and after the January 2026 snowstorm on February 18th, 2026, in West Bethesda, Md. The team worked around the clock, prioritizing the clearing of critical roadways and access points, and diligently responding to many service requests. Through their persistent and strategic efforts, they systematically cleared parking lots from 0% to 40% unavailable to over 95% accessible, reopened vital loading docks, and ensured buildings were safe for entry, all while consistently prioritizing the safety of base personnel. (U.S. Navy photo by Corum Byers)

Command Coin: James Kennery

WEST BETHESDA, Md. (March 5, 2026) – James Kennery, a Carderock employee on temporary duty from San Diego, was recognized for his exceptional support to the fleet. The recognition, approved by Carderock Division Commanding Officer, Capt. Chris Matassa, came after unsolicited praise from three separate leaders for his work. Kennery splits his duties between providing direct submarine support in San Diego and serving as the Assistant Program Manager for the Relocatable Over the Horizon RADAR (ROTHR) system, where his leadership has been key to a new technology program enhancing warfighting readiness. (U.S. Navy photo by Corum Byers)

Command Coin: RAMP Team

WEST BETHESDA, Md. (March 26, 2026) –This award is in recognition of the RAMP team's commitment to the Carderock Division mission as demonstrated by their technical excellence in establishing the Rapid Applied Materials and Processing (RAMP) Facility. This multidisciplinary cross-organizational team has successfully taken RAMP from concept through design and requirement definition to its physical realization. Throughout this process the team has consistently adapted to emergent requirements and found innovative solutions to challenges as they inevitably arose.

In February 2026, the team achieved a significant operational milestone in the commissioning of the first industrial scale equipment in the RAMP Facility at the NSWCCD Memphis Detachment. The team's actions are ensuring that the RAMP Facility has become a national asset for defense-specific alloy development and manufacturing solutions. (U.S. Navy photo by Travis Troller)

Delia Chen, Carderocks' Digital Adoption Lead - SharePoint and Power Platform

By Brittny Odoms, NSWC Carderock Division Public Affairs

WEST BETHESDA, Md. – Delia Chen, the Digital Adoption lead - SharePoint and Power Platform within the Enterprise Solutions Branch at Naval Surface Warfare Center, Carderock Division, is settling into her role at the command, finding both challenges and rewards in her first year.

Chen (Code 1044), who joined Carderock just over a year ago, said the transition has been "a slight adjustment" but overall, very positive.

"People here are really nice and helpful," she said. "I've met a lot of great people and collaborated on many projects. It's been an interesting place to work."

In her dual role, Chen manages the command's SharePoint sites and assists personnel with technical questions. She works with other warfare centers and higher echelons to brainstorm solutions to improve business processes at Carderock. On the Power Platform side, she meets with stakeholders to streamline workflows through automation and other technical solutions.

"There's a lot to take in, and I don't know if I'll ever finish learning," Chen said. "But it's been a journey, and I'm enjoying it."

Chen's path to Carderock began with a degree in international business and a marketing minor from James Madison University, where she graduated in 2011. Early in her career, she worked for tech startups, initially in project management before moving into more technical roles that allowed her to address problems directly rather than waiting for an engineer.

Her experience with SharePoint and Power Platform in previous positions drew her to Carderock, where she could have a larger impact on how these tools are used across the command.

Among her proudest projects so far are the creation of a registration app and standing up SharePoint pages for the 2025 "Bring Your Child to Work" and "Bring a Friend or Family Member to Work" days, as well as a NAVSEA-wide STEM data call solution that created a seamless experience for collecting responses across 16 programs while significantly reducing email communications.

"It's been rewarding to see how leveraging these tools can help people in their day-to-day work," Chen said.

For those interested in following a similar career path, Chen emphasized hands-on learning. "There are a lot of resources out there. Google and YouTube are my friends," she said. "Having a project in mind and working on it with SharePoint or Power Platform is a great way to get started."

Outside of work, Chen enjoys fostering dogs with her husband – a pastime that has grown into a permanent household of three dogs, all former fosters.

Anindita Mukherjee is a Mechanical Engineer in Carderock's AM Group

By Alisha Tyer, NSWC Carderock Division Public Affairs

BETHESDA, Md. – For Anindita Mukherjee, creativity and technical precision have never been separate pursuits. At Naval Surface Warfare Center, Carderock Division, they finally meet in the same work.

Mukherjee didn't set out to work in naval engineering. As an aerospace engineering student at the University of Michigan, her focus was on space systems: satellites, rockets, and problems far beyond the ocean.

Carderock wasn't part of the plan when she attended a career fair.

"I made eye contact with the right recruiter," she said. "I had a lovely on-site interview and then I ended up here."

What started as an unplanned step turned into a role that fits more naturally than she expected.

"I think it's a job that I always wanted but didn't know," she said. "I knew I wanted something hands-on. I knew I wanted a very collaborative environment where I got to use my creativity. I just never thought it would be here."

Mukherjee joined Carderock in 2020, initially supporting ship structural modeling and simulation. The work focused on understanding how structures behave over time. She evaluated strength, damage, and performance through digital models.

Her work today reflects a different pace and level of engagement.

As part of the Manufacturing of Attritable Systems at Scale (MASS) team, Mukherjee contributes to the design and development of rapidly produced systems designed for flexibility and use in operational environments. The team's work emphasizes speed, accessibility, and the ability to manufacture closer to the point of need.

For Mukherjee, the shift is both immediate and tangible.

"It's really rewarding to see something that I generated and designed and talked about with my coworkers actually being built by me," she said. "It's like your baby."

That pace is matched by how the team operates, relying on close collaboration, quick feedback, and shared space to move ideas forward.

"Being so immediate with one another, we're able to innovate much more quickly," she said.

That same instinct to build, iterate, and visualize has been with her much longer than her engineering career.

