



# NPS IN THE NEWS

## Weekly Media Report – April 5-11, 2022

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### EDUCATION:

#### [Naval Postgraduate School Meyer Scholar Shines at NSWC Dahlgren Division](#)

*(NAVSEA 4 Apr 22)*

“Why did I join the Navy?” Lt. Sasha Barnett asked rhetorically. “Since I was probably 10, I’ve always felt a calling to be a part of something bigger and greater than myself.”

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### RESEARCH:

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### STUDENTS:

#### [Active Learning for Active Minds: A Conversation with Learning Leaders](#)

*(CIMSEC 6 Apr 22)*

When General Alfred Gray articulated his vision for education (which resulted in, among other things, the establishment of Marine Corps University), he noted the importance of the topics central to educating agile minds – thinking and judgment rather than knowledge – as well as the process of learning: cultivating judgment through active learning approaches. Recent leaders have also noticed the importance of active learning approaches, and tried to nurture traits and skills that can help develop agile minds (and perhaps also agile organizations). The Commandant’s Planning Guidance, for instance, noted that while many of our schools are based in the



industrial age model of “lecture, memorize facts, regurgitate facts”, we need instead an approach focused on “active, student centered learning.” As a result, greater emphasis needs to be placed on skills and attitudes such as critical and creative thinking, holistic problem solving, and lifelong learning – all of which are key aspects of education in the post industrial/cognitive age.

The discussion below features composite answers from five students who were part of a **Naval Postgraduate School (NPS)** elective course on Maneuver Warfare for the Mind: The Art and Science of Interdisciplinary Learning for warfighters. They share their thoughts on some topics relating to learning, the role of active learning, and their suggestions for improving how we educate learning leaders for the future. Their answers have been edited and condensed for this format.

## **NPS FOUNDATION:**

### **[L3Harris Donates \\$50,000 to Naval Postgraduate School Foundation for Research, Innovation](#)**

*(PRLOG 7 Apr 22)*

L3Harris Technologies presented a \$50,000 donation to the **Naval Postgraduate School Foundation** during the Sea-Air-Space Conference in National Harbor, Maryland, April 5. The donation supports a strategic corporate partnership between L3Harris and the **Naval Postgraduate School Foundation** to study and develop advanced naval warfighting concepts at the **Naval Postgraduate School**.

## **FACULTY:**

### **[A \\$2.8 Million Bequest Helps Immigrants Start New Lives in Israel](#)**

*(Times of Israel 5 Apr 22)*

Saul and Helen Moskowitz were blessed with a lot of love in their lives. While they did not have children, they had many friends and various philanthropic endeavors which were dear to their hearts. The generous couple also possessed a history of service to the United States, as well as affection for the land and people of Israel and Jewish National Fund-USA... When Saul retired, they moved to Pacific Grove, CA, where Saul took employment at the **Naval Postgraduate School** in Monterey. Despite officially retiring, Saul never really stopped working. In addition to his time at the Graduate School, he was an accomplished and meticulous craftsman, furniture builder, and refinisher who enjoyed sharing his talent with the next generation.

### **[We Know Mick Jagger’s Favorite Economist—and Not Just Because of His Libertarian Streak](#)**

*(FEE 6 Apr 22)*

From time to time, I get asked a simple question: Who’s your favorite economist?... For years, Henderson, a professor of economics at the **Naval Postgraduate School** in Monterey, California, has told people Mick Jagger—yes, we’re talking about the lead singer of the Rolling Stones—was partial to Friedrich Hayek. It turns out that Jagger studied econ at the London School of Economics before he abandoned his studies to pursue his music career. (Opportunity costs strike again.) And apparently before belting out hits like “Sympathy for the Devil,” “Paint it Black,” and “Gimme Shelter,” Jagger came to appreciate the insights of the Austrian economist who would later win a Nobel Prize.

### **[NPS Faculty Recognized for Interdisciplinary Work with Annual Hamming Award](#)**

*(Navy.mil 7 Apr 22)* ... Mass Communication Specialist 1st Class Nathan K. Serpico

*(NPS.edu 7 Apr 22)* ... Mass Communication Specialist 1st Class Nathan K. Serpico

The Naval Postgraduate School (NPS) recognized two outstanding faculty members for interdisciplinary scholarship with the presentation of the 2022 Richard W. Hamming Faculty Award for Interdisciplinary Achievement.

### **[Let’s Not Repeat Afghanistan’s Mistakes in Ukraine](#)**

*(The Globe and Mail 8 Apr 22)* ... Carter Malkasian

Carter Malkasian is the chair of the Defense Analysis Department at the Naval Postgraduate School and the author of *The American War in Afghanistan: A History*, which is shortlisted for the 2022 Lionel Gelber Prize presented by the Munk School of Global Affairs & Public Policy and Foreign Policy Magazine. The views presented



are those of the author and do not necessarily represent the views of the Department of Defense, the Department of the Navy or the **Naval Postgraduate School**.

### [\*\*A Maritime Conversation with America\*\*](#)

*(Foreign Policy Research Institute 8 Apr 22)* ... James J. Wirtz, Jeffrey E. Kline, James A. Russell

Over the last century, the U.S. Navy has encountered critical moments when the emergence of new technologies and competitors cause paradigmatic shifts, undermining established operations and force structure. Today, the rise of an assertive China and its new anti-access and area-denial capabilities threaten the aircraft carrier-based maritime dominance of the U.S. Navy. Citizens and elected officials alike need to be conversant in the process to create the strategy, forces, and metrics needed to guarantee that the United States wins the emerging maritime competition in the Western Pacific. It is time to explain to the American public the enduring considerations and limitations that shape the operations of their global Navy... James A. Russell is an Associate Professor of National Security Affairs at the **Naval Postgraduate School**, Monterey, California.

### [\*\*Russia, Ukraine, & U.S. Energy Markets \[Video\]\*\*](#)

*(Our Energy Policy 1 Apr 22)*

Russia's invasion, and the subsequent war in Ukraine, have upended global oil and gas markets. This webinar examines the market impacts of the war, discusses short and long-term solutions to this energy crisis, and looks at the implications for the future of American energy independence. Research Professor Brenda Shaffer at the **Naval Postgraduate School**.

## **ALUMNI:**

### [\*\*Sturdivant Named Lansing's New Fire Chief\*\*](#)

*(WKZO 4 Apr 22)* ... Randy Stine

Lansing Mayor Andy Schor announced Monday he has selected Brian Sturdivant to lead the city's fire department.

Sturdivant is the current Chief of the Battle Creek Fire Department and was one of two finalists at the end of a national search. He has a Master's Degree from the **Naval Postgraduate School**, Center for Homeland Defense and Security, and a Bachelor's Degree in Public Safety Administration from Grand Canyon University.

### [\*\*VADM \(Ret.\) Terry Benedict Joins Systems Planning and Analysis as Executive VP\*\*](#)

*(PR Newswire 4 Apr 22)*

Systems Planning and Analysis (SPA), Inc., is pleased to announce that Vice Admiral Terry Benedict, USN, Ret., has joined the company as Executive Vice President for Naval, Nuclear, and Critical Infrastructure Programs. Since completing his Navy career, Vice Admiral (Ret.) Benedict has served as Chief Operating Officer of Blue Origin and Operations Manager for the Nuclear Security and Operations Group at Bechtel. He also served on SPA's Board of Directors from 2019–2021... A 1982 graduate of the US Naval Academy, Vice Admiral (Ret.) Benedict began his naval career as a Surface Warfare Officer, eventually transferring to the Engineering Duty Officer community. He holds a master's degree in Engineering Science from the **Naval Postgraduate School** and an MBA from the University of Phoenix. In addition, Vice Admiral (Ret.) Benedict is a graduate of the Advanced Program Management course at the Defense Acquisition University, the Executive Leadership Course at Carnegie Mellon, and is a certified Project Management Professional. He is currently a board member of Draper, Cambridge, MA, and a member of US Strategic Command Senior Advisory Group, Stockpile Assessment Team.

### [\*\*HDTX Keynote Speaker to Offer Leadership Lessons from Attack on USS Cole\*\*](#)

*(Trucking Info 6 Apr 22)*

The keynote speaker for this year's Heavy Duty Trucking Exchange brings a unique perspective to the usual leadership topics. Commander Kirk Lippold, USN (Ret.) was the commanding officer of the USS Cole when it came under a suicide terrorist attack by al Qaeda in the port of Aden, Yemen, in October 2000... Lippold is a graduate of the U.S. Naval Academy and received his commission in the Navy in 1981. He attended the **Naval Postgraduate School**, where he received a Master's of Science in Systems Engineering, as well as a 1994 graduate of the United States Army Command and General Staff College and a 2001 graduate of the Joint Forces Staff College.



## **Philadelphia Has a New Office of Emergency**

*(Al Dia 8 Apr 22)* ... Emily Leopard-Davis

As of April 4, Dominick Mireles is the new Director of the City's Office of Emergency Management (OEM). In this role, he will oversee "the City's planning for, response to, and recovery from emergencies, disasters, and complex planned public events."... Mireles received his Bachelor's degree in criminal justice from the Bloomsburg University of Pennsylvania. He is currently doing a Master's program at the **Naval Postgraduate School's** Center for Homeland Defense and Security. He also volunteers with Team Rubicon which gets "veterans to help people prepare, respond and recover from disasters and humanitarian crises."

## **UPCOMING NEWS & EVENTS:**

**Apr 19-21:** [Naval Research Working Group](#)

**Apr 22:** [DA Research Rodeo](#)

**Apr 26-29:** [Center for Executive Education SCW Workshop](#)

**May 11-12:** [Acquisition Research Symposium](#)



## EDUCATION:

### Naval Postgraduate School Meyer Scholar Shines at NSWC Dahlgren Division

(NAVSEA 4 Apr 22)

“Why did I join the Navy?” Lt. Sasha Barnett asked rhetorically. “Since I was probably 10, I’ve always felt a calling to be a part of something bigger and greater than myself.”

Barnett, a Naval Surface Warfare Center Dahlgren Division systems engineer who supports the High Energy Laser Integrated with Optical-dazzler and Surveillance (HELIOS) program, speaks humbly about her Navy career that began when she commissioned as a Surface Warfare Officer with an Engineering Duty Option in 2014 after graduating from the California Maritime Academy where she received her bachelor’s degree in mechanical engineering.

She embarked on two sea tours, the first from 2014 to 2017 during which she was assigned as the Main Propulsion Officer aboard the USS Hopper (DDG 70) homeported in Pearl Harbor, Hawaii. Afterwards, she came to Dahlgren in the Spring of 2017 for the Combat Systems Officer/Fire Control Officer Pipeline Course at AEGIS Training and Readiness Center. That same year she was assigned to the USS Higgins (DDG 76) homeported in San Diego as the Fire Control Officer. After executing her Engineering Duty Option, she then attended the Naval Postgraduate School, where she was selected as a plankowner in the Meyer Scholar program.

She was among the first six officers in a program that currently has enrolled and graduated a total of about 50 officers, according to John Hammerer, Chair of Integrated Air and Missile Defense at NPS. Acting on the vision of Vice Adm. Jon Hill, Hammerer started the program in August 2019. Just after he announced it, he received a call from Barnett who expressed interest in joining.

“I was mainly interested in participating because I didn’t want to lose that tactical warfighting mindset. I have a well-rounded technical background and coupling that with how we think we will employ weapon systems is key in future system developments,” Barnett said.

Barnett was the perfect candidate.

“The purpose of the program is to develop officers who are competent and confident in their ability to acquire and employ advanced naval warfare systems,” Hammerer said. “I think we’re producing world class officers when it comes to combat systems,” he said, noting Barnett is one of them.