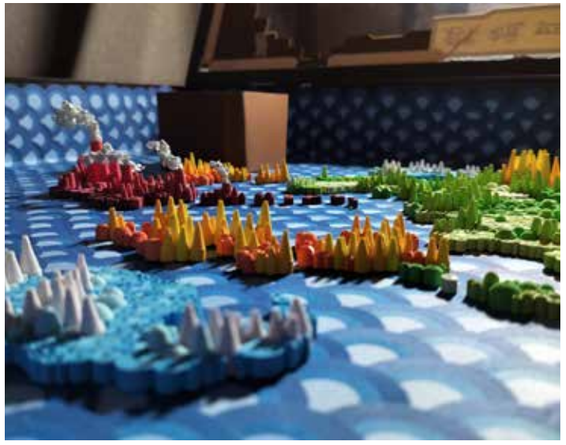
Outside of work, Mukherjee practices paper quilling, a form of art that transforms thin strips of paper into intricate, layered designs. The process is detailed and repetitive, requiring both planning and patience.

"I was always an artist as a kid," Mukherjee said.

Recently, she completed a two-foot by three-foot quilled map inspired by "Avatar: The Last Airbender," a project that took thousands of individual pieces to complete.

Mukherjee describes being an artist as "a very foundational part" of who she is. Her creative work doesn't sit separate from her technical work. It informs how she approaches both design and problem-solving.

That influence shows up in how she communicates complex ideas. In one project, she used her artistic skill to map and visualize technical information for inspectors, making it easier to interpret and act on.



"It's interesting the things that I can help visualize and communicate to other people using my artistic skills that are already there," she said.

That combination came into focus in a recent project that connected her work back to her alma mater.

Mukherjee designed a custom vessel wrap for the University of Michigan's Mixing of the Waters ceremony, incorporating the skyline of Carderock's historic David Taylor Model Basin. The piece will remain on permanent display at the university.

Seeing the finished product, and her name on it, marked a shift. It reflected her growth as both an engineer and a professional.

"I'm so, so proud," she said. "I'm proud to take ownership of it, which is something I've been learning how to do."

Asked what she would tell someone still figuring out their path, Mukherjee kept it simple.

"Do what you love," she said. "Keep looking for what will make you happy."

Mukherjee's path didn't follow a straight line, but it led her to a space where the things she's always been drawn to – building, designing and creating – support one another.

At Carderock, she didn't have to choose between being creative and being technical. She just had to recognize they were the same thing.

Rita Schuh is the Navy's UNDS Expert

By Brittny Odoms, NSWC Carderock Division Public Affairs

WEST BETHESDA, Md. – Rita Schuh, an environmental engineer in the Environmental and Energy Division of the NSWC Carderock Division, has spent 37 years to promote environmental compliance and protection of marine ecosystems across the Armed Forces. She supports the Naval Sea Systems Command on the Uniform National Discharge Standards (UNDS) and Ballast Water programs, which are critical for standardizing environmental regulations and preventing the spread of non-indigenous species.

With a Bachelor of Science in Mechanical Engineering from The Ohio State University and a Masters in Public Administration from the University of Oklahoma, Schuh began her government career in 1989. Her journey has included diverse roles in energy programs, environmental quality, and pollution prevention at naval facilities and air bases from Washington, D.C., to Misawa, Japan, and San Diego. This broad experience has been instrumental in her leadership of complex environmental initiatives.

Schuh's work on the UNDS program helps establish consistent environmental discharge requirements for Navy ships across all U.S. ports, simplifying compliance for the fleet. Her leadership in the Ballast Water program is vital to the research and development of solutions that protect native ecosystems from invasive species, ensuring the Navy operates as a responsible steward of the seas.

"The success of both the UNDS and Ballast Water programs depend on an interdisciplinary approach," Schuh said. "Our team members have a variety of engineering and science expertise and we turn to subject matter experts to ensure that the UNDS requirements and ballast water solutions we are advancing will actually work and support the afloat mission."

Having recently transitioned to a part-time role after mentoring two engineers to take over as technical leads, Schuh continues to contribute her expertise to the team. Her career reflects a deep commitment to both the Navy's mission and environmental protection, showcasing how engineering excellence can support and sustain the warfighter.

Enhancing Helicopter Safety at Carderock: Computer Scientist Robert Ricketts

By Brittny Odoms, NSWC Carderock Division Public Affairs

WEST BETHESDA, Md. – Robert Ricketts, a computer scientist at Naval Surface Warfare Center, Carderock Division, is leveraging data analytics to redefine safety for the Navy's rotary-wing fleet.

Ricketts, who holds a degree in computer engineering from the University of Maryland, serves within Carderock's Sea-Based Aviation and Aeromechanics Branch. His work focuses on the intersection of data analysis and engineering to bolster the reliability of aerospace systems.

A cornerstone of his efforts is Flightscope, a diagnostic system designed to help engineers and data scientists rapidly identify safety discrepancies in helicopters. Flightscopeprovides real-time feedback, enabling the technical team to detect and mitigate potential hazards before they escalate.

"The warfighter needs to be able to count on their equipment, and Flightscope helps them do so," Ricketts said.

The system is a critical component of Condition-Based Maintenance, ensuring that helicopters—integral to vertical replenishment, search and rescue, and combat operations—remain mission-ready. By streamlining the identification of mechanical stressors, Flightscope reduces downtime and enhances the safety of personnel operating in high-stakes environments.

Ricketts' contributions highlight the evolving role of computer science in modern naval defense. By applying advanced analytics to flight data, he ensures that the fleet's functionality and readiness remain a top priority. For Ricketts, the mission is clear: providing the fleet with the tools necessary to operate with absolute confidence.

Through his ongoing work at Carderock, Ricketts continues to solve complex engineering challenges, advancing the safety and operational lethality of the Navy's aviation assets.

> ***"The warfighter needs to be able to count on their equipment, and Flightscope helps them do so."***

From Computer Scientist to Educator: Dr. Shane Wines Leverages AI to Expand STEM in Support of the Warfighter

By Brittny Odoms, NSWC Carderock Division Public Affairs

WASHINGTON, DC. (Oct. 2025) – Dr. Shane Wines (second on left) stands along with other 2025-2026 Albert Einstein Distinguished Educator Fellows at the STEM Ecosystems conference.

BETHESDA, Md. – Dr. Shane Wines, an educator and computer scientist, is leveraging his academic background and passion for technology to expand computer science education and support future national security missions.

Wines, one of this year's Albert Einstein Distinguished Educator Fellows, holds a bachelor's degree in computer science from Coastal Carolina University, a Master of Arts in leadership in teaching from Notre Dame of Maryland University and an Ed. D. in instructional technology from the American College of Education.

Born and raised in Calvert County, Maryland, Wines overcame a difficult childhood, spending his high school career homeless and living with his best friend's family. His friend's father, an engineer at Naval Air Station Patuxent River (Pax River), ignited Wines' interest in computers by teaching the boys how to take apart and build them.

As someone who initially thought college was financially out of reach, Wines began his journey after discovering opportunities for tuition-free higher education. After obtaining his bachelors in 2013, Wines struggled to find a job. At a friend's suggestion, he began substitute teaching seventh and eighth grade science in 2015.

His colleagues and supervisor quickly picked up on his natural teaching ability and the rapport he built with the students, encouraging him to pursue the profession full time. Wines earned his teaching certificate and a master's degree in 2017, then taught at Calvert High School in Calvert County for 10 years.

During his first two years teaching, Wines accepted an offer to launch a computer science pathway for students. He transformed the program, growing his course from the school's smallest Advanced Placement class to its largest and founding multiple computer science clubs.

After learning about the Einstein Fellowship from Ellen Servetnick, the K-12 education outreach program manager at Pax River, Wines applied and was accepted.

Throughout his career, he has concentrated on exposing students to computer science, artificial intelligence (AI) and engineering while strengthening existing curricula and creating new educational opportunities.

"I've been focused on wanting to support the mission and support the warfighter," Wines said. "A lot of that comes from exposing more students to the potential of being a computer scientist or engineer."

Wines recently designed and launched an educational video game that introduces students to foundational AI concepts through an interactive, Navy-themed experience. The game teaches heuristics — simple rule-based decision-making — by allowing players to code an AI advisor that determines whether to collect data, upload it to a naval ship, or evade enemy forces.

WEST BETHESDA, Md. (Dec. 2025) – Dr. Shane Wines (far left) alongside staff and students from Calvert High School, his former school where he taught for 10 years, on a field trip to Naval Surface Warfare Center, Carderock Division.

The game launched approximately one month ago and recorded more than 4,000 activity starts in its first week, exceeding 5,000 to date. The platform tracks engagement through Code.org, providing insight into the game's global use.

Beyond coding, the game introduces players to three naval career fields: robotic warfare specialists who work with unmanned underwater vehicles, sonar technicians and oceanographers. As students' progress, they learn about the history and purpose of underwater drones, sensor technologies and system interaction.

"The cool thing about the game is it introduces students to real naval careers while they're learning computer science and AI," Wines said.

Wines also aims to expand AI literacy among adults, including developing foundational training resources. He noted the growing importance of understanding generative AI tools and strengthening skills such as prompt engineering.

Wines is scheduled to complete his fellowship in July 2026. During his tenure at Carderock, he has already contributed significantly to educational tools and outreach initiatives.

While Wines values classroom teaching and recognizes the nationwide shortage of computer science educators, he is considering leadership roles that would make a broader impact. Potential paths include directing an educational organization, supporting government education initiatives or returning to work as a computer scientist.

"I love teaching," Wines said. "But I also see an opportunity to support and help a lot more people by working at a higher level."

Outside of work, Wines spends time with his 1-year-old daughter, incorporating Montessori-style learning and swimming lessons and story time into their daily routine. He also enjoys spending time outdoors near Solomons Island collaborating with fellow engineers and scientists and continues his own learning through robotics and simulation projects.

"You should never stop learning," Wines said. "A lot of what I do feels like work, but it's also fun because I'm constantly exploring new tools and thinking about how they can be used."

Wines said his ultimate goal remains focused on impact — preparing the next generation with the skills needed to meet future challenges while supporting the broader mission.

Program Analyst Ta'Lor Baker Puts Mentorship at Carderock on the Fast Track

By Alisha Tyer, NSWC Carderock Division Public Affairs

BETHESDA, Md. – From county government to the Pentagon, Ta'Lor Baker has worn many hats throughout her career. Now, as a Program Analyst at Naval Surface Warfare Center, Carderock Division, she's using her diverse experience to help others navigate their own professional journeys through mentorship. Recently, Baker revitalized the command's mentorship programs by organizing a speed mentoring event that connected employees with mentors.

Baker, the program manager for Carderock's Mentoring, Advanced Leadership and Supervisor Training Programs, credits her early career for preparing her these roles. Before joining Carderock as a federal employee two years ago, she worked in county government while attending the College of Southern Maryland and as a contractor at Naval Air Station Patuxent River and the Pentagon. These experiences helped her hone the communication and adaptability skills she now uses to engage the workforce.

That adaptability drives her strategy. Baker noted the speed mentoring event was a collaborative idea aimed at finding fresh ways to get people involved.

"The biggest lesson I have learned over the last year is that flexibility is the most important thing when trying to plan events that are not mandatory," Baker said. "You have to keep it simple and fun enough to hold their interest."

Baker said mentorship boosts career development, creates networking opportunities, and helps employees "feel connected overall in our organization."

By providing clear paths for career growth and fostering a supportive environment, mentorship plays a key role in talent retention and development. Baker's speed mentoring events are one part of this wider command strategy. Carderock also offers one-on -one, group and reverse mentoring – where junior employees share their insights with senior leaders.

These efforts, along with the Peer Mentoring Network that supports new hires, are part of a mission Baker plans to expand. She aims to host future hybrid events, social lunches and workshops to ensure all employees, including those at detachments, feel included.

For Baker, these efforts serve a single, powerful purpose: helping people find their own paths. She believes mentorship is critical because it "expands professional networks and unlocks so many opportunities." Her philosophy stems from a Steven Spielberg quote: "The delicate balance of mentoring someone is not creating them in your own image, but giving them the opportunity to create themselves."