The Meyer Program was named after retired Navy Rear Adm. Wayne E. Meyer who is widely-renowned as the “Father of AEGIS.”

“Admiral Meyer’s mantra was, ‘Build a little. Test a little. Learn a lot,’ and we’re trying to get back to that – that kind of mindset. And, it’s difficult to do that with the fast-paced environment that we are in today while also trying to maintain that tactical and technical overmatch against adversaries,” Barnett said. “The Meyer Scholar Program gets us back to that and really helps us collaborate across the joint Services.”

Hammerer would agree.

“If you think about it, just like Sasha Barnett, all of these officers are going to be ready to contribute on the first day of their next assignment after graduating from the Naval Postgraduate School and in follow-on assignments as well. Whether Engineering Duty Officers like Sasha, or Surface Warfare Officers like Capt. Casey Plew, NSWCDD’s Commanding Officer, they learn the how and why of combat system requirements, design, test, production and lifecycle support in conjunction with their regular academic programs. There are few if any other places in the Navy that provide this interdisciplinary approach to combat systems. As a result of years of study in the Meyer Scholar program, they have a tremendous advantage” Hammerer said.

After graduating from the NPS with a master’s degree in applied physics in 2021, Barnett came to NSWCDD – a place she was drawn to during a NPS Experience Week visit.

“I came to NSWCDD and I knew I wanted to be a part of it. I wanted to be at the forefront of the research, development, and integration of warfare systems and you just don’t get that kind of experience anywhere else,” Barnett said.



Today, she supports HELIOS as the console integrator coordinating efforts between Program Executive Office Integrated Warfare Systems (IWS 2.0) and the NSWCCD Strategic and Computing Systems Department console subject matter experts to bring the technology aboard a ship.

With her bright career path, Barnett may not be too different from Meyer, according to Hammerer.

“Just as Admiral Meyer was pioneering guided missiles, Sasha Barnett is pioneering directed energy weapons,” Hammerer said. “She might be the most, or one of the most, qualified officers in the United States Navy when it comes to laser system engineering...She’s right up there with the best when it comes to what she’s done for NPS and what she’s doing right now.”

Barnett has high aspirations.

“The goal for me is to get to the program office and be either a major program manager or perhaps even come back to the warfare center as a commanding officer, but to do either I need to have that program management experience,” Barnett said.

As Barnett looks toward the future, she shared some advice for Sailors who may wish to follow a similar career path.

“Never stop asking questions. I do not consider myself an expert in any subject. I still find that I’m learning something new every single day which is very humbling,” Barnett said.

[Naval Postgraduate School Meyer Scholar Shines at NSWC Dahlgren Division > Naval Sea Systems Command > Saved News Module \(navy.mil\)](#)

[Return to Index](#)

## **NPS Scores High Marks in Annual Grad School Rankings, Again**

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In fact, since USNWR added the specialization category of Homeland/National Security and Emergency Management for its rankings of public affairs schools in 2020, NPS has been ranked at or tied for the top overall spot.

Additionally, NPS comes in ranked 34th in industrial engineering, 39th in aerospace engineering, and jumping an impressive 25 spots from last year to 75th in electrical engineering in the latest rankings. In the cumulative overall rankings, the school came in 109th in general Engineering school rankings, and 65th overall in USNWR’s ranking of public affairs schools.

“With five academic programs ranked in the top 75 of our country, including the nation’s number one Homeland Security Program, and a ranked and ABET accredited engineering school, NPS continues to demonstrate outstanding teaching and research that place it among the nation’s top graduate institutions,” said Dr. Scott Gartner, NPS Provost and Academic Dean.

USNWR employs both statistical surveys and peer assessments in evaluating programs, which are determined eligible through their accreditation. While the rankings began as a service to prospective students and parents exploring graduate program options, the popular rankings have become a critical measure of a university’s quality in instruction, research and degree value.

For a unique institution like NPS, school leaders say the rankings are a direct reflection of NPS’ ability to execute its mission at a high level of excellence.

“NPS strives to conduct high quality, innovative academic teaching and research that support and augment our nation’s military, especially its Naval services, to provide a cutting-edge warfighting advantage today and moving forward,” said Gartner. “The continued excellent rankings of NPS programs demonstrates the high quality of our academic programs, and why they can be impactful to America’s security.”



## RESEARCH:

### Seasats Closes Pre-Seed Investment Round

*(EIN News 6 Apr 22)*

Ocean autonomy startup Seasats announced this morning that it has oversubscribed its pre-seed investment goal and closed a \$1M round. With participation from Thorium One, Monozukuri Ventures, Techstars, and select angel investors, this capital will help the company grow its team and manufacturing capabilities in the face of accelerating inbound demand.

“Seasats has assembled a tight-knit and exceptionally talented team with a wide range of experience across maritime industries and tech,” says Maxwell Brown, a member of Seasats’ advisory board. “Their creative, resourceful, and different approach to autonomous surface vehicles and operations stood out amongst their competitors.”

Seasats’ flagship vehicle, the X3, is a 3-meter autonomous surface vehicle (ASV) designed to offer a unique combination of reliability, versatility, and price. In Q1 and Q2 of 2022, the company’s focus is on completing survey missions that provide a cost-effective alternative to crewed missions costing tens or hundreds of thousands of dollars per day. At the same time, Seasats is preparing for the Trident Spectre event in July, one of the Navy’s foremost technology proving events. Seasats was one of 75 companies selected from a pool of over 350 candidates. Previously, the company has demonstrated alongside the Navy’s M80 Stiletto, with the **Naval Postgraduate School** at their JIFX event, and most recently at US Special Operations Command’s TE-22 event in Coronado. Besides this work, Seasats is continually integrating new sensors and capabilities to make ocean data more accessible for scientists and commercial operators.

The company’s roots go back to 2012, when several friends built a solar-powered uncrewed surface vehicle as a garage project. After dispersing to work on America’s Cup racing yachts, Ocean Aero uncrewed vehicles, and Tesla manufacturing, they regrouped in 2020 to create Seasats. The company has since added talent from Blue Origin and other innovative organizations to round out a team with formidable capabilities across autonomy, hardware, and electronics.

That team was one of the factors that attracted investor Ryan Coughlin. “We love finding engineers who understand and build for their market,” he says. “The Seasats platform is lightweight, modular, and simple, which should allow us to land large scale contracts where the boats are deployed in volume, as well as serve new applications and other growing commercial markets for marine autonomy that others can’t.”

The need for scalable marine autonomy spans industries. Chief of Naval Research Lorin C. Selby has remarked on the need for “the small, the agile, and the many,” and the Navy has established Task Force 59 and ongoing events focused specifically on marine autonomy. In the commercial sphere, companies including IBM, Fugro, and Teledyne have begun trialing uncrewed platforms in applications ranging from offshore wind surveys to water quality monitoring. NOAA selected uncrewed systems as the first of their science and technology focus areas, and counterparts such as the UK’s National Oceanography Centre are already leveraging uncrewed vehicles in cutting-edge research. Seasats’ combination of price and dependability positions them well for a future where fleets of autonomous vehicles roam the oceans.

“We have a lot of people to thank at this point,” says CEO Mike Flanigan. “Our investors have tremendous cross disciplinary expertise, Jonathan Fentzke and the Techstars family were instrumental in helping level up Seasats, and our advisory board has provided invaluable guidance and support. We’re very grateful to them and to all our other supporters.”

“We’re thrilled to have reached this milestone,” he adds, “but it’s just the first step. There’s so much room for modernization in ocean industries. The next few years will be really exciting.”

[Seasats Closes Pre-Seed Investment Round - Technology Today - EIN Presswire \(einnews.com\)](#)

[Return to Index](#)

## STUDENTS:

### Active Learning for Active Minds: A Conversation with Learning Leaders

*(CIMSEC 6 Apr 22)*

When General Alfred Gray articulated his vision for education (which resulted in, among other things, the establishment of Marine Corps University), he noted the importance of the topics central to educating agile minds – thinking and judgment rather than knowledge – as well as the process of learning: cultivating judgment through active learning approaches. Recent leaders have also noticed the importance of active learning approaches, and tried to nurture traits and skills that can help develop agile minds (and perhaps also agile organizations). The Commandant’s Planning Guidance, for instance, noted that while many of our schools are based in the industrial age model of “lecture, memorize facts, regurgitate facts”, we need instead an approach focused on “active, student centered learning.” As a result, greater emphasis needs to be placed on skills and attitudes such as critical and creative thinking, holistic problem solving, and lifelong learning – all of which are key aspects of education in the post industrial/cognitive age.

The discussion below features composite answers from five students who were part of a **Naval Postgraduate School** (NPS) elective course on Maneuver Warfare for the Mind: The Art and Science of Interdisciplinary Learning for warfighters. They share their thoughts on some topics relating to learning, the role of active learning, and their suggestions for improving how we educate learning leaders for the future. Their answers have been edited and condensed for this format.

**Q:** What were your experiences with active learning approaches and why do you find them useful?

**A:** One example from when I was in a squadron was that once a month we would read an article and talk about it. But we did not – as we have in this class – connect it much to our lives in our organizations. That [difference] is something I will bring back from this class. When I find an article that is relevant for my sailors to read, we will discuss how it connects to their job and organization.<sup>3</sup> Learning with cases – or using examples as cases – also tends to cultivate more thinking and engagement than lectures, as it captures real world organizational dynamics relevant to warfighters. Importantly, examples or cases have ambiguity and ill-structured problems so learning is focused on the process of thinking and learning, not (just) the answers to the problems. Active learning approaches also usually invite students to think together and work in groups and teams, which engages not only cognitive but also social, emotional, and affective skills.

Talking about active learning in class is not enough. There are examples of using the right words, but doing it through textbooks and PowerPoints risks reducing education to simply transferring information to be memorized. It is not that PowerPoint has no place in active learning approaches – to illustrate a question, a puzzle, or a paradox for example can be a great lead into a discussion to help develop a questioning attitude central to learning – but too much informational content on a slide can easily narrow creative and critical thinking (e.g. ‘is this what the teacher wants us to know/think?’), or efforts to memorize what is on the slides.

Memorization is not learning. Discussing the material, having smaller group discussions, and sometimes coming up with ideas to teach others, combined with some of the active learning approaches in the learning pyramid is true learning. Wargaming and force-on-force exercises are also active ways to learn, especially if they are unscripted.

In addition to the course’s delivery style, having it open to both resident and distance students makes the learning environment broader and more interdisciplinary. This speaks to the importance of enabling





hybrid classes. There's a richness to having students from different curricula and schools on campus as well as and outside of campus.

**Q:** What difficulties or barriers to active learning have you experienced?

**A:** We read an article by Herbert Simon about learning occurring in students' minds.<sup>4</sup> This means also there is a different role for teachers. Students are the focus, but everything is still guided based on the readings and the questions posed by the instructors. Some of the best classes we had within the course were those that had almost self-generated momentum that arose out of the readings and initial questions.<sup>5</sup> Doing that successfully can be hard to achieve if both students and teachers are new to active learning approaches.

I have found some instructors have been very deliberate in bringing this approach into some of the courses, but most do not discuss, or 'count', the learning process as part of the learning being discussed and communicated. I think there is a lot of value in the process of discussion, in working together, and in bringing together different viewpoints. It helps achieve the kind of learning we talked about in Boyd's conceptual spiral with the generation of novelty and synthesis being very important.<sup>6</sup> That is very different from the memorization approach, and it encourages us to value thinking, reflection, and reframing as part of the learning process and as a way to develop new ideas.

Mortimer Adler in his classic work on education (*Reforming Education*) mentions how the doctrinal approach to learning (present in industrial age approaches) indoctrinates knowledge and information (with no room for failures or errors). Textbooks that are often written from disciplinary silos reinforce this, creating a barrier to interdisciplinary learning and understanding. The alternative approach – the one more suitable for cultivating thinking and interdisciplinary learning skills – is dialectical; teaching students how to think through engagement and thinking through difficult and contradictory ideas and information. It also cultivates broader problem-solving skills instead of just those focused on a particular issue.

Teachers are not 'instructors' in the sense of transferring information or simply teaching a tool through which one can view (some part of) the world; but are themselves learners and interact in the discovery process of identifying, framing and reframing problems, thinking through hypotheses, etc. This is more difficult on both sides. Students have to get used to not having textbooks, checklists and rubrics for everything. And teachers have to be much more adaptive in their planning and execution and be able to lead discussions through problems and dialogue, not through power points. But both sides can really learn. In our domains (warfighters and warfighter organizations), an emphasis on two way street learning also helps ensure an interdisciplinary mindset and a focus on problems and issues relevant to warfighters and warfighter organizations.

**Q:** Were there any particular readings, or ideas, or themes, that you have felt have helped you as a learner?

**A:** Something that came to my mind was the discussion we had about a growth mindset and active learning as well as the neuroscience behind it, and what it means and why it is relevant for us. Underlying the growth mindset approach is the belief that we can always grow and improve as thinkers and learners. The importance of engaging in problem solving activities in class and the fact that this approach engages different pathways in the brain than when memorizing was very interesting. The need for a growth mindset in warfighters was demonstrated also. That discussion changed my outlook on a lot of things. It has also been found to have a positive effect on performance and motivation, thus helping to build intrinsic motivation essential to lifelong learning.<sup>7</sup>

I really enjoyed the scenario planning and counterfactuals discussions, those were different dimensions of learning, or complementary dimensions, to the discussions about the dynamics and mechanisms of individual and organizational level learning. When you add the aspect of learning from the future, and you use creative thinking to imagine those futures, you also learn to see history through counterfactuals, and how fiction can and cannot be used – that stuck with me (see e.g. *Fiction | Center for International Maritime Security*). Also, when we are trying to understand particular periods – e.g., the U.S. Marine Corps in the 1980s – the counterfactual thinking is interesting, that's what I'm carrying with me.

There was also a sense of learning from different mediums. We read books and articles (as well as a book about how to read books); but we also had podcasts and even the military reform testimony on C-



SPAN that was useful in content and approach. That discussion showed that while we may think of that movement, the military reform movement, as one perspective, it really was a collection of individuals who shared some ideas but nevertheless were able to advance a movement, as Boyd mentioned. It was interesting to hear how some learn best from reading, some from audio books, some more visually, and we got ideas for how to increase our own learning skills.

In his “Invitation to the Pain of Learning” Adler discusses how we read and learn, which brought to me the importance of the questions we have in our minds when we read things, and how we bring particular articles and ideas together with other readings – which is synthesizing in Boyd’s terminology. That helps us build interdisciplinary understanding and range. Also, the importance of questions, and a questioning mindset – asking ourselves, what great questions did we ask? — is something we can bring in more too, and is much needed for warfighter and warfighter organizations today. For example, as we seek to understand competitors (in the great power competition context), we have to question whether we really understand them well and seek to learn more about how they think (not just observe what they do).

**Q:** Have you had any moments outside of class where you have found this type of learning useful for you?

**A:** The first weeks, when we first started, I was in an integrated planning team and I was using concepts from this course to make changes for my team. So my job actually has tracked well with the course. I am not sure my ideas will be implemented, as organizations tend to resist change, but it resonated with me.

Another experience that I connected to this course was during a week of assessment, physical, oral interviews, evaluations – some challenging and some routine. The oral interviews were focused – what directly translated for me was the usefulness of reflection, self assessment, mentoring, giving and receiving mentoring, and being a lifelong learner. Those themes were very useful for me since the interviews focused on evaluating if people are really mentoring.

There’s a timing issue too that turned out to make our discussions particularly relevant. What did we learn from Afghanistan? With all the talk about us being learning organizations and learning cultures, should we think about what that means after 20 years there? What does it mean for me? For our organizations? For how we talk and see ourselves as a learning organization? As a learning nation? Many of the mechanisms and dynamics of learning are applicable to us as individuals, organizations, and as a nation. They play out differently in different contexts but examining the fundamental mechanisms in difference contexts we live through is important.

Even if Afghanistan is a failure, we can learn from it if we understand what happened; what went wrong; and reflect on our experiences.<sup>8</sup> Learning from failure is not easy and involves overcoming individual and organizational barriers to seeing mistakes as mistakes in the first place; and to learn from them through reflection. Organizational leadership scholars have argued that willingness to talk about failures and mistakes and encouraging open discussion and questions is a useful first step. Cultivating a questioning attitude and ability to reflect are important steps towards being able to learn.

I also think this is a unique point in time not just in terms of the strategic environment, but organizationally too. In particular, the USMC is going through a massive shift with new guidance, new organizational documents (e.g. 2021 Force Design Annual Update; Talent Management 2030; MCDP 7; MCDP 1-4), etc. – is it really a learning organization? Does it have what it takes to adapt? This course also helped me understand why we are doing some of the things we are doing now.

The topic of learning is not just important for understanding how we learn as individuals so we can improve, but also organizationally. How do we build better learning organizations, better learning cultures?

**Q:** Do you have any suggestions you have to help us and our leaders move more fully beyond industrial age approaches?

**A:** I almost think a class like this should be mandatory at NPS because there is so much of what we talk about – mentoring people, being a good leader, etc. – but we do not talk about the why’s or the learning processes behind things. We say things are important, but we don’t go into details of why. So I feel like discussing learning and applying it has been important in my professional development beyond and in addition to the particular learnings.



We aren't really told about the electives; some even have preloaded matrices. So maybe we can get better in making sure students are aware of the elective space they have and maybe make sure the descriptions relate to how the course is useful for us in our organizations.

Where I am, our curriculum is a lot more flexible and we probably have more electives, but I have friends in some of the other curricula where in most— if not all— classes, they are given all the information, all the homework, very traditional, and then a test in the end – where students are mostly in receive mode.

That also indicates the complementarity of approaches. In some domains with well-structured problems, that style of learning might work.<sup>9</sup> Traditional learning also helps you baseline a lot of learning so it might be efficient to bring people through the system. But memorization is not learning— so it might be efficient, but not effective.

Instructors need to embrace active learning, too, and be able to teach it in the context of relevant problems, not just theories. We also need to hire the right teachers — you have to make sure they are comfortable teaching in active learning environments. Course designs are important too. Courses have to be developed by people who know how to use active learning in their fields.

It also goes back to the fixed vs. grown mindset piece. Teachers need to be lifelong learners, too. Active learning is a two-way street. A growth mindset and lifelong learning implies that learning is continuous and valued both inside and outside our schools and educational institutions, in both students and teachers.

Along those lines, one thing, at least from a Naval Special Warfare perspective, is that there seems to be a deeper, maybe even 'paradigmatic' change happening. People used to go to educational institutions and they would almost be 'checked out' – people didn't have to report anywhere; they could just play golf – they had a lot of downtime and there wasn't really an intellectual emphasis. People would write a thesis that no one read, etc.

That has shifted, at least in my community, so now the guys coming to NPS are given guidance about projects and direction towards operational impact. Before, people would come back after education and folks would say 'I thought you got out'. But now, while at NPS, they are in continual communication with people in their community. So that makes the change more comprehensive in a way; with the learning mechanisms between the communities and the students adding to building learning organizations and learning cultures – that also helps build the intrinsic motivation we have talked about.

I see a culture-wide paradigm shift in attitudes towards learning and education. As the remaining industrial age proponents move out and retire, that could be really important.

**Q:** Some of the discussions and readings we had were about mistakes and failures and the centrality of those in organizational adaptation. How do we learn to get better in allowing failures so we can learn from them?

**A:** The growth mindset piece really struck out to me. Task setbacks are necessary parts of the learning process. Without failures, we are unlikely to grow and learn. I am learning that lesson from my last command where we were not given the opportunity to fail. I got my job and got good at it and we were supposed to rotate but didn't get to rotate since someone left. But I'm here as a junior officer and I am supposed to get opportunities to learn but there was no mentoring, no room for failure, so I know now the importance of giving others freedom, guidelines, and support, to fail.

I think we have to put people in positions where they know they will be allowed to fail – so incentivizing failures, and making it part of the process, even part of our classes, if necessary for learning. We had a discussion about how to build in failures in our organizations. We can build them into our courses and learning environments, too.

### **Closing thoughts**

While active learning approaches are not new, the need to enable military professionals to think on their feet and have the mental agility to adjust to changing circumstances has never been more imperative. Technology is changing at the rapid rate and becoming both less expensive and more widely proliferated. Our potential opponents are already acting in areas referred to as the "gray zones" to get what they want without having to resort to armed conflict. In the event of armed conflict, those same potential opponents will not fight the way we would like them to, or that we have been training to for many years. They



understand our strengths and weaknesses perhaps better than we do and will seek to fight as asymmetrically as possible. This is not something that is new either, but we seem to have more challenges adapting to the fight we are in when we do not encounter the type of fight we are prepared to engage in. This trend cannot continue, and it can only be overcome by educating thinking, continuously learning leaders who have the ability to interpret what is happening in front of them and make the necessary adjustments to fight appropriately in short order.

[Active Learning for Active Minds: A Conversation with Learning Leaders | Center for International Maritime Security \(cimsec.org\)](#)

[Return to Index](#)

## NPS FOUNDATION:

### **L3Harris Donates \$50,000 to Naval Postgraduate School Foundation for Research, Innovation**

*(PRLOG 7 Apr 22)*

L3Harris Technologies presented a \$50,000 donation to the **Naval Postgraduate School** Foundation during the Sea-Air-Space Conference in National Harbor, Maryland, April 5. The donation supports a strategic corporate partnership between L3Harris and the **Naval Postgraduate School** Foundation to study and develop advanced naval warfighting concepts at the **Naval Postgraduate School**.

"The donation from L3Harris solidifies our shared commitment to national security and drives the development of warfighting solutions at the speed of relevance," said Rich Patterson, **NPS** Foundation President and CEO. "As a leading innovator in the national security ecosystem, L3Harris' donation will enhance **NPS**' ability to transform ideas into scalable and world-changing solutions for defense, technology, energy, climate and more."

L3Harris Technologies is a recognized leader in critical technologies for sea, air, land and space operations worldwide. The donation to the **NPS** Foundation aligns with the recent establishment of the company's Agile Development Group (ADG), an innovation accelerator and collaboration initiative to rapidly address near-peer, national security threats.

"We are proud to support the **Naval Postgraduate School** and its mission to drive America's competitive advantage," said Dave Duggan, President, L3Harris Agile Development Group. "The ADG is tackling complex, front-end development to address our most urgent threats, with a goal to advance the technology edge across all domains."

**NPS** produces critical research output and the leaders with diverse perspectives and collaborative ideas to drive America's competitive advantage. The funds from L3Harris will be used to spur further innovation and support defense research and collaboration with **NPS** students and faculty across a spectrum of disciplines. It also enables experimentation with emerging technologies that support the Department of Defense's strategic priorities.

The **Naval Postgraduate School** Foundation is at the intersect of engagement with students, alumni, faculty, the broader DOD, and industry in addressing challenges and identifying opportunities that advance the capabilities of our nation. By funding defense innovation research, student and alumni programs, and **NPS** facilities and initiatives, the **Naval Postgraduate School** Foundation empowers **NPS** to develop leaders who think critically, navigate obstacles and anticipate the unknown, and to solve urgent and complex problems facing our Nation.