Snowfall at Carderock

WEST BETHESDA, Md. (Jan. 23-25, 2026) – Mongomery County received roughly 10" of snow over the past weekend. Thank you to facilities and the clean-up crews for all your efforts! (U.S. Navy photo by James Contreras)

Carderock Team Fabricated Golden Fleet Models Showcased at SNA

WEST BETHESDA, Md. (Aug. 28, 2025) – Mr. Adam Smith (right), an employee with the Fabrication and Technical Support Division, explains the assembly of the physical models to visitors at Naval Surface Warfare Center, Carderock Division. Pictured from left are: Mr. Matt Gutmann; Mr. Chris Miller, Executive Director of Naval Sea Systems Command; Mr. Tom Perotti, Executive Director, Naval Sea Systems Command, Engineering and Logistics (SEA 05), and (Acting) Executive Director Naval Surface and Undersea Warfare Centers; and Capt. Chris Matassa, Carderock's Commanding Officer. Mr. Miller and Mr. Perotti recognized the model team's effort in delivering four precise 1/250 scale models in just eight calendar days for NAVSEA headquarters. The visit was part of a familiarization tour of recent projects at Carderock. (U.S. Navy photo by Corum Byers)

ARLINGTON, Va. – In December, President Donald Trump announced a new battleship as the part of the Navy's Golden Fleet initiative.

Secretary of the Navy John Phelan spoke at the Surface Navy Association National Symposium in Arlington on Jan. 13 about the importance of modernizing the surface fleet. During the event, Phelan discussed the future battleship and future frigate, both of which were represented by models prominently on display.

Naval Surface Warfare Center, Carderock Division created the models. Earlier in 2025, a six-man team from Carderock's Fabrication and Technical Support Division (Code 621) and Future Concepts and Design Integration Division (Code 82) fabricated four 1/250th scale surface ship models. Working at the urgent request of Naval Sea Systems Command (NAVSEA), the team used additive manufacturing to complete the project in eight calendar days.

Christopher Miller, Executive Director of NAVSEA, and Thomas Perotti, Executive Director, Naval Sea Systems Command, Engineering and Logistics (SEA 05), and Acting Executive Director Naval Surface and Undersea Warfare Centers, visited Carderock on Aug. 28, 2025, to recognize this team. Honorees included Matt Guttman, Josh Crum, Adam Smith, Alexis Colon, Tim Lewis and Grant Dixon.

ARLINGTON, Va. (Jan. 13, 2026) – Carderock's Jeremy Salmon, Alexis Colon and Adam Smith, all from Naval Surface Warfare Center Carderock Division's Additive and Subtractive Shop (Code 621), stand with two of the models they created at the Surface Navy Association National Symposium. (U.S. Navy photo by Capt. Christopher Matassa, USN)

Swedish Delegation

WEST BETHESDA, Md. (Feb. 3, 2026) – Carderock hosted a delegation from Sweden. The group received a brief of NSWC Carderock, followed by tour of multiple facilities including the David Taylor Model Basin and the Maneuvering and Seakeeping Basin (MASK).

Carderock regularly engages with allies and key partners to ensure a maritime-dominant naval force ready for tomorrow's challenges. (U.S. Navy photo by Neubar Kamalian)

Joint Air Defense Operations Center Visit

WEST BETHESDA, Md. (Feb. 20, 2026) – Leadership from the Naval Surface Warfare Center, Carderock Division host members of the Joint Air Defense Operations Center (JADOC) for a command overview and facility tour. The visit was aimed at enhancing inter-command collaboration and familiarizing the JADOC team with Carderock's diverse scientific and engineering capabilities that support the joint warfighter. The engagement reinforces the partnership between the two commands and their shared commitment to national defense. (U.S. Navy photos by Neubar Kamalian)

Transform Your Future: Carderock Celebrates Engineers Week 2026

By Alisha Tyer, NSWC Carderock Division Public Affairs

BETHESDA, Md. – Naval Surface Warfare Center, Carderock Division joined naval warfare center divisions across the enterprise Feb. 23-27, 2026, to celebrate Engineers Week, to highlight the Navy's commitment to innovation, technical excellence and the engineers who design and sustain the future fleet.

Engineers Week, founded in 1951 by the National Society of Professional Engineers, recognizes the contributions of current engineers while inspiring future generations to pursue careers in science, technology, engineering, and mathematics. At Carderock, that inspiration has a direct impact on the mission.

In a message to the workforce, Rear Adm. Pete Small, Commander, Naval Surface and Undersea Warfare Centers, emphasized the transformative power of the profession.

"We don't just witness the future – we build it," Small said. "Engineering is about curiosity, solving complex problems, and turning ideas into reality."

He recognized the technical expertise across Naval Sea Systems Command (NAVSEA) and the warfare center enterprise, noting that engineers remain the force behind the fleet, ensuring naval platforms are ready, capable, and technologically superior.

"We are the Navy's trusted center for technical expertise, and the work you do within our labs, our workshops and our world-renowned facilities is truly second to none."

Capt. Chris Matassa, Carderock's commanding officer, also provided an address to local attendees, emphasizing the technical expertise of Carderock's engineers.

"Your curiosity and ingenuity are what give our warfighters their decisive edge," Matassa said. "This week is about celebrating your contributions. Thank you for your relentless dedication to excellence and for continuing to set the standard for naval engineering."

Throughout the week, Carderock hosted several virtual and in-person technical briefs, as well as a poster session and engagement events held at Carderock's Raye Montague Center. Enterprise-wide virtual events complemented local programming, offering sessions on modular open systems approaches, model-based systems engineering, and advanced manufacturing practices – all reinforcing the Navy's focus on disciplined innovation and interoperability.

WEST BETHESDA, Md. (Feb. 26, 2026) – Ashlee Floyd, Acting Director of Strategic Educational Outreach at Naval Surface Warfare Center, Carderock Division, leads attendees of Engineers Week events in a robotics coding challenge called "Ozobot Adventure: The Codebreaker's Challenge". (U.S. Navy photo by Corum Byers)

WEST BETHESDA, Md. (Feb. 24, 2026) – Members of Naval Surface Warfare Center, Carderock Division's Electromagnetic Signatures Technology Division engage with attendees at a poster session. (U.S. Navy photo by Corum Byers)

Presentations included:

- **"Keys to Success Using Advanced Manufacturing,"** presented by Jay Ong and Kyle McGrath, highlighting practical lessons in leveraging additive and advanced manufacturing technologies.
- **"Engineers Week Brief,"** delivered by Lars Brown, SEA 05W deputy navigation technical warrant, connecting technical authority to enterprise-wide impact.
- **"Department of the Navy (DON) Engineering Strategy Status Update,"** presented by Joy Newlin and Paul Walter, providing insight into strategic alignment and the future direction of naval engineering.
- **"The Benefits of Mentoring: An Engineer's Perspective,"** featuring Courtney Lake and Peter McCauley, emphasizing workforce development and the importance of cultivating the next generation of technical leaders.