[L3Harris donates \\$50,000 to Naval Postgraduate School Foundation for research, innovation -- Naval Postgraduate School Foundation | PRLog](#)

[Return to Index](#)



## FACULTY:

### **A \$2.8 Million Bequest Helps Immigrants Start New Lives in Israel**

*(Times of Israel 5 Apr 22)*

Saul and Helen Moskowitz were blessed with a lot of love in their lives. While they did not have children, they had many friends and various philanthropic endeavors which were dear to their hearts. The generous couple also possessed a history of service to the United States, as well as affection for the land and people of Israel and Jewish National Fund-USA.

Saul was born in 1918 in St. Louis, MO to Jewish Ukrainian Russian immigrants, Benjamin Moskowitz and Rebecca Mekel. The family had been forced to leave Russia when the monarchy fell and the Communists took over. Saul learned early in life to work hard and overcome adversity, working as a newsboy in his youth to help support his family. He also learned what it means to start over in a new land, and his and Helen's gift will aid immigrants including the influx of Ukrainians doing just that in Israel.

As part of Jewish National Fund-USA's One Billion Dollar Roadmap for the Next Decade, multiple on-the-ground affiliates are working every day to create a brighter future for Israelis and new immigrants by investing in enhancing the quality of life nationwide, developing new communities and the infrastructure to serve them, and creating employment opportunities in leading industries. The bequest from Saul and Helen will enable remarkable strides towards achieving these goals.

Saul graduated from the University of Missouri with a Degree of Bachelor of Science in Mechanical Engineering. Upon graduation, he joined the United States Naval Academy at Annapolis after receiving an invitation through the mail. He graduated from the Academy as an Ensign on August 31, 1943. He loved being able to serve his country and will be recognized for his military service at JNF-USA's Wall of Honor at Ammunition Hill in Jerusalem.

Saul and Helen met while she was working for a dry-cleaning service driving the truck to the various docked ships. She and Saul only had five dates before they decided to get married. The daughter of homesteaders who spent her youth on the plains of Nebraska and Colorado, Helen was a lovely, inquisitive young woman who worked as a writer for the local newspaper. Saul and Helen were married for 67 years and both lived to see their 100th birthdays.

When Saul retired, they moved to Pacific Grove, CA, where Saul took employment at the **Naval Postgraduate School** in Monterey. Despite officially retiring, Saul never really stopped working. In addition to his time at the Graduate School, he was an accomplished and meticulous craftsman, furniture builder, and refinisher who enjoyed sharing his talent with the next generation.

This bequest will enable JNF-USA to assist people in building their careers, families, and lives in Israel. Nefesh B'Nefesh, one organization benefitting, spearheads a plethora of programs designed to help new immigrants acclimate and build their new lives on a strong foundation. Among many initiatives, they run a hub in Tel Aviv where young immigrants can network and learn Hebrew. Another, the Lauder Employment Center in the Negev, recently announced that they are laying the groundwork to assist hundreds of Ukrainians in securing appropriate professional opportunities as quickly as possible. The Lauder center already serves hundreds of young professionals in the Negev and in the North in finding high-quality employment opportunities.

Meanwhile, across Israel, an organization called MAKOM which establishes intentional communities is anticipating an influx of Ukrainians and has gathered a cadre of Ukrainian-speaking Israelis to help welcome them. These projects and more serve newcomers to the land of Israel from all walks of life and the Moskowitz bequest will enable them to continue to do so.

Though the couple never visited Israel, they still felt a strong connection. By leaving a legacy gift to Jewish National Fund after their passing, Saul and Helen's memory lives on through the many lives that will be saved and improved throughout Israel's north and south, as well as creating another enduring connection between themselves and the land and people of Israel.

[A \\$2.8 Million Bequest Helps Immigrants Start New Lives in Israel - Sponsored Content | The Times of Israel](#)



## We Know Mick Jagger’s Favorite Economist—and Not Just Because of His Libertarian Streak

(FEE 6 Apr 22)

From time to time, I get asked a simple question: Who’s your favorite economist?

The question is natural enough for anyone who works at an organization dedicated to the teaching of economics, but it’s a surprisingly difficult question to answer because there are so many economists who’ve shaped my thoughts and perspectives.

Ultimately, Thomas Sowell and Henry Hazlitt are at the top of my list because—unlike most economists—both men showed tremendous talent as writers and storytellers on top of their economic acumen. (Also, each man wrote an economics book—Economics in One Lesson for Hazlitt, Basic Economics for Sowell—that is essential reading to anyone seriously pursuing economics.)

Unfortunately, that question—Who’s your favorite economist?—is one we rarely hear asked today, which is why it caught my attention when economist David Henderson brought it up on Sunday.

For years, Henderson, a professor of economics at the **Naval Postgraduate School** in Monterey, California, has told people Mick Jagger—yes, we’re talking about the lead singer of the Rolling Stones—was partial to Friedrich Hayek. It turns out that Jagger studied econ at the London School of Economics before he abandoned his studies to pursue his music career. (Opportunity costs strike again.) And apparently before belting out hits like “Sympathy for the Devil,” “Paint it Black,” and “Gimme Shelter,” Jagger came to appreciate the insights of the Austrian economist who would later win a Nobel Prize.

The problem was, for years Henderson couldn’t remember where he’d learned Jagger was a fan of Hayek, but that changed when a reader showed him a Saturday Night Live clip from February 1993.

The skit, somewhat amusingly, begins with Wayne and Garth discussing Jagger’s favorite Rolling Stones songs before the discussion switches gears toward economics.

**GARTH:** “Okay, I have a question. You went to the London School of Economics, right?”

**JAGGER:** “Yeah.”

**GARTH:** “Do you think it’s a good idea to stimulate fiscal growth through a sharp increase in government outlays for infrastructure?”

**JAGGER:** “Actually, as a disciple of Friedrich von Hayek, I’ve always been skeptical about the larger government involvement in economic stimulus. I’ve preferred a market oriented approach to, uh, government spending and increasing deficits.”

The discussion doesn’t quite end there. Garth says “I didn’t figure you for a Keynesian economist”—an odd comment, since Jagger clearly is not one (but maybe that’s part of the joke?). Moments later Jagger begins to elaborate on his economic philosophy, which soon puts Garth to sleep.

Monetary policy aside, there are at least two reasons we can believe Jagger was not joking when he said Hayek—a classical liberal who opposed central planning—was his favorite economist.

For one, Jagger is a clear individualist with, at minimum, a libertarian streak. In the early 1960s, Jagger gave reporters an impressive response after he was asked if he’s responsible for young people who decide to take drugs.

“People have been talking about responsibility for a long time now about pop singers generally, and how everyone in the public now has a responsibility,” Jagger commented. “I’m not quite sure this responsibility is as grave as they make out because I believe that individuals really have to make their own minds up.”

Second, we have evidence that Jagger might be a closet libertarian. William Rees-Mogg (1928–2012), the famed British journalist who was editor of The Times from 1967 to 1981, reportedly was horrified to discover that Jagger had libertarian principles. In a 2012 article, the Financial Times reported that Rees-Mogg interviewed Jagger and was “astonished to discover a ‘right-wing libertarian’ who insisted, ‘I don’t really want to format a new code of living, a new code of morals.’”

Apparently, Rees-Mogg had never heard the Rolling Stones song “I’m Free,” which opens with these lyrics.

These lyrics represent the essence of freedom, and it’s at the core of not just rock n’ roll but all art, which is fundamentally an exploration and expression of the human individual. It’s long been my belief that this is why so many artists—from Bob Dylan to Bob Marley and beyond—seem to identify with individualism and liberty over collectivism and control.

This is why when Mick Jagger says he’s “a disciple of Friedrich von Hayek” he should be taken at his word—even if it’s in a Wayne’s World skit.

[We Know Mick Jagger’s Favorite Economist—and Not Just Because of His Libertarian Streak - Foundation for Economic Education \(fee.org\)](#)

[Return to Index](#)

## **NPS Faculty Recognized for Interdisciplinary Work with Annual Hamming Award**

*(Navy.mil 7 Apr 22) ... Mass Communication Specialist 1st Class Nathan K. Serpico*

*(NPS.edu 7 Apr 22) ... Mass Communication Specialist 1st Class Nathan K. Serpico*

The Naval Postgraduate School (NPS) recognized two outstanding faculty members for interdisciplinary scholarship with the presentation of the 2022 Richard W. Hamming Faculty Award for Interdisciplinary Achievement.

Dr. Bonnie Johnson, a senior lecturer in the NPS Department of Systems Engineering, and Dr. Marko Orescanin, an assistant professor in the NPS Department of Computer Science, were selected for their innovative accomplishments that support and enhance interdisciplinary activities at NPS.

Johnson, who has more than 25 years of leadership and experience in naval engineering research and development, focused on two areas for her research – automation and artificial intelligence (AI) for defense applications, and directed energy (DE) warfare studies. These broad topics involve interdisciplinary research for which she collaborated with various organizations across multiple service branches, as well as industry partners. Within NPS, Johnson leads projects involving faculty in the systems engineering, information sciences, and physics departments, as well as the Modeling, Virtual Environments and Simulation (MOVES) Institute.

“When I learned that I have been selected for the award, I was thrilled,” said Johnson. “I appreciate the outstanding mentoring and the many opportunities I have received. I am fortunate to be surrounded by so many inspirational leaders, researchers and thinkers.”

Johnson has advised more than 240 students who have graduated in their master’s degree research, and she is currently advising 40 students working on their graduate research who will graduate in 2022 or 2023. She and her students have demonstrated the use of automation and AI for tactical battle management aids for air and missile defense in the fleet. As part of her DE research, she has worked closely with faculty from MOVES and the physics and meteorology departments to develop a shipboard laser weapon modeling and simulation capability to support student research on shipboard power requirements for lasers, maritime atmospheric effects on lasers, methods for battle damage assessment, and integration designs for laser placement on ships and for coordination with existing kinetic weapons on ships.

Johnson has developed course work in directed energy and is the course coordinator for a set of four DE courses taught jointly by system engineering and physics. She has also developed course work in AI and supports an interdisciplinary NPS course for DOD personnel in the Joint AI Center (JAIC) taught by computer science and systems engineering. She has partnered with faculty in the NPS Energy Academic Group to conduct a broad study to achieve naval net-zero emissions by 2050 and to study the use of AI to detect cyber attacks from energy monitoring data.

“There are two things that really stick out as the ‘best’ part of my job,” Johnson noted. “First, the incredibly brilliant people I get to work with – our amazing faculty and ‘rock star’ students. Also, having



the freedom to pursue research of interest – the Navy is rife with fascinating and ‘hard’ problems and I’m always able to find a way to study the topics that interest me.”

Orescanin leads an interdisciplinary team of faculty and students conducting cutting-edge research at the intersection of computer science, meteorology, oceanography, operations research, physics, systems engineering and undersea warfare. This team is advancing the Navy’s ability to obtain accurate weather forecasts – a critical capability for warfighting and for addressing other national security interests such as climate change. Since joining NPS in 2019, Orescanin has been involved in advising or co-advising 23 master’s degree students and two doctoral students.

“I was very humbled and honored,” said Orsecanin. “While I have not been at NPS for very long, I am deeply committed to its mission, and am very happy to expand my interdisciplinary research capabilities while educating and mentoring students.”

Orescanin’s work on uncertainty quantification is the most promising path toward integration of new artificial intelligence/machine learning (AI/ML) synthetic products into Fleet Numerical Meteorology and Oceanography Center (FNMOC) operations. He teamed up with Assistant Professor Scott Powell of the meteorology department to form an ongoing collaboration with the Naval Research Laboratory’s Marine Meteorology Division in Monterey and the University of Maryland’s Cooperative Institute for Satellite Earth System Studies to test out new synthetic products with the Navy Environmental Prediction System (NAVDAS).

Orescanin also led the establishment of an interdisciplinary research program on the application of AI/ML to undersea warfare in cooperation with the NPS’ Undersea Warfare Academic Group, Naval Surface Warfare Center Carderock Division, Naval Information Warfare Center Pacific, and the Norwegian Defense Research Establishment. The AI/ML technology developed through this research is being transitioned into operational use as part of the Future Naval Capabilities program.

“Although I have only been at NPS two-and-a-half years, I am deeply impressed with both the academic strengths of the faculty, as well as the operational experience and technical expertise of the student warfighter,” noted Orescanin. “This enables a very productive interdisciplinary approach from the get-go, but with my own personal background in various scientific fields and commercial experience, we have been highly successful. This is particularly highlighted by taking examples from the classroom and research into the operational environment.”

The award, named after NPS professor emeritus Dr. Richard W. Hamming, highlights faculty members annually that demonstrate a commitment to interdisciplinary scholarship and exceptional teaching skills. Hamming’s dedication to teaching and research are well known, specifically in the mathematics, computer science and telecommunications fields of study. Hamming taught at NPS as an adjunct Professor from 1976 to 1997.

[NPS Faculty Recognized for Interdisciplinary Work with Annual Hamming Award > United States Navy > News-Stories](#)

[NPS Faculty Recognized for Interdisciplinary Work with Annual Hamming Award - Naval Postgraduate School](#)

[Return to Index](#)

## Let’s Not Repeat Afghanistan’s Mistakes in Ukraine

*(The Globe and Mail 8 Apr 22) ... Carter Malkasian*

Carter Malkasian is the chair of the Defense Analysis Department at the Naval Postgraduate School and the author of *The American War in Afghanistan: A History*, which is shortlisted for the 2022 Lionel Gelber Prize presented by the Munk School of Global Affairs & Public Policy and Foreign Policy Magazine. The views presented are those of the author and do not necessarily represent the views of the Department of Defense, the Department of the Navy or the **Naval Postgraduate School**.

In August, 2021, the 20-year war in Afghanistan came to a shattering end. Eight months later that war is fast receding into memory. New concerns about nuclear-armed great powers and the war in Ukraine





have pushed Afghanistan aside. It feels that we are entering a new strategic paradigm. Yet before we forget Afghanistan entirely, we should consider what that experience tells us about strategy at the moment.

Afghanistan, too, was part of a new strategic paradigm. The attacks of Sept. 11, 2001, showed that terrorism constituted a real threat to the international community. The day after the attacks, The New York Times editorial page said: “Every routine, every habit ... was fractured yesterday. If a flight full of commuters can be turned into a missile of war, everything is dangerous. ... It was, in fact, one of those moments in which history splits, and we define the world as ‘before’ and ‘after.’”

At the same time, the threat was exaggerated, as was the response. After the initial toppling of the Taliban, fear compelled U.S. leaders to stay in Afghanistan, a place of low geostrategic interest, and spurred the invasion of Iraq and an increase in military spending. So a first lesson from Afghanistan for today is to not exaggerate the threat. Vladimir Putin’s invasion may signal a new strategic paradigm, but that does not demand risking escalation or a long-term containment strategy with high levels of military spending. For Ukraine is also a place of low geostrategic interest.

The second lesson Afghanistan has for us today is to beware of how success breeds overconfidence. The rapid toppling of the Taliban regime in 2001 led to overconfidence among U.S. political and civilian leaders. They discounted the probability of a Taliban revival and in the process turned away opportunities to include the Taliban in the political process and build a capable Afghan military. Such actions might have reduced the cost and violence of the ensuing years of war.

The same happened after the Iraq surge. Success misled General David Petraeus, General Stanley McChrystal and many others into believing that the same approach could succeed in Afghanistan. Over the past month, we have witnessed success in Ukraine. Western officials often comment that Russian military strength has been overrated. Afghanistan counsels us not to be complacent and presume victory. The Russian bear could well turn out to be stronger than it appears to be. The United States and the North Atlantic Treaty Organization would be unwise to reject opportunities for a negotiated compromise, even if that entails moderate concessions.

A third lesson is the difficulty of getting out. The U.S. and its allies and partners fought in Afghanistan for 20 years, largely because the perceived threat persisted, and partly because many civilian and military leaders did not want to lose. Losing was seen as damaging to national reputation, alliances (such as NATO), credibility vis-à-vis adversaries and the morale of military forces. Leaders also worried about the effects on civil, human and women’s rights in Afghanistan – meaningful issues that had not warranted going to war in the first place.

In Ukraine, the same could occur. Continued or increased military support could be difficult to resist as Russia appears as more and more of an enemy and greater sympathy develops for the Ukrainian people. A way to mitigate this tendency is for presidents and prime ministers to keep in perspective all the interests at play – health, climate, economic – so that the costs of losing do not dominate dialogue. As Barack Obama told Gen. Petraeus, it is “the job of the president to think broadly, not narrowly, and to weigh the costs and benefits of military action against everything else that went into making the country strong.”

A final lesson from Afghanistan is the value of forethought – consideration of multiple different possibilities and options. Too often, U.S. and allied leaders neglected to consider a wide number of strategic options. The best example is the 2009 surge debate when the Obama administration and its military leaders focused on reinforcing Afghanistan and neglected viable options such as opening negotiations with the Taliban or planning to manage the problem through deploying a smaller number of forces over several years. Every administration clung too long to its own preconceived notions of how the war would play out and neglected options that did not fit their biases. When the war proceeded contrary to expectations, strategy came up short.

Today, leaders looking at Ukraine should consider different options. A robust dialogue between civilians and military leaders, and with allies, can help reveal options that singular viewpoints miss. Military leaders especially should take care to provide a range of options that are all realistic to civilian policy makers and abstain from preferring any single option so as not to bias the decision-making process.



The danger of comparing Afghanistan with Ukraine is that the two are very different. U.S. and Canadian troops are not on the ground in Ukraine and support is largely in the form of supplies. Ukraine bears a risk of nuclear escalation that was almost non-existent in Afghanistan. That danger already appears to have constrained the U.S. and allied response, seen in President Joe Biden's repeated statements that military forces will not intervene in the war. Still, a Ukraine strategy that is circumspect on the Russian threat, wary of overconfidence, mindful of the importance of larger non-military interests and inclusive of forethought may evade the errors of our Afghan war.

[NPS Faculty Recognized for Interdisciplinary Work with Annual Hamming Award - Naval Postgraduate School](#)

[Return to Index](#)

## **A Maritime Conversation with America**

*(Foreign Policy Research Institute 8 Apr 22)* ... James J. Wirtz, Jeffrey E. Kline, James A. Russell

### **Abstract**

Over the last century, the U.S. Navy has encountered critical moments when the emergence of new technologies and competitors cause paradigmatic shifts, undermining established operations and force structure. Today, the rise of an assertive China and its new anti-access and area-denial capabilities threaten the aircraft carrier-based maritime dominance of the U.S. Navy. Citizens and elected officials alike need to be conversant in the process to create the strategy, forces, and metrics needed to guarantee that the United States wins the emerging maritime competition in the Western Pacific. It is time to explain to the American public the enduring considerations and limitations that shape the operations of their global Navy.

In a recent commentary on the relationship between the British government and British people in matters of national defense, the military historian Hew Strachan and the RAND strategist Ruth Harris suggest that the consideration of defense issues in the United Kingdom largely has become an elite affair that takes place between civilian officials and the armed services. By contrast, they note that governments must have two conversations on making strategy: "one with its civil service and armed forces and the other with the electorate that places it in office."<sup>1</sup> Engaging the electorate is important because the citizens in a democracy are the source of energy behind national defense; they are a key component of the Clausewitzian trinity of the people, the government, and the armed forces that must participate in the making and execution of defense strategy. Nevertheless, British officials tend to duck the problem of publicly discussing nuanced defense issues, creating multiple risks when a crisis alerts the public to what is being undertaken in its name. Strachan and Harris suggest that British governments should engage the public in an ongoing debate about defense matters, thereby informing the electorate about the security issues facing the United Kingdom and allowing the public to help shape potential approaches to addressing those issues. Engagement and debate, note Strachan and Harris, shape policy in constructive ways.

When considering public engagement on matters of defense in the United States, there is one institution—the United States Navy—that especially would benefit from conducting a sustained and frank conversation about maritime issues with the American electorate—a kind of initiative it has undertaken in the past. This recommendation is not to suggest that the Navy has failed to garner much public attention lately. The devastating fire suffered by the light carrier USS Bonhomme Richard (LHD-6) in its San Diego shipyard, the abrupt departure of consecutive secretaries of the Navy, multiple ship collisions, and the "Fat Leonard" bribery scandal suggest that the Navy as an institution might have much to talk over with the American people.

Nevertheless, these operational problems and ethical failures do not rise to the level of several strategic issues facing the Navy, concerns largely centered on a changing technological seascape and the rise of Chinese naval power in the Western Pacific. Given the relatively unfettered ability of the Navy to project power ashore following the end of the Cold War, these challenges might surprise both citizens and



elected officials alike. Most importantly, a maritime conversation with Americans would help citizens, the Biden administration, and the Navy itself come to terms with the changes that must occur if the Navy is going to meet the challenge of great power competition that is now on the strategic horizon.

This article identifies potential issues that Navy leaders might highlight in their conversation with the American people, beginning with the observation that the strategic situation at sea is changing and that these changes are not in the U.S. interests. The operational environment in the Western Pacific is becoming increasingly dangerous, and Navy operations along and inside the first island chain are at risk. This growth in the anti-access and area-denial (AC/AD) capabilities fielded by the People's Republic of China (PRC) are compounded by the tyranny of distance, which creates significant logistical issues about projecting power in places like the South China Sea. Ongoing efforts to out-build the Chinese in a naval arms race are unlikely to succeed, especially when the metric of interest is based on increasing numbers of expensive, high-capability surface warships. The Navy must devise a different way to compete for maritime superiority in the Western Pacific. It must innovate. It must start moving its limited resources away from its focus on expensive crewed warships to other systems that will give it an edge against a more traditional, and numerous, competing fleet.

### **The Rise and Decline and Rise of American Naval Primacy**

There are two long cycles—one in world politics and the other in maritime affairs—that occasionally intersect in a way that can question the force structure and operational preferences of U.S. naval officers. The first cycle is a rise and decline of great powers and in great power competition.<sup>4</sup> Unfolding over a period of decades, this competition is sometimes depicted as occurring between continental powers, which possess interior lines of communication and generally wield significant land forces, and maritime powers, which, as Historian Alfred Thayer Mahan predicted, engage allies and harness resources on a global scale. *Ceteris paribus*, the maritime power is deemed to have an advantage in this competition. It can control access to the oceans, giving it the ability to harness resources globally and to deny those same resources to a continental opponent.

To minimize the advantages enjoyed by its maritime rival, continental competitors sometimes make a concerted effort to develop a blue-water Navy capable of challenging the dominant seapower of the day. The Anglo-German naval arms race that emerged in the years leading up to World War I is an example of this continental challenge to a maritime competitor.<sup>7</sup> Building a navy capable of taking on a blue-water rival is no small matter and can unfold over several decades. Rising powers, however, tend to look for asymmetric weapons or tactics that can negate the naval advantages enjoyed by the maritime power. They also benefit from a newcomer's advantage, so to speak. New entrants into a naval arms race are not constrained by the capital costs of an existing battle fleet.