Beyond formal presentations, the event created opportunities for curiosity and community engagement. The Carderock Library hosted a "Fall in Love with a Book" event to promote the command's technical library resources as well as non-technical titles to build camaraderie, and the STEM team hosted a hands-on demonstrations featuring Ozobot robots, giving employees a close-up look at the principles of robotics and engineering in action.

Engineers Week was not just a celebration of the profession, but a reaffirmation of its responsibility: to innovate with purpose, to collaborate with discipline and to deliver technical solutions that strengthen a resilient and mission-ready fleet.

Fall in Love with a Book Event

WEST BETHESDA, Md. (Feb. 26, 2026) – Naval Surface Warfare Center, Carderock Division's Library hosted a "Fall in Love with a Book" event for attendees of Engineers Week to promote the command's technical library resources as well as activities to build camaraderie. The event was part of an enterprise-wide Engineers Week themed "Transform Your Future." Carderock joined divisions across the Navy to celebrate Engineers Week with technical briefs and engagement events Feb. 23-27. (U.S. Navy photos by Kristin Behrle)

Carderock Strengthens Navy Partnership with Webb Institute

WEST BETHESDA, Md. (Feb. 26, 2026) – Naval Surface Warfare Center, Carderock Division hosted leadership from the Webb Institute to strengthen Navy partnership that predates the command itself. The visit facilitated strategic engagement between Carderock, the Navy's ship design and naval engineering powerhouse, and an institution that has been educating naval architects and marine engineers since 1889.

The engagement focused on aligning Webb's 130-year history of academic excellence in naval architecture and marine engineering with Carderock's core equities in ship and submarine design. This collaboration is codified through an Education Partnership Agreement (EPA) and participation in the Naval Engineering Excellence for the U.S. Navy (NEXUS) initiative, which allows Webb faculty and students use of Carderock's world-class facilities and expertise to solve real-world Navy challenges. By integrating Navy-centric coursework and research projects into the Webb curriculum, the two organizations are preparing a uniquely trained workforce to meet the nation's demand signal for complex maritime platforms.

Among the distinguished visitors were Webb Institute President Mark Martecchini and Matthew Werner, the Dean of Webb Institute and the newly appointed NAVSEA Professor. Werner's role is a cornerstone of the NEXUS initiative – a collaborative effort between the Naval Surface and Undersea Warfare Centers (NSWC/NUWC), Direct Reporting Program Manager (DRPM) Maritime Industrial Base (MIB), and Naval Sea Systems Command's (NAVSEA) Engineering Directorate designed to fortify the naval engineering pipeline.

"There has never been a more critical time for our naval engineering community," Rear Adm. Pete Small, NAVSEA Chief Engineer and Commander of NSWC/NUWC, recently stated. This visit brought that sentiment to life through technical tours of the David Taylor Model Basin and the Maneuvering and Seakeeping (MASK) Basin, alongside deep-dive discussions on hull form design, propulsors, structures, and signatures with Carderock's senior technical experts.

The visit concluded with an informal social lunch where Webb leadership met with alumni currently serving across the NAVSEA Enterprise, including Carderock, NAVSEA HQ, and various Program Executive Offices (PEOs). These enduring ties ensure that the next generation of engineers is not only inspired by the Navy's mission but is prepared to lead it. By investing in these proven institutions, we continue to ensure Carderock is Where America's Fleet Begins.

WEST BETHESDA, Md. (Feb. 26, 2026) – Naval Surface Warfare Center, Carderock Division hosted leadership from the Webb Institute. Guests participated in technical tours and strategic discussions, strengthening a historic partnership in naval architecture and marine engineering. (U.S. Navy photo by Neubar Kamalian)

German Navy Officers Visit Carderock

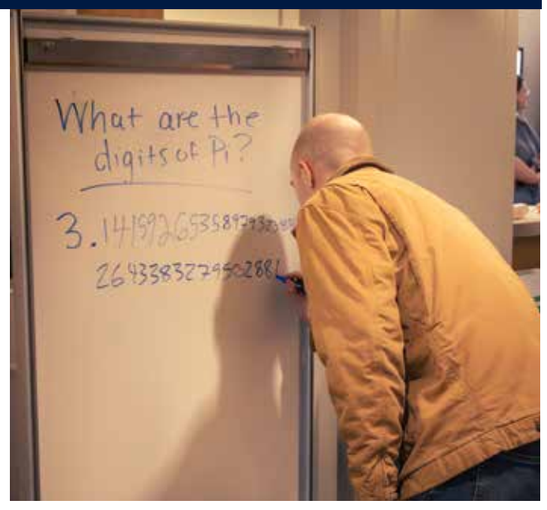
WEST BETHESDA, Md. (March 4, 2026) – Carderock Engineer Kyle, Mosqueda, gives a presentation to 94 newly graduated German Navy officers inside the David Taylor Model Basin, as part of a coordinated visit of the base with the International Engagement Office for ASN RDT&E. They were introduced to the David Taylor Model Basin, the Maneuvering and Seakeeping (MASK) basin, and learned about the ship design and testing processes unique to Carderock. (U.S. Navy photo by Travis Troller)

AUKUS Integration and Acquisition Visit

WEST BETHESDA, Md. (March 12, 2026) – Dr. Paul Lara and other subject matter experts from the Naval Surface Warfare Center, Carderock Division lead a tour of the facility for 14 AUKUS Integrational and Acquisition personnel. The trilateral AUKUS Pillar I effort, between the United States, Australia, and United Kingdon, supports the Australia's acquisition of conventionally armed, nuclear-powered fast-attack submarines. The visit highlights AUKUS Pillar I's ongoing submarine collaboration and development, making visits like this crucial for fostering shared understanding and advancing cooperative efforts. Stephanie Ferrone, from the AUKUS Integration and Acquisition (I&A) Office, coordinated the visit, which focused on submarine support lifecycle and enterprise, signature management, and hydrodynamics. The group received a command brief and toured facilities including the Model Shop, Tow Basin, Magnetics Laboratory, Explosive Test Pond, and the Maneuvering and Seakeeping Basin. (U.S. Navy photo by Jonathan Thompson)

Carderock Celebrates Pi Day

WEST BETHESDA, Md. (March 12, 2026) – The CMWR team hosted Pi Day. The event featured a variety of delicious pies for all to enjoy including apple, cherry, chocolate cream, key lime, and more. Employees were encouraged to take a break, connect with their colleagues and share a slice (or two) of pie. Aerospace engineer, Zach Birkbeck (Code 882), surprised all during the event by writing out 40 digits of Pi. (U.S. Navy photos by Travis Troller and Timothy Stryker)



All Hands

WEST BETHESDA, Md. (March 25, 2026) – Carderock Commanding Officer, Capt. Chris Matassa, and Acting Technical Director, Kate Terwilliger, hold a quarterly command all-hands call. The event consisted of updates and command priorities from leadership, recognition of employees for length-of-service milestones, and an in-depth discussion with both Paul Lara, Carderock's chief engineer, and Cmdr. Chris Jackson, Carderock's warfighting readiness coordinator. (U.S. Navy photo by Aaron Thomas)

WEST BETHESDA, Md. (March 25, 2026) – Carderock Commanding Officer, Capt. Chris Matassa, and Acting Technical Director, Kate Terwilliger, present a length-of-service award for 35 years of government service to Glen Bell during a quarterly command all-hands call. (U.S. Navy photo by Aaron Thomas)

WEST BETHESDA, Md. (March 25, 2026) – Carderock Commanding Officer, Capt. Chris Matassa, and Acting Technical Director, Kate Terwilliger, present a length-of-service award for 40 years of government service to Lisa O'Neill during a quarterly command all-hands call. (U.S. Navy photo by Aaron Thomas)

SPOTLIGHT

University of Iowa's Hydraulics Lab (IIHR) Tours Carderock

WEST BETHESDA, Md. (March 26, 2026) – Engineer Kevin Kimmel gives a tour of the Subsonic Wind Tunnel to Dr. Larry Weber, Director of University of Iowa's Hydraulics lab (IIHR), and Dr. Troy Lyons, Deputy Director of IIHR, during a visit to Naval Surface Warfare Center, Carderock Division on March 26, 2026. (U.S. Navy photo by Corum Byers)

Enterprise Solutions at Scale: Why Carderock Honors Rear Adm. Grace Hopper

By Alisha Tyer, NSWC Carderock Division Public Affairs

On Dec. 15, 1983, at the White House, President Ronald Reagan congratulates Grace Hopper on her promotion from Captain to Commodore, a title later redesignated as Rear Admiral (Lower Half). Hopper's decades of service helped shape the Navy's transition toward standardized, enterprise-scale computing systems. (U.S. Navy Photo by Pete Souza, Department of Defense)

BETHESDA, Md. – Naval Surface Warfare Center, Carderock Division's ability to deliver advanced ships and maritime systems to the U.S. Navy depends not only on technical excellence, but on disciplined processes that make complex engineering repeatable, scalable, and mission-ready. Those systems ensure that innovation can be delivered reliably to the fleet.

That expectation is reflected in one of Carderock's Division Honor Awards, named for Rear Adm. Grace Hopper. Understanding why Hopper's name was chosen offers insight into how the command defines process improvement, organizational support and mission impact.

A leader who strengthened the enterprise

Grace Hopper is widely recognized as a pioneer in computer science, known for developing one of the first compilers and helping advance standardized high-level programming languages. Yet her most enduring contribution to the Navy was not a single technical product; it was her determination to improve how the organization used technology at scale.

In the early era of computing, programs were written specifically for individual machines. Systems were rigid, fragmented and difficult to sustain across commands. Hopper challenged that model. She advocated for machine-independent languages and common standards that would allow systems to function consistently across the armed services.

Her work transformed computing from a collection of isolated tools into an interoperable capability. In doing so, she improved the processes that enabled critical products to function reliably across the force.

Six months that changed the Navy

In 1967, while serving in the U.S. Navy Reserve, Hopper was called back to active-duty for what was expected to be a six-month assignment. When she arrived at the Pentagon, she was presented with a clear problem: Navy payroll systems had been written hundreds of different ways. The lack of standardization created inefficiencies and long-term sustainment risks.

The Navy did not need additional discussion. It needed a technical solution that could scale.

Hopper accepted the challenge. The six-month tour extended well beyond its original timeline, becoming what she later described as the longest six months she ever served. Her efforts advanced the standardization of high-level programming languages across the Navy, reducing fragmentation and strengthening reliability in mission-critical systems.

The episode exemplifies her leadership approach. She entered a complex organization, identified systemic inefficiencies and implemented improvements that enhanced operational effectiveness across the enterprise.

Process as operational advantage

Hopper demonstrated that innovation without structure limits impact. The systems she advanced were effective because they were built on shared standards and consistent implementation.

Her philosophy aligns closely with how Carderock measures effectiveness today. The division's research, testing and engineering efforts depend on coordinated workflows, shared technical frameworks and strong communication across disciplines and partners. Whether modernizing digital engineering environments, refining modeling and simulation processes or strengthening manufacturing pipelines, progress relies on individuals who improve how the organization functions.

Hopper's legacy reinforces several principles central to Carderock's mission:

• Process improvement that strengthens technical outcomes
• Standardization that enables scalability and repeatability
• Organizational support that enhances mission delivery
• A focus on enterprise solutions rather than isolated fixes

These principles guide daily work across the division and support Carderock's role within the Naval Research and Development Enterprise.

How legacy informs recognition

The Grace Hopper Division Honor Award recognizes outstanding accomplishments in organizational support that result in developing or improving a critical product or process.