The second cycle is related to the speed of naval innovation and the relative durability of ships and tactics once they are deployed and adopted. Innovation in the U.S. Navy, unless it is jump-started by a destructive external shock, takes between a long decade and thirty years. For instance, in 1910, the first Navy officer flew an airplane; the Navy established a Bureau of Aeronautics in 1921. A long decade later (1934), it possessed four aircraft carriers, including the first purpose-built aircraft carrier, to use for technical, tactical, operational, and doctrinal development. By 1939, the Navy began to receive its first metal monoplane for carrier use—the F2A Brewster Buffalo, used by Marine aviators in the defense of Midway Island in June 1942. Moreover, once these innovations take root in expenditures for ship construction, the rise in power of new bureaucratic communities—and personnel training pipelines that go on for decades, acquisition policy, and operational preferences—can be remarkably resilient in the face of changes to the external environment. The current (2018) Navy shipbuilding plan, for example, envisions that the aircraft carrier will be America's capital ship at the turn of the next century; that is more than 150 years after the Japanese demonstration of the offensive capability of carrier aircraft over the skies of Pearl Harbor in 1941.

Occasionally, the effects produced by these two long cycles can intersect, creating an abrupt change in the military situation at sea when an emerging competitor employing asymmetric technologies emerges. The net result might be characterized as block obsolescence of a large and seemingly effective



fleet. The convergence of these two long cycles can threaten the ocean dominance of the maritime great power, which is a situation that has occurred three times since the turn of the nineteenth century.

The first intersection occurred with the rise of a Japanese challenge to U.S. naval dominance of the Pacific. Although Japan at the time was seen as a weak great power competitor, which was caught between its continental ambitions in China and its maritime ambitions in the Pacific, it wielded its superior carrier aviation to good effect at Pearl Harbor by eliminating a significant portion of the U.S. surface fleet. Although the U.S. Navy possessed the asymmetric weapon wielded by the Japanese—carrier aviation—the battleship admirals that dominated the U.S. Navy were slow to recognize the offensive potential represented by aviation. Instead, they were caught up in a fifty-year effort to perfect battleship tactics and gunnery in preparation for an expected, climatic capital ship showdown between the United States and Japan somewhere in the Western Pacific. By 1942, the U.S. Navy, despite a lingering affinity for the battleship, and a hankering for that showdown of opposing battlelines that persisted throughout the war, shifted quickly to carrier aviation as the primary naval weapon of World War II. The Navy started construction of the last two Iowa-class battleships during the War, but those two battleships were never completed. The follow-on Montana-class battleship was cancelled by 1943. The Battle of Midway solidified the new technological trajectory of the U.S. Navy. That carrier-shaped trajectory persists today.

The United States emerged from World War II with a Navy that could dominate and exploit the world's oceans. It used that fleet to good effect in the first twenty-five years of the Cold War. Beginning in April 1946 with the dispatch of the battleship Missouri as a sign of solidarity with Turkey during its confrontation with the Soviet Union over control of the Dardanelles, to naval operations during the Korean War, to the Offshore Islands crises of 1955 to 1958, to the quarantine of Cuba in 1962, to the Tonkin Gulf and the skies over Hanoi in 1964, the U.S. carrier navy could both control oceans and project power from the sea with little risk of interference. By the mid-1970s, following the long and costly distraction of the Vietnam War, however, naval officers discovered that the worm had again turned. A second intersection between a rising challenger and a stable U.S. Navy fleet was occurring when the Soviet Naval and Air Forces began to assert their presence in the North Atlantic and Western Pacific. Using long-range anti-ship missiles, air-launched cruise missiles carried by modern bombers, and increasingly sophisticated submarines, the Soviets began to make a deliberate effort to challenge U.S. naval supremacy. The Soviets worked hard to keep the U.S. Navy at bay and preoccupied with a need to defend its carrier strike groups. By the mid-1980s, the Navy had begun to respond to this challenge by adopting a new maritime strategy, extending the defense perimeter of its battle groups, and considering new ways to distribute its offensive capability among a larger number of smaller combatants. Nevertheless, despite the defense buildup undertaken by the Ronald Reagan administration, it was becoming increasingly clear that the U.S. Navy would have to fight to gain unfettered access to the world's oceans. Observers noted that an increasing percentage of the combat capability of carrier strike groups had to be devoted to the defense of the group itself, not in meaningful offensive operations.

Luckily, the economic, political, and social contradictions within the Soviet empire came to their logical fruition, leading to the peaceful collapse of the Soviet Union starting at the end of the 1980s. The demise of this rising naval competitor again placed the U.S. Navy back in the driver seat and with its fleet of aircraft carriers, Ticonderoga-class cruisers, and Arleigh Burke-class destroyers intact, with little to stop it from projecting power ashore within just a few miles of hostile coastlines. In many respects, the U.S. Navy had entered a “Golden Age” of sea power. Carrier battle groups and Expeditionary Strike Groups were responsive and “right-sized” for hard-to-anticipate regional military crises and humanitarian operations that occurred in the aftermath of the Cold War. Moreover, the Navy was called upon repeatedly to project power ashore during the First Gulf War, the bombing campaign against Serbia, intervention in Afghanistan, and the Second Gulf War. Unfortunate incidents occurred—for instance, the al Qaeda attack against the USS Cole in Aden Harbor in 2000 and the failed attack against the USS The Sullivans at the same location—but this was due to a loss of situational awareness by the officers in charge, not to the maritime prowess of the opponent.

Following the denouement of the decade-long Global War on Terrorism in 2011, Navy leaders noted that in the aftermath of the First Gulf War, both Russia and the PRC had undertaken significant programs



to hold the U.S. Navy at risk, especially in the oceans close to their shores. Beijing was especially busy in the South China Sea and within the waters between their coastline and the “first island chain” in the Western Pacific, launching a massive ship-building program and constructing artificial islands to be used as naval and airbases. By 2030, the People’s Liberation Army Navy (PLAN) likely will deploy 550 ships—450 surface ships and 99 submarines—double the number of ships in the U.S. Navy in 2020. Qualitative differences exist between the two navies. Nevertheless, as the experienced maritime analyst James Fanell notes, “PLAN ships and submarines do not have to match U.S. naval capabilities precisely; they only have to be good enough to achieve more hits and win any given battle. . . . [W]e should be gravely concerned about America’s ability to deter or defeat the PRC’s naval spear.”

The third intersection between a rising maritime peer competitor and a stable U.S. Navy fleet structure is already well underway in the Western Pacific. A good place to begin the Navy’s maritime conversation would be to inform the American people and Congress that a great power is again challenging U.S. maritime supremacy and that the post–Cold War golden age of American sea power is over.

### **Keeping the U.S. Navy at Bay**

Over the last quarter century, America’s great and lesser power adversaries have diligently pursued technologies and weapons to challenge the Navy’s maritime supremacy, especially its ability to project power ashore. Instead of matching the U.S. Navy’s expensive, multi-mission ships, they have developed and deployed precision strike missiles on land, at sea, and under the waves. These long-range weapons increasingly are supported by shore- and space-based strike-sensor complexes that provide an accurate tactical image of the maritime battle space. The long-predicted global proliferation of these weapons and sensor systems has become a geopolitical and military reality, perhaps permanently altering the balance between sea-based and land-based strike systems. Whereas the United States and its allies once possessed a monopoly on long-range munitions at all levels of combat, and their associated sensor-strike complexes, these systems are proliferating to the West’s friends and foes alike.

The poster child for these land-based strike systems is the family of DF land-based, medium-range surface-to-surface ballistic missiles fielded by the People’s Liberation Army (PLA). The DF-21 D is a mobile, land-based missile with a range of approximately 1,000 miles that is allegedly capable of hitting targets at sea with nuclear and conventional warheads. The road- mobile DF-26 mobile extends the strike range of the PLA’s missile arsenal to approximately 2,000 miles. Some military experts believe these missiles are “game-changing” systems that fundamentally challenge the ability of the United States Navy and its coalition partners to operate in maritime areas off the Chinese mainland because of the tactical and operational difficulty inherent in engaging in “counter-battery fire” against mobile surface-to-surface missiles. These ballistic missiles are further buttressed by an extensive inventory of anti-ship cruise missiles, which are apparently derived from earlier Soviet models. China, during its October 2019 military parade, unveiled two new ship-killing missiles: the DF-17 hypersonic cruise missile and the DF 100 cruise missile. The Department of Defense assesses that China’s missile inventory consists of between 750 and 1,500 short-range ballistic missiles, 150–400 medium-range ballistic missiles, and 270–540 cruise missile variants. If used in a concerted manner, these ballistic and cruise missiles can overwhelm the missile defenses deployed aboard U.S. warships.

China also is deploying associated satellites, over-the-horizon radar systems and digital-age capabilities in the realm of command, control, communications, information, intelligence, and surveillance systems (C4ISR) to provide targeting support for its missile force. Some military analysts even believe that by 2025, Asia will be spending more on C4ISR—a critical enabler of war at sea—than the United States. By contrast, there are stark warnings about vulnerabilities in the U.S. C4ISR network. In January 2020, for instance, researchers discovered evidence of “brittle” U.S. communication and surveillance networks that might not be capable of dealing with advances in the PLA’s long-range strike systems, cyber capabilities, and electronic warfare.

Additionally, the world is on the cusp of yet another strike revolution, produced by the introduction of hypersonic missiles. This new family of missiles can travel at least five times the speed of sound and can maneuver in flight—operational parameters that can beat existing air and ballistic missile defense



systems. In December 2019, Moscow announced that it had deployed its first regiment of Avangard (Vanguard) hypersonic glide vehicles capable of flying at ten times the speed of sound while Beijing may have already fielded a land-based mobile version of a similar hypersonic weapon. Both the United States and China are seeking these systems aggressively. The United States is only slightly behind in this hypersonic arms-race—in the FY 21 Defense Budget, the United States Navy indicated that it will be spending \$1 billion to develop and deploy its “Conventional Prompt Strike” hypersonic missile on board the new Columbia- class submarine later in the decade. Nevertheless, the introduction of hypersonic weapons will only compound the threat faced by the U.S. fleet as it operates along the first island chain.

Ballistic missiles and land-based cruise missiles already are widely available in the Indo-Pacific. An operationally significant deployment of hypersonic missiles likely will occur by the end of the decade. The spread of these systems into the Indo-Pacific is unconstrained by arms control agreements, assuring that the naval balance of power will become increasingly unpredictable and unstable. Americans and their elected officials need to know that others are beginning to deploy long-range precision-guided weapons and that these weapons can potentially limit the ability of the U.S. Navy to intervene quickly in regional conflicts.

### **The Tyranny of Distance**

The greatest enemy the U.S. Navy encounters in the Western Pacific is distance. Over 7,000 miles of ocean separates the West Coast of the United States from the Asian mainland. Ships must traverse this vast expanse before they can patrol around the first island chain, Japan, the Ryukyu islands, Taiwan, and the Philippine archipelago. Historically and practically, the United States has extended its influence to this first island chain, if not the shores of the Asian mainland itself, to achieve its primary strategic objectives in the Pacific. Michael Green, a well-known China watcher and White House staffer during the George W. Bush administration, provides a succinct description of these objectives: “For over two centuries, the national interest of the United States has been identified by key leaders as ensuring that the Pacific Ocean remains a conduit for American ideas and goods to flow westward, and not for threats to flow eastward towards the homeland.” Losing control of the first island chain and control of the “second island chain” (a line of islands from the Kurils down to the Marianas including the U.S. territory of Guam) becomes problematic. For instance, the U.S. island-hopping campaign against the Japanese in World War II depended on capturing critical bases in these islands for the movement of U.S. forces to move across the Pacific. As stated in a recent RAND report, the second island chain is “tantamount to a power-projection super highway running through the heart of the North Pacific into Asia, connecting U.S. military forces in Hawaii to those in theater, particularly to forward-operating positions on the U.S. territory of Guam.” Because traffic on this “super highway” can flow in both directions, a prudent naval strategy would seek to defend the barrier, and the important allies and friends, that constitutes the first island chain.