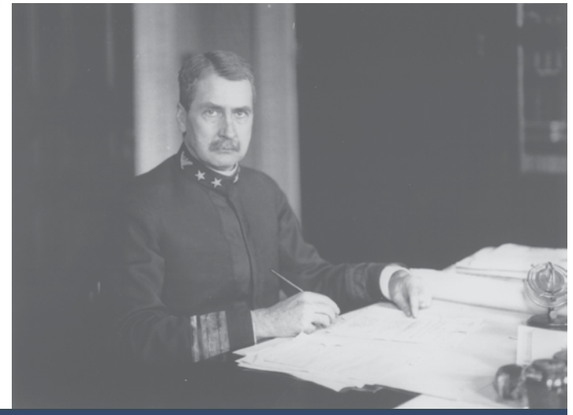
By naming the award for Hopper, Carderock signals that excellence is measured not only by invention, but by the ability to strengthen systems that allow innovation to succeed. It affirms that process improvement is foundational to delivering reliable capability to the fleet.

Commodore Grace Hopper's Navy portrait from 1984, when she was promoted to Commodore. Hopper's career combined technical innovation with enterprise-level process improvements that strengthened the Navy's ability to manage and standardize complex computing systems. (U.S. Navy photo)

Rear Adm. Grace Hopper's legacy endures because her approach remains relevant. At Carderock, that legacy is carried forward through the work of those who refine processes, reduce fragmentation and ensure that the systems behind the science are as resilient and mission-focused as the technologies delivered to the warfighter.

The Birth of a Standard: Recognizing the Legacy of Rear Adm. David W. Taylor

By Alisha Tyer, NSWC Carderock Division Public Affairs



Rear Adm. David W. Taylor, naval architect and engineer, served as chief of the Bureau of Construction and Repair and played a pivotal role in advancing scientific methods for U.S. Navy ship design. Taylor established the Navy's Experimental Model Basin in 1898, introducing systematic hydrodynamic testing that helped shape modern naval engineering practices. (U.S. Navy photo)

BETHESDA, Md. – On March 4, Naval Surface Warfare Center, Carderock Division recognizes the birthday of Rear Adm. David W. Taylor, the naval architect and engineer whose insistence on scientific rigor helped reshape how the U.S. navy designs ships. For those who work at Carderock, that date marks more than the anniversary of a historical figure; it marks the beginning of a legacy shaped the command's engineering standards.

When Naval Sea Systems Command (NAVSEA) emphasizes delivering combat-ready ships and systems to the fleet, that expectation rests on disciplined engineering and validated performance. At Carderock, those principles are not new; they are foundational.

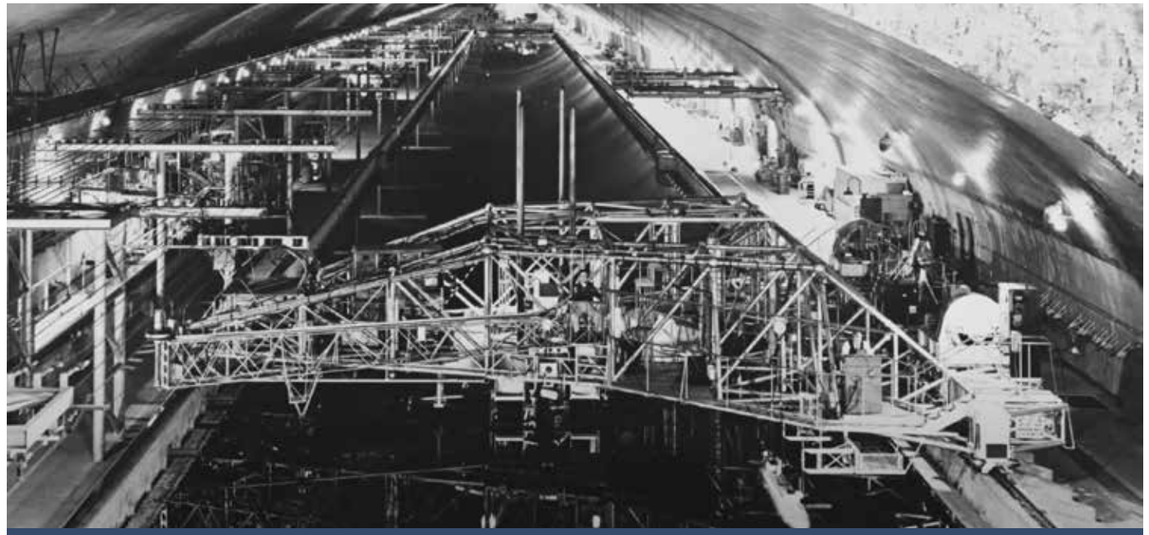
In 1898, Taylor designed and supervised construction of the Washington Navy Yard's Experimental Model Basin and took charge of it the following year. He was not simply building a towing tank; he was institutionalizing a method. Ship design would no longer rely primarily on experience or approximation, but on controlled experimentation, measurable results and repeatable standards.

Through the development of what became known as the Taylor Standard Series, Taylor introduced a systematic set of hull forms with documented performance data. Naval architects could compare, analyze and estimate resistance and propulsion requirements using structured, validated information. His work reduced uncertainty in ship performance and accelerated confidence in design decisions by establishing a disciplined technical baseline.

More than a century later, that expectation remains intact across Carderock's mission areas. Whether in hydrodynamics, structures, materials, manufacturing or survivability, scientists and engineers across the command continue to apply rigorous analysis and testing to ensure naval systems perform as intended. The tools have advanced, but the principle is unchanged: Validate before you deliver.