Sustaining naval operations in a hostile Western Pacific raises three strategic and operational issues that should be addressed in a conversation with officials and the electorate. First, distance adds a “discount” factor when it comes to using the numerical balance of opposing fleets—the so-called “bean count,” to assess the strength of opposing navies. This problem was highlighted about 100 years ago during the negotiation of the Washington Naval Treaties, which sought to limit the size of fleets and shipbuilding expenditures among the major navies of the world at that time. Because the United States intended to mount a defense of the Philippines, which was an American territory during the interwar period, it required more ships than the Japanese Navy due to the distances involved. One widely used metric then suggested that a 10 percent reduction in combat capability should be applied for every 1,000 miles of steaming distance involved in reaching forward operating areas. Indeed, as Professor Robert Gordon Kaufman of Pepperdine University notes, there was a general agreement among the parties that a distance discount applied in calculating the naval balance. The particulars, however, were a matter of some debate:

Japanese naval planners calculated that an approaching armada would need a numerical superiority of at least 50 percent over the defending fleet. This meant that the Japanese Navy would have to be at least 70 percent the size of the American force to assume victory. Although some believed that a 6 to 10 ratio



vis-à-vis the Americans would suffice, particularly if the United States lacked well-fortified bases in the Western Pacific, the idea of a 70 percent ration had become axiomatic in Japan's naval thinking by the time of the Washington Conference.

Today, this sort of force-ratio analysis is complicated by the wide divergence in capabilities that PLAN and U.S. Navy ships possess. Nevertheless, one recent study noted that four to five West Coast-based Arleigh Burke destroyers would be required to maintain one on station, that is, fully combat capable and in position—in the South China Sea; the others would be involved in maintenance, training, or transit.

Second, logistics becomes an almost overwhelming issue in regard to operating fleets at transoceanic distances. One hundred years ago, the effect of distance on logistics was manifested in U.S. battleship designs—U.S. warships were slower and carried more fuel than their Japanese counterparts, sacrificing armor for the ability to operate longer without refueling. Today, the U.S. Navy relies on a complex and expensive system of replenishing ships at sea—the Combat Logistics Force—not warships specially designed for extended range. Consisting of about thirty vessels—is a number equal to about 10 percent of the combat ships in the U.S. Navy—these logistics ships deliver a range of commodities to naval warships while they are underway at sea. Materials delivered include diesel fuel for propulsion plants; aviation fuel; dry, frozen, and chilled goods; ultra-high-temperature milk, which can be stored for an extended period of time; water, and ordnance. According to a team of logistics experts:

Deciding when, where and by which [resupply] ship each combatant customer should be served superficially resembles a multiple traveling salesman problem with moving customers and many operational side constraints, including ports (i.e., supply depots) with varying costs, availability of commodities, and hours of operations. Side constraints such as those accounting for demands that vary with customer employment over time complicate matters.

Because ongoing operations are tethered to this supply chain that extends for thousands of miles, the combat capability of the forward-deployed U.S. Navy could degrade during a crisis or wartime if logistics ships can no longer rendezvous with their “customers.” The time that U.S. Navy combatants can operate “independently” without logistics support probably is measured in days, not weeks.

Third, allies become crucial in this distance game, especially those most exposed states at the periphery of the U.S. maritime presence in the Western Pacific. Allies can provide invaluable port facilities that might help reduce the length of logistical pipelines. They may also shape de facto force ratios by allowing elements of the U.S. Fleet to be forward-based closer to their intended operating areas—although care must be taken here not to move major portions of the Fleet within range of an opponent's opening salvo. Members of the Association of South East Asian Nations (ASEAN) also have recently engaged in an arms buildup, creating a military capability that could contribute U.S. naval posture in the Western Pacific. Nevertheless, as former U.S. State Department officials Jakub Grygiel and Wess Mitchell note, “Washington often seems to think of great-power rivalries as dyadic affairs, with the other states as dispensable accessories rather than as the strategic prizes.” In fact, Allies are the strategic enabler of the U.S. naval presence in the Western Pacific and can contribute in such areas as anti-submarine warfare, ballistic missile defense, and even long-range, land-based, anti-ship missiles to deny opposing fleets freedom to maneuver. Naval strategy often begins with the control of islands critical to projecting force from the maritime periphery.

### **Too Many Eggs in Too Few Baskets**

Undoubtedly, when it comes to technology, individual operational capability, and ability to work together as an effective team, U.S. ships and flotillas are unrivaled on the world's oceans. One Navy journalist gave voice to this assessment over twenty years ago in describing the pride of the U.S. Surface Navy, Arleigh Burke-class destroyers:

This ship's mission is to operate in support of carrier battle groups, surface action groups and amphibious groups with anti-surface, anti-air, and anti-submarine warfare roles. Boasting more firepower per ton than any other class of ship in the world, Arleigh Burke destroyers represent the future of the U.S. Navy.



Equipped with the Aegis integrated ship combat system, the Arleigh Burkes have met or exceeded Wayne E. Meyer’s vision of the ship as the defensive linchpin of the surface navy. With the 2020 delivery of USS Delbert D. Black (DDG119), the Navy has 68 of these powerful combatants, with even more capable Burkes currently under construction.

The crew of a World War II–era Fletcher-class destroyer would not recognize the Arleigh Burkes of today as the same category of ship, even though the 2,000-ton Fletcher class also was a multi-mission ship for its day, providing anti-submarine, anti-aircraft, and surface warfare services to the fleet. The growth in ship size from Fletcher-class destroyers to the 9,000-ton Arleigh Burkes was accompanied by a significant increase in capability. Today’s destroyers enjoy a firepower range of hundreds of miles, produced by advanced radar technology, increasing missile capabilities, and new power-generation engineering.

The quest for efficiencies, especially capitalizing on economies of scale, drove Navy planners to place as many mission capabilities in a single hull as possible and then to buy as many hulls as resources allowed. That is why “firepower per ton” is a metric of interest to the Navy today. These efficiencies, for example, can allow one forward-deployed Arleigh Burke destroyer to search for a submarine in the morning and then be reassigned to provide ballistic missile defense in the afternoon. If two less-expensive, but mission-constrained, surface combatants—one specializing in anti-submarine warfare and the other equipped to provide integrated air and missile defense—are deployed to cover these missions, their total construction, manning, operating, and logistics costs certainly would exceed the construction and operational costs of a single Arleigh Burke destroyer.

In light of the third convergence of the competing cycles of world politics and naval innovation increasingly manifest in the South China Sea, however, there are two challenges to the logic of cost-effectiveness that has been at work in the U.S. Navy. First, in contemporary naval warfare, the potential for total missile delivery over an area is becoming a more relevant metric of fleet influence than the number of ships deployed to the same area. In other words, deploying fewer more-powerful ships no longer provides a competitive edge when facing large numbers of anti-ship missiles fired from ground installations or relatively less-capable warships. In a world where swarming unmanned aerial, surface, and underwater vehicles present a high risk to expensive, large ships, building many more sensor and missile delivery platforms at less unit cost becomes more attractive as a competitive strategy for peacetime deterrence, gray-zone activities, and crisis situations. The relatively small number of high-capacity ships deployed vastly minimizes the targeting problem encountered by the opponent, especially at a time when relatively inexpensive and deadly anti-ship weapons are proliferating.

The second challenge to the large combatant of a cost-effective fleet strategy occurs during a conflict when attrition may be expected. An expensive, multi-mission ship, if sunk, suddenly becomes “too many eggs in one basket.” Edward Luttwak summarizes how this search for efficiency can end up on the rocks:

The large warship offers exactly the same economies of acquisition and operation over smaller counterparts that have led to the concentration of the world’s shipping capacity in huge tankers, bulk carriers, and container ships. As size increases, crews do not have to increase in proportion, and all sorts of other economies can be achieved in component elements. . . . Such advantages, however . . . are often obtained at the price of a proportionate concentration of value against which an enemy can focus his efforts.

The opponent enjoys a “kill bonus” in the sense that when a ship is destroyed or heavily damaged, it is lost to the mission it was executing during its attrition. When a ship is sunk or disabled, its battle group also loses the ability to undertake the other missions it could have been assigned to in the campaign. Moreover, by placing sensors and defensive and offensive missiles on one platform, it is impossible to hide missile capabilities on ships that can remain electronically “quiet” and relatively undetectable until needed. By placing all of these capabilities on one multi-mission ship, the Navy effectively has turned most of its surface vessels into radar “picket ships,” the type of vessel that is likely to draw fire in high-intensity combat situations. This change makes the fleet less resilient and may inspire hesitancy in employing expensive, high-capability warships in the riskiest areas. During World War II, the nation produced more patrol torpedo boats than other types of warships (aircraft carriers, cruisers, destroyers, submarines)—ships that were cheap and plentiful enough to employ in the most dangerous combat





missions. The need to take risks in the face of possible attrition—to take casualties without a significant impact on offensive capability—foreshadows the need for fleet re-orientation today.

### **Reducing Risk while Winning the Numbers Game**

In the past century, the cycle of naval technology has moved from the airplane to the missile and now to the “robotics age.” Although these new systems display an increasing ability to act autonomously, their ongoing evolution and effectiveness relies on human ingenuity in computer programming, machine learning, neural networks, data analytics, and innovative engineering. Manned systems are being replaced by autonomous capabilities that rely on “systems of the mind.”

The defining warfare characteristic of the robotics age is the turn towards intelligent automated systems to accomplish intelligence, surveillance, and reconnaissance missions and offensive operations in high-risk environments. The Navy needs to create a force that can operate in high-threat environments while minimizing the risk of losing an expensive, high-value, multi-mission ship. Such a force would offer a way to monitor and even to respond to an opponent’s gray-zone maritime actions without placing U.S. forces in immediate danger. The promise of continuous surveillance and the presence of offensive capability in key operating areas would also strengthen conventional maritime deterrence by guaranteeing that the crossing of deterrent “red-lines” would encounter immediate resistance. Building hundreds of these systems at the cost of two or three modern destroyers would increase the resiliency of the fleet, allowing it to absorb some attrition without a significant loss in combat capability. The proliferation of these robotic systems would also confront the adversary with the need to target multiple surveillance and offensive systems, which in theory would reduce the defensive problem faced by the Navy’s high-value, multi-mission vessels. In naval warfare, the ability to search, target, and launch weapons before an adversary can do the same and can determine the outcome of battle. The fact that autonomous systems can greatly complicate the opponent’s surveillance and targeting problem can shift the naval balance in forward areas in America’s favor, thereby overcoming the effects of the tyranny of distance that discounts the balance of forces in favor of likely opponents.

This is not to say existing multi-mission surface forces are no longer needed. Instead, they can serve as the locus of manned and unmanned strike groups, vastly enhancing the surveillance and strike capabilities of the surface force as literally dozens of autonomous systems undertake networked operations with individual manned warships. Additionally, the bulk of the multi-mission surface vessels can operate just outside of the most dangerous areas, providing a shield for sea lines of communications by protecting the flow of logistics to forward areas and protecting ports located near operational areas. Likewise, carrier strike groups, which can defend against adversary threats directed at communication lines beyond the reach of their shorter-range anti-access capabilities, can police sea lanes and global transportation networks. This configuration secures the critical external lines of communications for the United States, while the forward-deployed autonomous systems and submarines threaten the adversary’s internal lines of communication.

To remain competitive in the maritime offense while retaining a comparative advantage in the defense, the Navy must evolve into a bi-model force. Traditionally, such concepts revolved around debates about the proper “high-low” mix of expensive, multi-purpose warships versus relatively cheap and less-capable vessels that might be risked in areas where the opponent maintained strong offensive capabilities. By contrast, this modern bi-model fleet would consist of unmanned systems in coordination with submarines, smaller combatants, and Marine shore-based anti-ship missiles to hold the bulk of the enemy’s combatants at risk as far forward of the first island chain as possible—while the defense-oriented, multi-mission, traditional fleet is tasked to defend the seas and the lines of communication leading to the forward force. This scheme would also put the U.S. Navy in a position where the tyranny of distance might work in its favor. In other words, if a few opposing warships managed to move beyond the Western Pacific, they likely would encounter the vastly superior force represented by the existing carrier strike groups and surface action groups deployed by the U.S. Navy.



## Keeping Informed

Although radical changes are needed to bring about the sea-denial force (organizational, funding, research, experimentation, manufacturing, inter-service and allied coordination, manning, maintenance, and training), it may only represent an evolutionary change Navy wide. The U.S. Navy already possesses the most expensive part of this bi-modal force—its newest aircraft carriers and surface warships are scheduled to be in service well past mid-century. The sea-control force already is firmly established. That is why calls to vastly increase the number of the Navy’s multi-mission warships are counterproductive, albeit well intentioned. What is needed today is to develop and introduce a sea-denial force to add to the current fleet by providing cost-effective capabilities to operate within the threat envelope created by emerging anti-access and area-denial precision-strike capabilities. Before the United States can launch this sea-denial force, however, a shift away from traditional multi-mission ship construction will have to occur, resulting in a change in priorities for both the U.S. Navy and the U.S. ship-building industry. A change of this magnitude will require support from Congress and the American people—hence the need to explain the changing set of circumstances at sea to voters and U.S. lawmakers alike.

There is no doubt that for the next several decades, shipyards that are currently busy supplying the U.S. Navy with multi-mission warships will remain at full capacity. Nevertheless, new types of cost-efficient weapons must be developed, new types of strategies and operations will have to be devised, and new technologies and industries will need to supply the wherewithal of a bi-modal maritime strategy. Citizens and elected officials alike need to be brought into this creative process to create the strategy, forces, and metrics needed to guarantee that the United States wins the emerging maritime competition in the Western Pacific.

### James A. Russell

James A. Russell is an Associate Professor of National Security Affairs at the **Naval Postgraduate School**, Monterey, California.

### Jeffrey E. Kline

Jeffrey E. Kline is a Professor of Practice of Military Operations Research at the **Naval Postgraduate School** in Monterey, California.

[A Maritime Conversation with America - Foreign Policy Research Institute \(fpri.org\)](https://www.fpri.org/)

[Return to Index](#)

## Russia, Ukraine, & U.S. Energy Markets [Video]

*(Our Energy Policy 1 Apr 22)*

Russia’s invasion, and the subsequent war in Ukraine, have upended global oil and gas markets. This webinar examines the market impacts of the war, discusses short and long-term solutions to this energy crisis, and looks at the implications for the future of American energy independence. Research Professor Brenda Shaffer at the **Naval Postgraduate School**.

[Russia, Ukraine, & U.S. Energy Markets - A Webinar - OurEnergyPolicy](#)

[Return to Index](#)



## ALUMNI:

### **Sturdivant Named Lansing's New Fire Chief**

*(WKZO 4 Apr 22) ... Randy Stine*

*(Lansing State Journal 4 Apr 22) ... Elena Durnbaugh*

*(Fox News 47 4 Apr 22)*

Lansing Mayor Andy Schor announced Monday he has selected Brian Sturdivant to lead the city's fire department.

Sturdivant is the current Chief of the Battle Creek Fire Department and was one of two finalists at the end of a national search. He has a Master's Degree from the **Naval Postgraduate School**, Center for Homeland Defense and Security, and a Bachelor's Degree in Public Safety Administration from Grand Canyon University.

"The Lansing Fire Department needs strong, steady leadership, and Chief Sturdivant will be an incredible asset to the City of Lansing. Chief Sturdivant brings years of fire management experience, including extensive work with emergency medical services, training, budgeting, and positive relations with fire labor organizations and members," Schor stated in a city press release. "We had two great finalists for this position, but Chief Sturdivant stood out because of his leadership and analytical skills in leading large, diverse departments. I'm excited for him to get here and get started."

Sturdivant will start full-time with the Lansing Fire Department on May 2.

[Sturdivant named Lansing's new fire chief | WKZO | Everything Kalamazoo | 590 AM · 106.9 FM](#)

[Lansing fire chief: Schor hires Brian Sturdivant out of Battle Creek \(lansingstatejournal.com\)](#)

[Brian Sturdivant selected as Lansing's new fire chief \(fox47news.com\)](#)

[Return to Index](#)

### **VADM (Ret.) Terry Benedict Joins Systems Planning and Analysis as Executive VP**

*(PR Newswire 4 Apr 22)*

Systems Planning and Analysis (SPA), Inc., is pleased to announce that Vice Admiral Terry Benedict, USN, Ret., has joined the company as Executive Vice President for Naval, Nuclear, and Critical Infrastructure Programs. Since completing his Navy career, Vice Admiral (Ret.) Benedict has served as Chief Operating Officer of Blue Origin and Operations Manager for the Nuclear Security and Operations Group at Bechtel. He also served on SPA's Board of Directors from 2019–2021.

Vice Admiral (Ret.) Benedict was associated with the Navy's Strategic Systems Programs for thirty years, where he held ten different positions, ultimately serving as Director for eight years (2010-2018). Before assuming command of Strategic Systems Programs, Vice Admiral (Ret.) Benedict also served as Program Executive Officer for Integrated Warfare Systems, Office of the Assistant Secretary of the Navy.

"We are honored and excited to have Terry Benedict join our executive team," said Dr. William Vantine, SPA President and CEO. "Terry has had a tremendously successful career and brings exceptional leadership, knowledge, depth of experience, and dedication to the mission that our customers know to expect from SPA. We are thrilled to welcome him aboard the SPA team."

A 1982 graduate of the US Naval Academy, Vice Admiral (Ret.) Benedict began his naval career as a Surface Warfare Officer, eventually transferring to the Engineering Duty Officer community. He holds a master's degree in Engineering Science from the **Naval Postgraduate School** and an MBA from the University of Phoenix. In addition, Vice Admiral (Ret.) Benedict is a graduate of the Advanced Program Management course at the Defense Acquisition University, the Executive Leadership Course at Carnegie Mellon, and is a certified Project Management Professional. He is currently a board member of Draper, Cambridge, MA, and a member of US Strategic Command Senior Advisory Group, Stockpile Assessment Team.

Systems Planning and Analysis, Inc. is a premier international provider of innovative and leading-edge solutions in support of complex National Security programs and defense priorities. SPA's



capabilities include Advanced Analytics, Software Tool Development, System Engineering, Strategy, Policy and Compliance, and Program Management. SPA employees are subject matter experts in numerous domains, including Land, Undersea, Surface and Air Warfare Operations; Intelligence Community, Radar and Sensor Systems; Unmanned Systems and Counter Systems; Nuclear Deterrence Policy, Safety and Security; Defense Industrial Base; Space Systems; Ballistic Missile Systems; Cybersecurity policy; and Hypersonics.

[Brian Sturdivant selected as Lansing's new fire chief \(fox47news.com\)](https://www.fox47news.com)

[Return to Index](#)

## **HDTX Keynote Speaker to Offer Leadership Lessons from Attack on USS Cole**

*(Trucking Info 6 Apr 22)*

The keynote speaker for this year's Heavy Duty Trucking Exchange brings a unique perspective to the usual leadership topics. Commander Kirk Lippold, USN (Ret.) was the commanding officer of the USS Cole when it came under a suicide terrorist attack by al Qaeda in the port of Aden, Yemen, in October 2000.

He will be speaking at Heavy Duty Trucking Exchange 2022, Sept. 7-9 in Scottsdale, Arizona.

The crises that face trucking companies may not be as life-or-death as Lippold and his crew saving the American warship from sinking, but Lippold uses his experiences mitigating crises throughout his naval career to provide takeaways for the audience to assess their own successes and failures to prepare for what the future may hold.

Lippold and his diverse crew went from ops normal to a rapidly changing environment in a split second. He can share how inclusive leaders who can rapidly adapt will be best positioned for success in the coming months and years ahead.

Lippold is a graduate of the U.S. Naval Academy and received his commission in the Navy in 1981. He attended the **Naval Postgraduate School**, where he received a Master's of Science in Systems Engineering, as well as a 1994 graduate of the United States Army Command and General Staff College and a 2001 graduate of the Joint Forces Staff College.

Currently, Lippold is the president of Lippold Strategies LLC, a consulting firm specializing in executive leadership development and crisis management.

He is the author of "Front Burner – Al Qaeda's Attack on the USS Cole," which recounts the story of Al Qaeda's bombing of his ship and the continuing ramifications.

The HDTX schedule is still under development, but a highlight each year is the HDT Truck Fleet Innovators awards ceremony, followed by a panel discussion featuring the Innovators led by HDT editors.

Mike Roeth, executive director of the North American Council for Freight Efficiency, is also scheduled to speak at HDTX.

### **More About HDTX**

HDTX is unlike other trucking events, in both its intimate scale and its approach. Educational and networking activities are designed for attendees to build relationships and take home ideas and new contacts that will help them be more successful.

Because the number of participants is limited — no more than 50 fleet managers will be approved to attend each year — attendees get a chance to exchange ideas, not just business cards.

"I like that it's a smaller format," said Shawn Miller, west maintenance director for R+L Carriers. "It's more one-on-one with the vendors and suppliers. I like that. You're not lost in the shuffle of a huge trucking event."

- Every HDTX participant receives a custom-made, personalized agenda that includes:
- Insights and advice from leaders in the industry
- Interactive roundtable discussions with industry peers
- Group presentations from industry suppliers



- Custom one-on-one consultations with industry suppliers

### **Social functions**

No more than 50 fleet applicants will be offered a hosted trip to attend HDTX, which includes round-trip airfare to the venue, local airport transfers to and from the venue, all scheduled meals, and receptions. Executives and managers trucking fleets with Class 7 and Class 8 trucks can apply to attend as HDT's guests at [www.heavydutytruckingexchange.com](http://www.heavydutytruckingexchange.com).

[HDTX Keynote Speaker to Offer Leadership Lessons from Attack on USS Cole - Fleet Management - Trucking Info](#)

[Return to Index](#)

### **Philadelphia Has a New Office of Emergency**

*(Al Dia 8 Apr 22)* ... Emily Leopard-Davis

As of April 4, Dominick Mireles is the new Director of the City's Office of Emergency Management (OEM). In this role, he will oversee "the City's planning for, response to, and recovery from emergencies, disasters, and complex planned public events."

The role was most recently held by Fire Commissioner Adam K. Thiel in a temporary capacity.

Mireles has been at OEM for seven years, with his most recent role being the Deputy Director for Operations. He'd been in that role since 2019.

He started working at OEM in 2014 at its Regional Integration Center, and was promoted to Logistics Program Manager while there.

Before OEM, he worked with safety and security for large events at Resorts Company and Hershey Entertainment.

Mireles received his Bachelor's degree in criminal justice from the Bloomsburg University of Pennsylvania. He is currently doing a Master's program at the **Naval Postgraduate School's** Center for Homeland Defense and Security. He also volunteers with Team Rubicon which gets "veterans to help people prepare, respond and recover from disasters and humanitarian crises."

[Philadelphia has a new Office of Emergency Management Director | Al Día News \(\[aldianews.com\]\(http://aldianews.com\)\)](#)

[Return to Index](#)