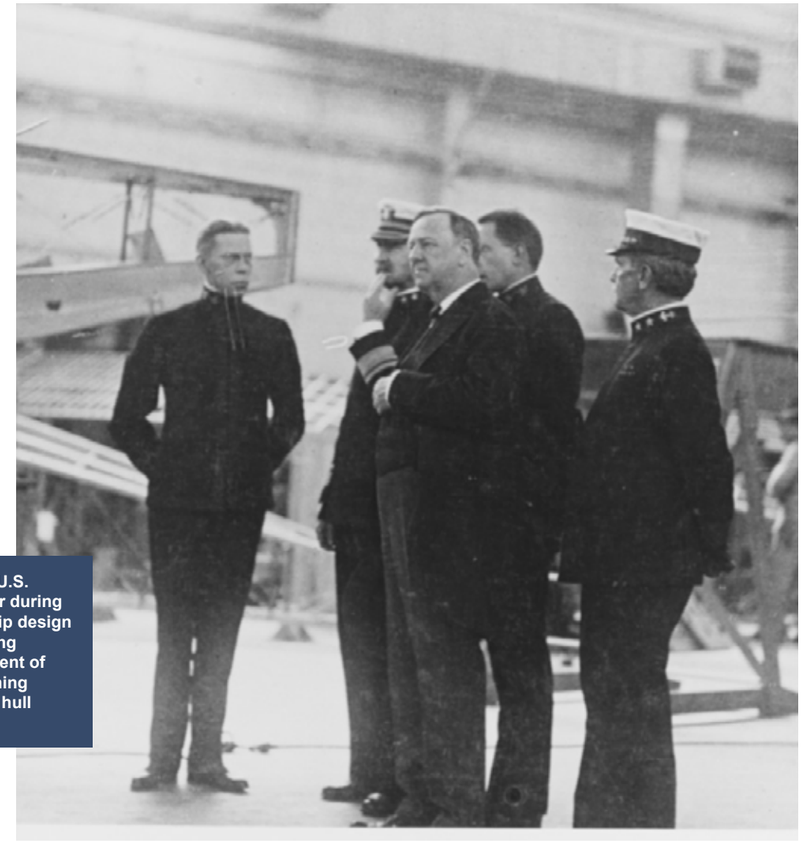
Taylor's career reflected that same alignment between innovation and execution. He held 13 U.S. patents related to ship design and later served as chief of the Bureau of Construction and Repair during a period of significant fleet expansion. His work demonstrated that invention must be paired with technical rigor and operational relevance.

Carderock did not pivot toward disciplined engineering in response to modern strategy. It was founded on it.



Historic towing carriage equipment operates inside the David Taylor Model Basin at the Naval Surface Warfare Center, Carderock Division. The basin traces its origins to the Experimental Model Basin established by Rear Adm. David W. Taylor in the late 19th century to conduct hydrodynamic testing and improve ship design through controlled experimentation. (U.S. Navy photo)

The David Taylor Model Basin, dedicated in 1939 in his presence, stands as a physical reminder of that foundation. But the true legacy is not the facility itself; it is the standard it represents. Before there were "lines of effort," there was a commitment to evidence, repeatability and accountability in design. That commitment continues to define how Carderock contributes to naval readiness and maritime superiority.



Rear Adm. David W. Taylor, chief of the U.S. Navy Bureau of Construction and Repair during World War I, helped modernize naval ship design through scientific testing and engineering analysis. Taylor also oversaw development of the Experimental Model Basin, establishing systematic methods for evaluating ship hull performance. (U.S. Navy photo)

Vice Adm. Emory S. Land and the Power of Collaboration

By Alisha Tyer, NSWC Carderock Division Public Affairs

Rear Admiral, U. S. Navy Chief, Bureau of Construction & Repair, 1933-1937. (U.S. Navy photo, National Archives) Photo can be found in the Naval History and Heritage Command archive: https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/19-N-15000/19-N-15237.html

BETHESDA, Md. – Naval Surface Warfare Center, Carderock Division plays a central role in advancing the Navy's ability to design, test and deliver ships and systems that meet evolving maritime challenges.

As the Navy's powerhouse for world-class ship design and maritime engineering, Carderock's work depends on close collaboration across technical disciplines, organizations and partners to deliver reliable, cost-effective solutions that strengthen the maritime industrial base and support long-term maritime superiority.

Those expectations are reflected in one of the division's honor awards, named for Vice Adm. Emory S. Land. Understanding why Land's name was chosen offers insight into how Carderock defines leadership, innovation and mission success.

A leader who worked across boundaries

Vice Adm. Emory S. Land was a naval officer and engineer whose career bridged technical expertise and large-scale operational leadership. Trained as a naval architect, he developed a reputation for understanding not only how ships were designed and built, but how they were employed and sustained in support of national objectives.

During World War II, Land served as chairman of the U.S. Maritime Commission and later as head of the War Shipping Administration. In those roles, he was responsible for coordinating ship design, construction and deployment during a period of unprecedented demand. His scope extended beyond individual programs to the full maritime enterprise supporting the war effort.

Land recognized that complex missions could not be executed in isolation. Success required alignment across government, industry and the fleet.

Collaboration as an operational requirement

Land approached collaboration as a practical necessity, not an abstract principle. Wartime shipbuilding demanded constant coordination among engineers, shipyard workers, private industry and operational planners. Design decisions were informed by production realities, and production schedules were driven by operational need.

The systems-level approach enabled rapid delivery without losing sight of reliability or purpose. Land emphasized communication, shared accountability, and trust across organizational lines, understanding that technical excellence achieved its value only when translated into operational capability.

That mindset continues to resonate in modern naval engineering environments.

Relevance to Carderock's mission today

Carderock operates within a similarly complex framework, supporting the Navy through research, testing and engineering that depends on strong partnerships and interdisciplinary collaboration. The division's work routinely spans codes, warfare centers, fleet sponsors, and industry partners, requiring clear communication and coordinated execution.

Land's leadership philosophy aligns closely with how Carderock measures effectiveness:

• Engineering grounded in operational relevance
• Collaboration that enables informed decision-making
• Partnerships built on trust and shared objectives
• Focus on delivering capability to the fleet

These principles guide daily work across the division and support Carderock's role within the Naval Research and Development Enterprise.

How legacy becomes standard

The award bearing Land's name reflects how Carderock recognizes leadership within its workforce. It honors those who strengthen collaboration, improve communication and help teams work more effectively together in support of the mission.

More broadly, it reinforces a standard. It signals that leadership at Carderock is measured not only by individual expertise, but by the ability to connect people, align efforts and deliver results.

Vice Adm. Emory S. Land's legacy endures because his approach remains relevant. At Carderock, that legacy is carried forward through the everyday work of teams who collaborate across boundaries to solve complex problems and deliver for the fleet.

Vice Adm. Emory S. Land, U.S. Navy, arrives at Luqa Airport, Malta, on Jan. 28, 1945, for the Malta meeting of the combined Chiefs of Staff, a key wartime conference involving Allied leaders. (U.S. Navy photo, National Archives)Photo can be found in the Naval History and Heritage Command archive: https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/nhhc-series/nh-series/SC-259000/SC-259273.html

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